

SELF-EVALUATION REPORT FOR EVALUATION OF RESEARCH ORGANIZATIONS IN THE SEGMENT OF HIGHER EDUCATION INSTITUTIONS IN YEAR 2025

HIGHER EDUCATION INSTITUTION NAME: Masaryk University

COMPANY REGISTRATION NUMBER (CRN): 00216224

THE LIST OF EVALUATION UNITS IN MODULE 3: Faculty of Law, Faculty of Medicine, Faculty of Science, Faculty of Arts, Faculty of Education, Faculty of Pharmacy, Faculty of Economics and Administration, Faculty of Informatics, Faculty of Social Studies, Faculty of Sports Studies, Institute of Computer Science, Central European Institute of Technology.

ORGANIZATIONAL STRUCTURE OF THE HIGHER EDUCATION INSTITUTION

Rector's Office

Faculties

- Faculty of Law
- Faculty of Medicine
- Faculty of Science
- Faculty of Arts
- Faculty of Education
- Faculty of Pharmacy
- Faculty of Economics and Administration
- Faculty of Informatics
- Faculty of Social Studies
- Faculty of Sports Studies

Institutes

- Institute of Computer Science
- Central European Institute of Technology

Other Units

- University Archives
- Language Centre
- Centre for International Cooperation
- Support Centre for Students with Special Needs
- Technology Transfer Office
- Mendel Museum
- University Centre Telč
- Career Centre
- Competence Development Centre

Specialized Units

- Accommodation and Catering Services
- University Press
- Management of the University Campus at Bohunice
- Centre for Culture, Art and Events

HIGHER EDUCATION INSTITUTION WEBSITE (HTML LINK): <https://www.MU.cz/en>

THE HIGHER EDUCATION INSTITUTION CONTACT PERSON

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Signature (Rector)

Introductory information about the evaluated higher education institution

The HEI briefly introduces itself. The organizational chart, the position of the HEI within the research, development and innovation system and the system of HEIs in the Czech Republic may be commented on, the mission and vision, the size of the HEI, the number and focus of the units evaluated will be briefly presented.

Maximum 500 words.

Description:

Masaryk University (MU) is a dynamic research university based in Brno, Czech Republic. On the national level, MU is the leading voice of research-intensive universities, with the MU rector currently presiding the **Research Universities Association (RUA)**. MU's position as a science leader is linked to its performance in attracting research projects. MU is the most successful Czech grant funding applicant within the **H2020 and Horizon Europe (HE) programme**. MU has been the host institution of **13 ERC Grants – 5 Starting Grants, 6 Consolidator Grants, 1 Advanced Grant, and 1 Proof of Concept Grant**. Additionally, one Consolidator Grant and one Proof of Concept Grant are currently preparing for the start of implementation at MU. Science at MU is powered by a staff of over 2,400 FTE and has over 32,000 students.

MU comprises of **ten faculties** and **two research institutes** (commonly abbreviated as **OU** – Organisational Unit) [2]. The faculties and institutes are **autonomous in HR and financial policy**, thereby also enjoying a significant level of independence in setting their strategic development directions. The **Rector's Office sets the long-term research strategy** and provides services and expertise that are difficult or inefficient to maintain at OU level. R&I coordination, management and support at the University level is handled by the **Research Office (RO)** [3] under the leadership of the **Vice-rector for Research and Doctoral Studies**.

At **MU faculties**, research is carried out as part of the academic duties within the organisational structure autonomously defined by the faculty leadership - usually in departments, research centres or clinics (there are over 200 such units at MU). Some faculties distinguish between **departments** (combining teaching and research) and **research centres** (at the level of departments or as subsections within departments).

MU has established two dedicated university research institutes with very limited involvement in teaching:

- **CEITEC** (Central European Institute of Technology) [4] is a unique research centre focusing primarily on the fields of the life sciences, advanced materials and nanotechnologies. It is an interdisciplinary consortium of six Brno institutions. Its director has strong decision-making powers (unhindered by academic self-governance through senates), which has enabled the institute to pilot very progressive organisational frameworks – such as **core facilities** and **research groups** as primary constituent parts.

- **ICS** (Institute of Computer Science) [5] was initially responsible for developing **internal ICT systems** for the benefit of MU. Through this task, the institute has managed to build strong competence and international recognition in cybersecurity, data analytics, healthware and authentication and identities. ICS also serves as internationally recognised **IT research infrastructure** for science (ie EOSC).

MU is also member of two **university alliances** that ranks among leading alliances in promoting collaboration in research, innovation and education - **European Digital UniVerCity (EDUC)** [7], and **Alliance4life** [8].

In addition to its research activities, MU encourages the public to get involved in science through two unique popularisation projects, **BIOSKOP** [9] and **MjUNI** [10], which are aimed in particular at children between the ages of 6 and 18.

HTML links to additional documentation:

- [1] MU: Official website – <https://www.MU.cz/en>
- [2] MU: Masaryk University units – <https://www.MU.cz/en/about-us/organizational-structure>
- [3] MU: Research Office – [Research Office | Masaryk University](#)
- [4] CEITEC: About Us – <https://www.ceitec.eu/about-us/>
- [5] MU ICS – [About Us | Institute of Computer Science](#)
- [6] MU: Overall information about MU ISAB – [International Scientific Advisory Board | Masaryk University](#)
- [7] European Digital UniverCity (EDUC): Official website – [EDUC Alliance – Open your world of European education](#)
- [8] Alliance4Life: Official website – [Alliance4Life](#)
- [9] MU: BIOSKOP (via Google Translate) – <https://translate.google.cz/translate?hl=cs&sl=cs&tl=en&u=https%3A%2F%2Fbioskop.MU.cz%2F>
- [10] MU: MjUNI (via Google Translate) – <https://translate.google.cz/translate?hl=cs&sl=cs&tl=en&u=https%3A%2F%2Fmjuni.cz%2F>

SWOT ANALYSIS

Strengths

- *More than a century of tradition.*
- *MU is a pioneer in improving the research environment at Czech universities*
 - *key role in founding the Research University Association (RUA)*
 - *the rector, Martin Bareš, served as president of the Czech Rectors' Conference (2021-2023)*
 - *the dean of the Faculty of Science, Tomáš Kašparovský, is the current acting president of the Council of Higher Education in the Czech Republic until 2026.*
 - *leader of European Open Science Cloud (EOSC) initiative in the Czech Republic (leading the national implementation project IPs EOSC-CZ).*
- *Outstanding infrastructure:*
 - *CEITEC for life sciences (structural biology, molecular medicine, plant science and neuroscience);*
 - *RECETOX for the interplay of environment and human health;*
 - *CEPLANT for plasma science;*
 - *The HUME lab for humanities;*
 - *The J. G. Mendel Station in Antarctica.*
- *Complexity of research agenda (from*

Weaknesses

- *Low share of international R&I staff.*
- *High drop-out rate from PhD study programmes.*
- *Weak scientific and supervision standards in PhD programmes.*
- *Inefficient use of sabbaticals due to administrative constraints.*
- *Not centralized system of academic's career paths.*
- *Not centralized Alumni tracking system.*

<i>natural sciences to humanities, both basic and applied research).</i> – <i>Ability to tackle complex societal challenges (e.g. ageing, cybersecurity).</i> – <i>Essential partner for public institutions in areas such as health and cybersecurity and high level of collaboration with public corporations.</i> – <i>Core facility model successfully piloted at CEITEC, expertise available to the whole university (both scientific and managerial).</i> – <i>Ability to attract EU funding (most successful Czech institution in H2020 and HE).</i> – <i>Experienced staff in grant support, both locally and centrally, and experience with coordination of EU funded projects.</i> – <i>Dedicated on-boarding support (International Staff Office).</i> – <i>Care for employees: HR AWARD for all MU constituent parts.</i> – <i>System to support and protect whistleblowers and victims of violations through an Ombudsperson.</i>	
Opportunities – <i>Strong research disciplines and interdisciplinary potential addressing current societal challenges (ageing, cancer, environment, societal resilience), which will be targeted by HE and national R&I policies.</i> – <i>Ongoing development of life science campus in Bohunice bridging fundamental and clinical research through the establishment of BioPharma Hub.</i> – <i>Involvement in strong international networks demonstrated by participation in HE.</i> – <i>Strengthening of international connections through Teaming, Excellence Hubs, European Excellence Initiative and Twinning projects.</i> – <i>The HR Award as a driver for HR policy</i>	Threats – <i>Unpredictable national system for the allocation of institutional support for R&I.</i> – <i>Pre-dominance of project-based funding compared to institutional funding leading to insecurity of research teams.</i> – <i>Reduction of programmes funding the running of large research infrastructures.</i> – <i>Absence of dedicated funding for the renewal and development of infrastructures (investment) outside of ESIF.</i>

<i>upgrades enabling internationalisation.</i> – <i>Lively innovation ecosystem in Brno and dynamic internationalization in the region.</i> – <i>Alumni in influential positions in public and private sector willing to engage in university.</i> – <i>The Strategy Office has developed a very sophisticated system of university-wide surveys (High school students and applicants, First-year and NMA students, Life satisfaction of students, Premature Terminations, Alumni - full-time Master's graduate), the results of which are analysed and then acted upon by MU management.</i>	

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Law

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The Faculty of Law has been a fundamental pillar of Masaryk University since its founding in 1919 and has played a significant role in the development of (not only Czech) law, legal science, and legal culture. At the end of the evaluated period (2023), it **ranked globally between 126th and 150th place in the prestigious Times Higher Education World University Ranking in the field of law, making it the top faculty in Central and Eastern Europe.**

In terms of number of employees and students, the faculty ranked a close second among the four public faculties of law in the Czech Republic. **There were almost 3,000 graduate and undergraduate students attending in 2023** (Table 3.1.4.), most of them studied in the master's programme "Právo a právní věda" [Law and Legal Science], but several other study specialized programmes such as "Veřejná správa" [Public Administration] or "Vyšší soudní úředník" [Senior Officer of Justice] were also offered (Table 3.1.5.). **A special emphasis is placed on life-long learning, almost 1,000 persons participated in LL.M. or similar courses dedicated mostly to legal professionals.** All programmes at the faculty were accredited in Czech, which naturally reflected the primary object of study (Czech law) and career paths of the graduates. **The academic staff of the faculty counted around 150 FTE (Table 3.1.1.), about 80 per cent of them held positions combining teaching and research duties, while the remainder focused exclusively on research.** There was a balanced composition of personnel in terms of academic qualifications and age, the share of early career researchers (20 per cent) is comparably high for legal science. The gender composition was less favourable and women accounted for approximately 30 per cent of the workforce. Nonetheless, the historically even worse situation had been slowly improving (see the progress within the evaluated period in Table 3.1.2. and 3.1.3.)

Research forms an integral part of the faculty's mission. Considering the country-specific nature of legal orders, **researchers at the faculty have traditionally strongly focused on the analysis of Czech law and dominated national scholarly discourse** namely in certain disciplines (e.g. constitutional law, commercial law, or criminal

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

law). Yet the international dimension of research gradually became similarly important and two special research institutes (the Judicial Studies Institute and the Institute of Law and Technology) were established to promote excellence. These efforts repaid quickly, and the faculty started to participate in numerous high-profile international and domestic research projects, including the first social science focused ERC grant in the Czech Republic, received by David Kosař in 2016, followed by another ERC grant in 2021. The strong position of the faculty is documented by data: within the evaluated period, it registered the **best average grades in Module 1 among all Czech social science research units** and accounted for more than **50 per cent of highly influential journal articles (Q1+Q2 Web of Science) published by Czech law faculties** (see annual Module 2 reports).

Law is a discipline with enormous societal impact, as its very objective is to regulate human behaviour. Legal science ("law in the books") is therefore naturally linked with legal practice ("law in action"). However, the relationship between basic and applied research is less straightforward than in other social science disciplines. First, many legal scholars apply their research directly in legal practice. **As Brno is the Czech "capital of law" and seat of all Czech apex courts, Office of the Ombudsman or Prosecutor General's Office, many academics work as judges, law clerks, or legal advisors** at these institutions. All concerned naturally utilize knowledge and skills gained at the faculty in their jobs and the **high societal impact of these activities is undisputed. Some academics have also been actively involved in preparing or commenting on legislative drafts** but again their influence on outputs could be tracked only indirectly through membership in respective bodies. Probably the **only method how to measure impact of legal (basic) research on application and interpretation of law is when it influences opinions of courts**, and the judges decide to refer to the relevant publication. Because applied research in law is in a way represented by legal practice itself, faculties of law have not generally been very active in seeking this kind of research. Still the number of projects from Technological Agency of the Czech Republic (which by itself is not exactly supportive to social science and humanities research) in which the faculty participated within the evaluated period is in this respect admirable. Also contract research or monetization of research outputs (transfer to practice) are less suitable for law faculties because provision of almost all legal services is constrained to selected subjects stipulated by statutory norms. **Popularization of legal science and law as a societal phenomenon** on the other hand **belongs to core responsibilities of any law faculty including the one in Brno.**

All research produced at the faculty falls almost exclusively under Ford 5.5. (Law).

Note: When the report asks for examples, they were selected with preference to document the diversity of faculty's personnel and activities. Each name is thus mentioned only once on each top ten list even if he or she qualifies multiple times.

 Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	13/4	13/4	14/4	18/5	19/5	20/6
Associate Professor	35/9	34/7	35/9	34/8	35/8	46/12
Assistant Professor	52/17	55/17	61/17	59/16	57/17	80/26
Assistant	14/5	10/3	8/2	7/2	12/4	28/10

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

R&D Personnel ³	-	-	-	-	-	-
Researchers in other categories ⁴	25/13	27/12	28/12	27/15	29/11	65/30
Technical and economic staff ⁵	5/1	5/1	5/1	5/2	7/3	9/4
Scientific, research and development staff involved in teaching activities	117/36	118/34	127/36	128/36	133/39	158/50
Early career researchers ⁶	31/8	30/7	23/3	28/6	30/8	49/14
Total ⁷	144/49	144/44	151/45	150/48	159/48	248/88

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	-	-	-	-	-	-	3	2	7	2	3	0
Associate Professor	-	-	5	1	14	2	4	1	10	5	2	0
Assistant Professor	2	0	32	7	13	6	4	3	1	1	-	-
Assistant	8	4	8	3	-	-	-	-	-	-	-	-
R&D Personnel ⁹	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁰	11	7	12	4	2	2	1	1	2	0	-	-

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

Technical and economic staff ¹¹	1	0	3	1	1	0	-	-	-	-	-	-
Scientific, research and development staff involved in teaching activities	10	4	46	11	27	9	11	6	18	8	5	0
Early career researcher ¹²	4	1	27	7	-	-	-	-	-	-	-	-
Total ¹³	15	7	59	16	31	10	12	7	19	8	5	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	-	-	-	-	5	1	3	3	3	1	8	0
Associate Professor	-	-	3	1	18	3	6	0	4	4	4	0
Assistant Professor	2	1	37	9	16	6	3	2	-	-	-	-
Assistant	8	3	4	1	-	-	-	-	-	-	-	-
R&D Personnel ¹⁵	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁶	11	5	11	1	4	3	2	1	2	1	-	-
Technical and economic staff ¹⁷	-	-	1	0	6	3	-	-	-	-	-	-
Scientific, research and development staff involved in teaching activities	10	4	46	11	42	13	13	6	8	6	12	0

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

Early career researcher ¹⁸	2	1	28	7	-	-	-	-	-	-	-	-
Total ¹⁹	21	9	54	11	49	16	13	6	8	6	12	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	632	401	574	375	528	326	466	290	445	293	2645	1685
Master's ²⁰	2181	1071	2354	1165	2420	1257	2509	1304	2528	1331	11992	6128
Doctoral	168	80	178	81	170	83	163	72	146	66	825	382
Lifelong Learning Courses	952	569	557	305	1154	814	970	659	925	624	4558	2971
Total	3933	2121	3663	1926	4272	2480	4108	2325	4044	2314	20020	11166

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes.											
	2019		2020		2021		2022		2023		Total	
Undergraduate	5/0	0	5/0	0	5/0	0	5/0	0	4/0	0	5/0	0
Master's	2/0	0	2/0	0	2/0	0	2/0	0	2/0	0	2/0	0
Doctoral	4/3	0	18/7	0	22/7	0	21/8	0	15/5	0	31/8	0
Lifelong Learning courses	22/0		16/0		17/0		11/0		16/0		82/0	
Total	33/3	0	41/7	0	46/7	0	39/8	0	38/5	0	120/8	0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	0,3
	1.2 Computer and information sciences	0,3	Balanced basic and applied research	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences		Zvolte položku.	
	1.6 Biological sciences		Zvolte položku.	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	0,2
	2.2 Electrical engineering, Electronic engineering, Information engineering	0,2	Applied Research	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences		Zvolte položku.	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	99,3
	5.2 Economics and Business	1,1	Basic Research.	
	5.3 Education		Zvolte položku.	
	5.4 Sociology		Zvolte položku.	
	5.5 Law	96,7	Basic Research.	
	5.6 Political science	0,9	Basic Research.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications	0,5	Basic Research.	
	5.9 Other social sciences	0,1	Applied Research	

6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	0,2
	6.2 Languages and Literature	0,2	Basic Research.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

The tables below confirm the **Faculty of Law's prominent standing in the research community, both nationally and internationally**. However, as discussed in section 3.1, **the specific nature of legal science influences the ways in which academic recognition manifests**.

As a leading institution in legal education and research in the Czech Republic, the faculty plays a unique and multifaceted role within the research community. **First, its recognition is evident in its direct involvement in shaping and application of Czech law. During the evaluated period, faculty members comprised one-third of the Constitutional Court's justices, while others served as judges on the Supreme Administrative Court and the Supreme Court.** Additionally, around 20 faculty members worked as part-time clerks or advisors at these apex courts. **Second, faculty academics have played key roles in advisory and decision-making bodies within the executive branch**, including the Legislative Council of the Government (and its working groups), appeal commissions at ministries and independent administrative bodies, and expert teams drafting new civil and criminal procedure codes. **Third, researchers from the faculty form a major portion of editorial boards of most Czech legal journals and hold leadership positions—such as chairpersons or executive committee members—in the country's legal scientific societies and associations.** Fourth, faculty members regularly receive prestigious awards from Czech legal scientific and professional entities (e.g. Lawyer of the Year awards or medals from the Randa Foundation).

While some faculty members primarily focus on national legal research, this has not come at the expense of **international recognition**. In some legal fields, it is strategic to foster **close cooperation with institutions in jurisdictions with similar legal systems**, such as Poland, Austria, or Slovakia. However, **the faculty's international reach extends far beyond neighbouring countries**, as demonstrated by the diversity of visiting researchers (Table 3.2.4) and the invitations faculty members receive to lecture abroad (Table 3.2.3). Furthermore, **faculty academics have taken on leadership roles in major international scientific societies and associations**, reinforcing the faculty's European and global standing (e.g. David Kosař and Katarína Šipulová: ECPR Standing Group on Law and Courts, ICON-S Central and Eastern Europe Chapter, Jaroslav Fenyk: Association Internationale de Droit Pénal, Robert Zbírál: International Association for Legislation or Zdeňka Králíčková: International Society of Family Law).

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
FRYŠTÁK, Marek	"Honored Member" award of the Lithuanian Association of Criminalists	Lithuanian Association of Criminalists
VOJÁČEK, Ladislav, SCHELLE, Karel, TAUCHEN, Jaromír	Cena za právněhistorickou knihu roku 2019 [Award for the Best Legal History Book in 2019] - Dějiny	Evropská společnost pro právní dějiny, Z.S. [European Society for History of Law]

	Právnické fakulty Masarykovy univerzity (1919-2019) [History of the Law Faculty of Masaryk University (1919-2019)]	
KOSAŘ, David, ŠIPULOVÁ, Katarína, POLČÁK, Radim, MYŠKA, Matěj, ZBÍRAL, Robert, VYHNÁNEK, Ladislav	MUNI Scientist - Award of the Vice-rector for Research for Extraordinary Scientific Achievement	Vice-rector of the Masaryk University
MALENOVSKÝ, Jiří	Rector's Award for Long-term Excellence in Research	Rector of the Masaryk University
BEJČEK, Josef	Medaile Za přínos hospodářské soutěži a veřejnému zadávání [Medal for Contribution to Competition and Public Procurement]	Úřad pro ochranu hospodářské soutěže [Office for the Protection of Competition]
POTĚŠIL, Lukáš	Pamětní čestná medaile předsedkyně Legislativní rady vlády České republiky za přínos při tvorbě českého právního řádu [Commemorative Honorary Medal of the President of the Legislative Council of the Government of the Czech Republic for contribution to the development of the Czech legal system]	Úřad vlády ČR (předsedkyně Legislativní rady vlády) [Office of the Government of the Czech Republic - Chairwoman of the Legislative Council of the Government]
LASÁK, Jan a kol.	Cena za nejlepší právní knihu v roce 2022 [Award for the best Czech legal book in 2022]	Karlovarské právnické dny [Karlovy Vary Legal Days]
POLČÁK, Radim	Award for creating safer cyberspace and long-term cooperation with the NÚKIB	National Cyber and Security Information Agency (NÚKIB)
FENYK, Jaroslav	Liberty Award (Award for extraordinary achievements in the legal profession and in promoting the rule of law in the Czech Republic, as well as for remarkable cooperation with American colleagues.)	The Bohemian Lawyers' Association Chicago
MRKÝVKA, Petr	Medal "Zasłużony dla Nauki Polskiej Sapientia et Veritas"	Minister for Education and Science of the Republic of Poland
SEHNÁLEK, David	Recognition of Achievement in Global Legal Skills Education	Global Legal Skills Institute

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN

ZBÍRAL, Robert	International Journal of Parliamentary Studies, ISSN 2666-8904
BEJČEK, Josef	International Review of Intellectual Property and Competition Law, ISSN 0018-9855
RADVÁN, Michal	Polish Law Review, ISSN 2543-9855
MRKÝVKA, Petr	Public Governance, Administration and Finances Law Review, ISSN 2498-6275
TAUCHEN, Jaromír	Beiträge zur Rechtsgeschichte Österreichs, ISSN 2221-8890
HURDÍK, Jan	Acta Universitatis Wroclawiens, ISSN 0524-4544
KOLUMBER, David	Journal of European History of Law, ISSN 2042-6402
KOSAŘ, David	German Law Journal, ISSN 2071-8322
ŠIMIČEK, Vojtěch	Przegląd Sejmowy, ISSN 1230-5502
MOLEK, Pavel	Vienna Journal of Constitutional Law, ISSN 1995-5855

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
POLČÁK, Radim	Challenges and implications of the logic of processing of data by AI- based fintech applications.	Singapore Management University (Singapore)	2020
ZBÍRAL, Robert	Important newcomer or ornamental bystander?: Practical application of the Charter by judicial and legislative bodies in the Czech Republic	Council of the European Union (Brussels, Belgium)	2022
KOSAŘ, David	Judicial Governance in Europe	European University Institute (Florence, Italy)	2020
ŠIMÁČKOVÁ, Kateřina	Dissenting Opinions in Constitutional Courts: A Means of Protecting Judicial Independence and Legitimising Decisions	Council of Europe (Strasbourg, France)	2021
ŠKOP, Martin	Radicalizing the Theory: Postmodernism in Jurisprudence	Jindal Global Law School (Sonipat, India)	2021
RONOVSKÁ, Kateřina and Vlastimil PIHERA)	The Trajectory of Corporate Governance after 1990 in Central Europe (and in the Czech Republic)	Recihmann University (Herzliya, Israel)	2020
VOMÁČKA, Vojtěch	Access to Justice Within the EU in Cases Relating to Air Quality.	Academy of European Law (Trier, Germany)	2022
LOUTOCKÝ, Pavel a Andrej KRIŠTOFÍK	The Specifics of eJustice in the Czech Republic and Approach to Online Court	Vrije Universiteit (Brussels, Belgium)	2022
RADVÁN, Michal	Taxation of new types of incomes (such as influencers or Airbnb)	Tax Law Conference (Ljubljana, Slovenia)	2023
LEISURE, Patrick Casey	The Martens Clause, Global Pandemic, and the Law of Armed Conflict	Australian and New Zealand Society of	2021

		International Law (Canberra, Australia)	

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
SENG, Michael P.	University of Illinois (Chicago, USA)	Executive Power under the Constitution of the United States; Freedom of Speech and Democratic Values	2020
VON BLUM, Paul	University of California (Los Angeles, USA)	Kafka and the Law	2023
VANHEULE, Dirk	University of Antwerp (Belgium)	Immigration and Asylum Law	2019
MUNIN, Nellie	Zefat Academic College, Israel	International Taxation and the Israeli Case	2022
FRANZSEN, Riël	University of Pretoria (Pretoria, South Africa)	Property-related taxation: Issues and international trends	2023
MACDONALD, Michaela	Queen Mary University (London, United Kingdom)	Law and Video Games: A Complex Ecosystem; Artificial Intelligence, Law, and Governance	2022
MUNRO, James	World Trade Organisation (Geneva, Switzerland)	The Law and Economics of Globalisation	2022
KOCHENOV, Dimitry V.	Central European University, Hungary	The victims of citizenship and passport apartheid	2022
HUSOVEC, Martin	The London School of Economics and Political Science (London, United Kingdom)	Foundations of the Digital Services Act	2023
ENDRICH-LAIMBÖCK, Tobias	Max Planck Institute (Munich, Germany)	Immoral Intellectual Property	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of project/programme call	Year
HARAŠTA, Jakub	European Digital Innovation Hub Scheme	European Commission	2022
MÍŠEK, Jakub	CHIST-ERA project scheme	CHIST-ERA consortium	2023
POLČÁK, Radim	RFF grant schemes	Research Foundation Flanders	2022-2023

ZBÍRAL, Robert	OPUS + SONATA grant schemes - internal member of the selection panel (Law and Political Science)	National Science Center Poland	2021-2022
RADVAN, Michal	ARIS grant schemes	Slovenian Research Agency (ARRS)	2019-2023
KOUKAL, Pavel	Vicechairman of the Law and Political Science panel	Grant Agency of the Czech Republic	2021-2023
KALVODOVÁ, Věra	Member of the Control Committee, member of the Law and Political Science panel	Grant Agency of the Czech Republic	2019, 2021-2023
KOSAŘ, David	Member of the expert panel (Social Sciences) within M2017+ evaluation	Research and Development Council, Government of the Czech Republic	2019-2021
ROZEHNALOVÁ, Naděžda	Vicechairwoman of the Discipline Committee (Oborová rada), member of the Law and Political Science panel	Grant Agency of the Czech Republic	2020-2021

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

1. JUDI-ARCH: The Rise of Judicial Self-Government: Changing the Architecture of Separation of Powers without an Architect

The project was supported by the European Research Council (ERC Starting Grant) and the faculty was its sole beneficiary. The aim of the JUDI-ARCH project was to understand the process of empowerment (and, more recently, disempowerment) of judges in judicial self-governance (JSG) and to analyse its impact on

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

domestic and supranational judiciaries as well as on societies in general. While the unprecedented rise of the decision-making power of courts has stirred vibrant and comprehensive academic discussion, the rise (and fall) of JSG and its resulting effects remained under-researched, as the traditional descriptive and normative scholarship was not able to capture them. JUDI-ARCH filled this gap by combining comparative legal perspectives with sociological and political science approaches. **The project and its outputs represented a significant contribution to both research field and practice.** The JUDI-ARCH project contributed to existing scholarship with crucial exploratory work, new qualitative and quantitative data, and new theoretical findings. The project's findings were built on a solid empirical grounding, going beyond earlier unsubstantiated assumptions about JSG. Some of the projects' outputs were referred to in Opinions of the Advocate General of the Court of Justice of the European Union in cases addressing the Polish constitutional crisis (see e.g. C-619/18 R Commission v Poland; and Opinion of Tanchev AG, Joined Cases C-585/18, C-624/18 and C-625/18 A.K. v Krajowa Rada Sądownictwa and CP, DO v Sąd Najwyższy). Moreover, the project's **findings allowed us to formulate policy recommendations** for designing JSG as we extensively analysed several models of JSG and **discussed them with judges and courts' management on numerous workshops and seminars.** Our work appeared inter alia in the so-called Biden Commission's Report adopted by the commission responsible for preparing proposals for the reform of the US Supreme Court.

2. INFINITY: Informal Judicial Institutions: Invisible Determinants of Democratic Decay

The project was supported by the European Research Council (ERC Consolidator Grant) and the faculty was its sole beneficiary. In any society, informal rules of the game are as important as formal institutions. Hence, if we want to understand the quality of the democracy of any country, we also need to understand informal rules and practices operating therein. In this project we aimed to explore the effect of informal judicial institutions on the quality of democracy. We asked to what extent they open the door to the democratic decay of (judicial) institutions or how they help to build institutional democratic resilience. As such, the **INFINITY project aimed to have a huge societal impact as its findings could lead to improving the current strategies of the EU and the Council of Europe in fighting democratic decay and contributing to upholding the rule of law and fundamental rights.** The INFINITY adopted a comparative approach as it was built on insights from more than ten theoretically selected cases covering "old" and "new" EU member states as well as the neighbouring countries. An in-depth analysis of informal institutions, their rationales and consequences were only possible by combining legal, political science and sociolegal approaches. Within the project, we provided the most extensive mapping of informal judicial institutions in Europe (see Special Issue of German Law Journal entitled "Informal Judicial Institutions: Invisible Determinants of Democratic Decay") which allowed us to truly understand the functioning of judicial systems, going well beyond the formal framework. **The findings from the project were discussed at many seminars and workshops with public administrators (e.g. Ministry of Justice), judges and courts' managements.**

3. Integrating Diversity in the European Union (InDivEU)

The project was supported by HORIZON in Societal Challenges Cluster. The lead partners were European University Institute and ETH Zurich, with a further involvement of 13 scientific institutions across Europe (e.g. LSE, University of Utrecht, Hertie School). InDivEU began from the assumption that managing deep diversity is a continuous and growing challenge to the EU arising from deep-rooted tensions between centripetal and centrifugal forces across the continent. Differentiated integration (DI) was one of the key governance strategies developed by the Union to meet the challenge of variation in the preferences and capabilities of its member states and near neighbours. **InDivEU examined how citizens, political parties and member state governments' view on DI.** InDivEU culminated in construction of various original datasets that served to develop robust models and scenarios of DI which **assisted policy makers from EU institutions (namely the Commission) in the future design of DI and foster debate on Europe's future choices.** **The faculty was responsible for Workpackage no. 7 focusing on differentiated implementation of secondary EU legislation in the Member States.** One of the outputs of the workpackage was a new dataset that mapped level of discretion across more than 200 directives adopted between 2006 and 2018. Website of the project: <https://indiveu.eui.eu/>

4. Powerful Lawful Interception, Investigation, and Intelligence (POLIICE)

The project was supported by HORIZON-RIA (Research Innovation Action) in Cluster 3 (Civil Security for Society). The lead partner was the Hochschule für den Öffentlichen Dienst in Bayern (DE), with a further involvement of 21 scientific institutions across Europe. **The vision of POLIICE was to advance European law enforcement agencies to a novel lawful-interception, investigation and intelligence era in which they would be able to effectively prevent, detect and investigate crime and terrorism amid the new age of communication** (5G&Beyond, end-to-end encrypted communication and Quantum based encryption). These new age technologies turn existing solutions to totally ineffective and therefore put significant risk on Europe's fight against crime and terrorism. **Faculty of Law was responsible for Workpackage no.8 (Legal framework, ethical and societal aspect)**, which included the identification, analysis, and assessment of legal, ethical and societal issues arising in connection with the development and deployment of each of POLIICE and EU Hub measures in the law enforcement and ensuring continuous interaction between developers and end-users for legal monitoring, ethical compliance, and social impact analysis. These aspects include implementation of Privacy and Security by Design and by Default and compliance with applicable rules. **The findings and results of the project have been favourably assessed by law enforcement agencies across the EU.** Website of the project: <https://poliice-project.eu/>

5. Online dispute resolution (ODR) - conceptual feasibility study of creating an online court / online justice system

The interdisciplinary project was supported by the Technology Agency of the Czech Republic. The lead partner was PRK Partners s.r.o. attorneys at law, other cooperating subjects were the Faculty of Social Sciences of Masaryk University and University of Technology in Brno. **The application guarantor was the Ministry of Justice.** As any introduction of online justice must be preceded by a thorough digitisation of judicial processes and agendas (a goal so far not achieved in the context of the Czech judiciary), results of the project were not immediately transferable to practice. Nevertheless, online justice is a topic that the Ministry of Justice would eventually have to address, and the existence of a knowledge base on the fundamental conditions, challenges and procedures for its introduction were therefore valuable for the Ministry, especially in the context of deciding on the parameters of individual digitisation processes that must be prepared for the integration of online court proceedings. **Important parts of the project were represented by large public opinion poll, which analyses in detail the public's attitudes and expectations in relation to online justice, and the online court test model, providing first conceptualisation and concrete approximation of the form in which online justice could be implemented.**

6. Contextual Relations of Justification of Human Rights as a Problem of Legal Philosophy

The project was supported by the Czech Science Foundation and the faculty was its sole beneficiary. The project significantly advanced both theoretical and practical understanding of human rights justification by demonstrating that the success of any justification theory depends on its coherence with broader moral and legal frameworks. This finding has direct implications for legal practitioners, policymakers, and human rights institutions, as it offers conceptual tools for assessing and refining the normative foundations of human rights discourse in legal and policy contexts. Beyond its theoretical contributions published in high-ranking journals or books, the **research has practical relevance for judicial reasoning, legislative interpretation, and the development of professional ethical guidelines in legal practice.** The interdisciplinary nature of research was reinforced through collaboration with scholars from other social sciences and humanities disciplines (e.g. philosophy, ethics), fostering cooperation within the Faculty of Social Sciences and Faculty of Arts of the Masaryk University. **The cross-disciplinary approach has strengthened the integration of theoretical insights into practical legal and policy-making processes.**

7. Artificial intelligence and human rights: risks, opportunities and regulation

The project was supported by the Technology Agency of the Czech Republic. The lead partner was AMBIS University, the project other cooperating subjects were Czech Technical University in Prague and prg.ai association (non-profit entity). The main **aim of the project was to identify and assess the risks and**

opportunities in the relationship between artificial intelligence (AI) and human rights and to propose solutions how AI technologies should be developed, used and regulated in order to evade human rights violations and support their further progress and protection. **Project was based on an interdisciplinary analysis of AI technologies aiming to identify the source of human rights violation in all phases of "AI life cycle" and on subsequent formulation of a set of recommendations for technical and regulatory remedy.** Project defined the institutional and competence framework in the Czech Republic, including "maps" on how of access the remedy. The team reflected both technical and legal expertise, the latter ensured by international, human rights and Czech law experts. With regard to the innovative and very topical research results, their implementation has been initiated both in terms of their use by state authorities, especially in relation to the ongoing preparation of the European Union Artificial Intelligence Act (AI Act) and the Council of Europe Convention on Artificial Intelligence or the current deployment of AI technologies by ministries, and in the field of human rights NGOs.

8. Protection of data flows in shared means of transport

The project was supported by the Technology Agency of the Czech Republic. The lead partner was University of Technology in Brno, other cooperating subject was Institute of Microelectronic Applications (private company). The project responded to the increasingly intensive process of digitization of traffic management systems and transport vehicles as such and aimed to provide tools to ensure user liability while maintaining a high level of protection of shared and processed data, especially personal data. The relevance was further increased by the current tendencies not only in the commercial sector to prioritize sharing of vehicles. The project contributed results both at the conceptual level and in the form of technical outputs, i.e. functional sample of a specific hardware solution providing a high level of protection in the digitization of shared transport vehicles and authentication software. **The input of the faculty researchers was most notable in creating recommendations on the legal dimension of the sharing and processing of personal data. The application guarantor, the Ministry of Transport, intends to use the results of the project to update the Autonomous Mobility Plan,** which is to be submitted to the Czech government in 2025.

9. Restrictions to the Freedom of Movement: Technological and Constitutional

The project was supported by the Ministry of Interior under the Security Research Program of the Czech Republic 2015-2022. The Faculty of Law was the only beneficiary. **The project examined restrictions on freedom of movement as part of measures aimed at managing crises caused by biological agents and toxins.** Such restrictions create a tension between crisis management efforts and the constitutional order. The hypothesis suggested that technological solutions and targeted measures could help mitigate this conflict. The project's objective was to identify technological options that can ensure the necessary restrictions remain in line with constitutional principles. **The main outputs of the project were three research reports that were highly evaluated by the Ministry of Interior and utilized in the adaptation of relevant legal framework and administrative practice.**

10. Law in Literature: Qualitative Analysis of the Image of Law in Belles-Lettres at the Turn of the 19th and 20th Century

The project was supported by the Czech Science Foundation and the faculty was its sole beneficiary. It explored the meaning of literary fiction to map the context of law in society as a functional social entity. Law is a social phenomenon and its reflection in the literature belongs to the sources of a cognition of law. This reflection opens a new way to approach and perceive law in society and enables us to identify the relationship between changes in society and the accompanying image of law. The project built upon the **interdisciplinary tradition of Law and Literature**, which has a strong foundation in international academic discourse but remains underdeveloped in the Czech Republic. Recognizing its potential to bridge the gap between legal professionals and the general public, the research aimed to strengthen this approach within the Czech context. The research demonstrated that **popular literature with legal themes not only mirrors societal changes but actively influences public perception of law and justice.** Particularly in times of crisis, such as pandemics, literature has proven to be a powerful tool in shaping societal expectations of the law and offering solutions to pressing legal and ethical issues. The project also provided unique insights into the evolution of legal identity

in Central and Eastern Europe, revealing that literature does not merely reflect legal norms but actively contributes to their formation. **Findings from the project underscored its broader societal relevance:** literature can serve as a bridge between legal theory and history and everyday life, making law and its narratives more accessible, comprehensible, and meaningful to a wider audience

Table 3.3.1 Projects supported by public funds

In the role of beneficiary -						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
EU / Horizon 2020/ ERC starting grant	JUDI-ARCH - The Rise of Judicial Self-Government in Europe: Changing the Architecture of Separation of Powers without an Architect (2016-2021)	38,015/1,500				
EU / Horizon 2020/ ERC consolidator grant	Informal Judicial Institutions: Invisible Determinants of Democratic Decay (2021-2026)			50,694/2,000		
Ministry of Education, Youth and Sports / Operational Programme Research, Development and Education	Transitional Jurisprudence (2017-2023)	7,478/295				
GA CR – Czech Science Foundation	Extralegal Influences on the Czech Constitutional Court's Decision-making	467/18				
GA CR – Czech Science Foundation	Methodology of empirical research on usage of interpretative	866/34				

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

	methods in law-making					
GA CR – Czech Science Foundation	Private International Law and Intellectual Property Rights - Law Applicable	448/18				
GA CR – Czech Science Foundation	Exact assessment of the relevance of case-law	542/21				
GA CR – Czech Science Foundation	Adapting Exceptions and Limitations to Copyright, Neighbouring Rights and Sui Generis Database Rights to Digital Network Environment	428/17				
GA CR – Czech Science Foundation	Autonomy of Testator's Will – Historical and Comparative Bases and Usage Thereof in Application of New Czech Civil Code (Law Nr. 89/2012 Coll.)	495/20				
GA CR – Czech Science Foundation	Replacement of Directives by Regulations in the European Union	285/11	280/11	323/13		
GA CR – Czech Science Foundation	Law in Literature: Qualitative Analysis of the Image of Law in Belles-Lettres at the Turn of the 19th and 20th Century	915/36	895/35	910/36		
GA CR – Czech Science Foundation	Contextual Relations of Justification of Human Rights as a Problem of Legal Philosophy		680/27	678/27	781/31	
GA CR – Czech Science Foundation	Methods of social representation in analysis of legal concepts		655/26	741/29	797/31	
Ministry of the Interior	Freedom of Movement Restrictions: Technological			1,093/43	1,165/46	

	Opportunities and Constitutional Limits					
GA CR – Czech Science Foundation	Judicial Dialogue in EU Matters: Czech and Slovak Case Study				1,161/46	1,083/43
GA CR – Czech Science Foundation	Copyrighted Works and the Requirement of Sufficient Precision and Objectivity				826/33	998/39
GA CR – Czech Science Foundation	Human Rights and Welfarism					1,534/61
GA CR – Czech Science Foundation	Ethical and Legal Aspects of Gamete Donation					346/14
Total		49,939/ 1,970	2,510/99	54,439/ 2,147	4,730/156	3,961/156
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
EU / Justice Action Grant	Cross-border litigation in Central-Europe: EU private international law before national courts (2018-2021)	1,104/44				
EU / European Union's Justice Programme (2014-2020)	InterLex - Advisory and Training system for Internet-related Private International Law (2018-2021)	740/29				
EU / European Union's Justice Programme (2014-2020)	INFORM - European Academy of ICT law (2017-2019)	1,640/65				
EU / European Union's	Diversity of Enforcement titles in cross-border debt	594/23				

²⁷ Ibid.

Justice Programme (2014-2020)	collection in the EU - "EU_En4s" (2019-2022)					
EU / Horizon 2020	InDiv-EU: Integrating Diversity in the EU	2,587/102				
EU / 2019 CEF Telecom Call	Specifications and Tools for Interoperable and Reusable Data		1,790/71			
EU / European Education and Culture Executive Agency	AGIT – Activation of young generation in the times of climate policy backlash in Central Europe (2023-2024)					797/31
EU / Horizon Europe	POLIIICE – Powerful Lawful Interception, Investigation, and Intelligence				5,632/222	
EU / Directorate-General for Justice and Consumers	TRIIAL2 – TRust, Independence, Impartiality and Accountability of Legal professionals under the EU Charter-2 (2023-2025)					1,395/55
GA CR – Czech Science Foundation	Conditions for the Mediation Practices in the Czech Republic Pursuant to the Mediation Act	520/21	525/21			
Technology Agency of the Czech Republic	Legal and technical tools for privacy protection in cyberspace	395/16	395/16	409/16		
Technology Agency of the Czech Republic	Application of knowledge of procedural obstruction tactics which occur in particular in administrative proceedings of traffic offenses in order to increase the efficiency of these	309/12	41/2			

	proceedings and increase the level of enforcement of traffic law					
Technology Agency of the Czech Republic	Online dispute resolution (ODR) - conceptual feasibility study of creating an online court / online justice system		478/19	636/25	534/21	274/11
Technology Agency of the Czech Republic	The COVID-19 pandemic as a catalyst for change in the distribution, presentation and monetization of cultural content online		72/3	384/15	237/9	
Technology Agency of the Czech Republic	Artificial intelligence and human rights: risks, opportunities and regulation			309/12	578/23	513/20
Technology Agency of the Czech Republic	Standards for the performance of expert activities in assessing the course and causes of traffic accidents			168/7	287/11	287/11
Technology Agency of the Czech Republic	Protection of data flows in shared means of transport				719/28	704/28
Ministry of Finance / EEA and Norway Grants	Strengthening public financial management and control			1,102/43		
Total		7,889/311	3,301/130	3,008/119	7,987/315	3,970/157

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Nezávislý odborový	Posouzení obecných otázek ke statusovým (povahovým) změnám v postavení "bývalých		64/3			

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

svaz Policie České republiky [Independent Trade Union of the Police Corps in the Czech Republic]	pobočných odborových organizací” [Assessment of general questions on the status (character) changes in the position of "former affiliated trade unions"]					
ENRESS s.r.o.	Posouzení obecných otázek zpracování odpadního plastu a pneumatik [Assessment of general issues in the treatment of waste plastics and tyres]			130/5		
Total			64/3	130/5		

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

Introductory note: None of the listed results was directly concerned with gender issues yet by definition all legal science outputs emphasize the need for non-discriminatory application of law. Similarly, various sustainability goals as defined by the Masaryk University 2021+ Strategy were partly addressed by the listed outputs (sustainable environment: no. 4, digitalisation and security: no. 5, 9 and 10, society and change: no. 2, 3, 7, 8).

1. LASÁK, Jan a kol. Zákon o obchodních korporacích. Komentář. 2. vydání. Praha: Wolters Kluwer, 2021. [Commentary to the Czech Corporations Act]

The presented result is a highly professional, yet very practical publication, which has a significant impact on the legal environment. As the text deals with corporate law, which is directly related to the business and investment sector, both in terms of the level of foreign investment and in relation to foreign investors, it makes a significant contribution to economic development. It directly affects corporate relations and the implementation of business investment projects, which often have international participation. The work offers a detailed and well-reasoned interpretation of often ambiguous legislation, responds to current decision-making practice (which it critically evaluates), provides sophisticated expert solutions as well as practical recommendations, and also includes related accounting and tax interpretations, thus further increasing its practical social relevance for its addressees. The second edition of the commentary has been substantially supplemented and expanded. **The importance of the publication is confirmed by its frequent application and citation by Czech apex courts (Supreme Court cited it 23 times, including 7 level A decisions, Constitutional**

²⁹ See Terms definition.

Court cited it 5 times). The book was recognised as the most beneficial Czech legal publication of 2022 at Karlovy Vary Legal Days (<http://www.kjt.cz/cs/ceny/>) and received the highest grade (A) in the 2017+ evaluation in the field of societal relevance.

2. PETROV, JAN. The COVID-19 emergency in the age of executive aggrandizement: what role for legislative and judicial checks? *The Theory and Practice of Legislation*, 2020, pp. 71-92.

The article focuses on the desired role of the legislature and the judiciary in COVID-19 emergencies. **Although many constitutions address emergencies, they are often vague and leave considerable room for the involved actors themselves to adjust their behaviour. This article asks how parliaments and courts should use this de facto room.** The main argument is that the deliberative and scrutiny functions of the legislature and the dispute-resolution function of courts are crucial not only for preventing the abuse of emergency measures, but also for increasing the effectiveness of emergency measures by improving conditions necessary for compliance. The legislature and courts can contribute to the higher feasibility and legitimacy of the emergency measures and thereby increase voluntary compliance, which is crucial for tackling the spread of the new coronavirus. **Findings from the article had a significant impact on adaptation of governance in various polities during COVID-19 pandemics. They were utilized and cited in reports published by European Parliament** (European Parliamentary Research Service study "States of emergency in response to the coronavirus crisis: Normative response and parliamentary oversight in EU Member States during the first wave of the pandemic", European Parliamentary Research Service study "Parliamentary oversight of government's responses to the COVID-19 pandemic"), **European Commission** (Directorate-General for Internal Policies: "Impact of COVID-19 measures on democracy and fundamental rights Best practices and lessons learned in the Member States and third countries") and **Council of Europe** ("The Impact of Covid-19 on Women's Access to Justice").

3. KOSAR, David. Beyond Judicial Councils: Forms, Rationales and Impact of Judicial Self Governance in Europe. *German Law Journal*, 2018, vol. 19, no. 7.

This article conceptualizes judicial self-governance and identifies crucial actors within the judiciary who may engage in judicial governance (such as judicial councils, judicial appointment commissions, promotion committees, court presidents and disciplinary panels). Subsequently, it shows that both the forms, rationales, and effects of judicial self-governance have varied across Europe. Finally, this article argues that it is necessary to take into account the liquid nature of judicial self-governance and its responsiveness to political, social, and cultural changes. Moreover, the rise of judicial self-governance is not necessarily a panacea, as it may lead to political contestation and the creation of new channels of politicization of the judiciary. **The text significantly influenced debates and decision-making in recent developments of the judiciary branch in countries of Central and Eastern Europe, it was for example cited by Advocate-General Tachev (Joined Cases C 585/18, C 624/18 and C 625/18. A.K. v Krajowa Rada Sądownictwa) or the Venice Commission (Opinion on the December 2021 Amendments to the Organic Law on Common Courts, 20 June 2022. CDL-AD/2022/010).**

4. HANÁK, Jakub, Dominik ŽIDEK a Robert ČERNOCKÝ. Zákon o vyvlastnění. Praktický komentář. Praha: Wolters Kluwer, 2020. [Expropriation Act. Practical Commentary]

The Commentary is the most widely used commentary on the topic within legal practice due to its scientifically rigorous approach, comprehensiveness and up-to-date content. The authors thoroughly analyze all recent legislative changes, including amendments to related laws, relevant case-law and practice of state authorities and their impact on expropriation practice. **The high societal relevance of the publication is evidenced by its high citation rate in judicial practice, both by the apex (e.g. Constitutional Court case no. Pl. ÚS 39/18; 5 decisions of the Supreme Administrative Court) and lower (dozens of decisions of regional courts).** Additionally, it holds significant practical value for legal professionals (namely public administrators at the buildings offices) due to authors' experience with application of the act and their comprehensive approach to expropriation in the context of related public and private law regulations.

5. FRYŠTÁK, Marek. Znalecké dokazování v trestním řízení. 2., podstatně přepracované a doplněné vydání. Praha: Wolters Kluwer ČR, 2021. [Expert Evidence in Criminal Proceedings]

The monograph was published in response to major changes introduced by the new Act on Experts and the related amendment to the Criminal Procedure Code and the relevant decrees of the Ministry of Justice, all of which came into force on 1 January 2021. It enables theoreticians and practitioners in particular to become better acquainted with the material arising from the relevant legislation, which is confronted with the related case law and enriched with a number of practical examples and observations of application practice aimed at enabling experts to understand their role and position in criminal proceedings and what is expected from expert evidence or expert opinion. **The publication has quickly become an essential handbook for experts acting as key players in a wide range of criminal proceedings, thus ultimately contributing to a more efficient conduct of these proceedings. 7 citations of the text by the Supreme Court corroborate its influence.**

6. WHELANOVÁ, Markéta, Robert ZBÍRAL a Jan GRINC. Praktická příručka pro implementaci práva Evropské unie do českého právního řádu. Komentář s příklady k vybraným článkům Metodických pokynů pro zajišťování prací při plnění legislativních závazků vyplývajících z členství České republiky v Evropské unii. Brno: Masarykova univerzita, 2022. [Practical Handbook for the Implementation of European Union Law into the Czech Legal System: Commentary with Examples on Selected Articles of the Methodological Guidelines for Ensuring Work in Fulfilling Legislative Commitments Arising from the Czech Republic's Membership in the European Union]

The law-making process today is significantly linked to the obligation to fulfil legislative commitments arising from the Czech Republic's membership in the EU. No preparation of a bill, government regulation, or ministerial decree can therefore proceed without analyzing to what extent the proposed legal matter relates to EU law and how much the discussed draft adopts or otherwise complies with EU legal requirements. The primary guideline for implementing law within the executive branch is the "Methodological Guidelines for Ensuring Work in Fulfilling Legislative Commitments Arising from the Czech Republic's Membership in the European Union". **The purpose of the Handbook is to interpret and comment on selected provisions of the methodological guidelines and, above all, to supplement them with concrete examples that illustrate how the rules of the guidelines are applied in practice.** It is intended primarily for legislators from various ministries and other central government authorities who are directly involved in the process of implementing EU law into the Czech legal system. Insights from the staff of the Department of Compatibility of the Office of Government of the Czech Republic (OKOM) indicate that **the Handbook is extensively used by relevant state administration personnel, which has a positive impact on the quality of implementing legislation.** The Handbook is freely available at <https://science.law.muni.cz/knihy/monografie/zbiral-pravo-eu.pdf>

7. KOSAŘ, David, a Katarína Šipulová. How to Fight Court-packing? *Comparative Constitutional Studies*, 2020, vol. 6, no. 2.

This article provides a novel conceptualization of court-packing and identifies three court-packing strategies: (1) the expanding strategy, which includes techniques that increase the size of the court; (2) the emptying strategy, which results in a decrease in the number of sitting judges; and (3) the swapping strategy, which aims at replacing sitting judges. Subsequently, it analyzes the potential safeguards, both formal and informal, against court-packing. **The text significantly influenced debates on the recently burgeoning phenomenon of court-packing, its impact is evidenced by a citation in a report commissioned by Biden's Presidential Commission on U.S. Supreme Court Reform in 2021.**

8. HARAŠTA, Jakub a kol. Omezení pohybu v souvislosti s řešením krizí způsobených biologickými agens a toxiny (výzkumná zpráva). Brno: Masarykova univerzita, 2022. [Restrictions on Movement in Crises caused by Biological Agents and Toxins (research report)]

Research report commissioned for the Ministry of Interior of the Czech Republic within the project *Freedom of Movement Restrictions: Technological Opportunities and Constitutional Limits*. Project focused on freedom of movement restrictions as a means to mitigate crises caused by bio-agents and toxins. Restrictions to freedom of movement are in conflict between crisis mitigation and constitutionally guaranteed rights. Hypothesis was that technological means and targeted measures are fit to mitigate this conflict. The outcome

in the form of a **comprehensive research report** was intended to serve as an input for decision-making by **public authorities in the case of crises caused by biological agents and toxins**. In its form, it is mainly aimed at higher positions for compact communication of the project's key findings. **The authors received positive feedback on the report from both the Ministry of Interior and the Office of the Government of the Czech Republic**. The report is freely available here: https://is.muni.cz/publication/2247521/VZ3_Doporuceni-v1.pdf

9. MYŠKA, Matěj a Dominika COLLETT. Právní analýza digitalizace audiovizuálního kulturního dědictví. Brno: Masarykova univerzita, 2020. [Legal Analysis of Digitalization of Audiovisual Cultural Heritage]

The research report was commissioned by the Ministry of Culture, State Fund for Cinematography and Ministry of Industry and Trade within the project *Research on the impact of current legislation and the European Commission's strategy for Digital Single Market on Czech audiovisual industry: evaluation of the copyright system and preparation of cultural politics within the DSM*. It **analyses the legal aspects of the digitization of the audiovisual cultural heritage and focuses primarily on the copyright aspects of the issue under examination and the impact of the adopted Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the digital single market**. By a critical analysis of available legislation and case law and taking into account the available conclusions of domestic and foreign jurisprudence the research report answers the research question of how the digitization of audiovisual cultural heritage is reflected in the national law. **The findings in the report had an impact on the transformation of the State Cinematography Fund into the Audiovisual Fund and the implementation of the revised AVMS Directive (Article 13) into Czech legislation** (see e.g. the obligation of multinational streaming audiovisual content semi-forms based outside the Czech Republic to pay fees to the national fund or invest in the creation of local content). The report is freely available at https://is.muni.cz/publication/1716460/TACR_Myska-Collet_Pravni_analyza_digitalizace_audiovizualniho_kulturniho_dedictvi.pdf.

10. LOEBL, Zbyněk a kol. Online soudnictví v České republice. Praha: Wolters Kluwer, 2021. [Online Justice in the Czech Republic]

The book is the main output within the project *Online dispute resolution (ODR) - conceptual feasibility study of creating an online court / online justice system*. The **objective of the text was to structure pilot solution for the online judiciary, based on current general knowledge in the field of legal science, feedback from relevant expert groups and stakeholders and input from application guarantors**. The feasibility of the intention of building and launching the first online courts in the Czech Republic in terms of legislation, user, technology, organization, legal and procedural, economic, personnel and education was assessed. Although the findings by their nature cannot be directly turned into practice (this must be preceded by a thorough digitisation of judicial agendas), they were found very valuable by the Ministry of Justice as a knowledge base for decision-making on the parameters of digitisation processes.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Book	2021	LASÁK, Jan a kol. <i>Zákon o obchodních korporacích. Komentář</i> . 2. vyd. Praha: Wolters Kluwer, 2021, 2566 s. Komentáře Wolters Kluwer. ISBN 978-80-7598-881-2. [Commentary to the Czech Corporations Act]
Article	2020	PETROV, JAN. The COVID-19 emergency in the age of executive aggrandizement: what role for legislative and judicial checks? <i>The Theory and Practice of Legislation</i> , 2020, pp. 71-92.

³⁰ Specify the specific type of result. Add rows as needed.

Article	2022	KOSAŘ, David. Beyond Judicial Councils: Forms, Rationales and Impact of Judicial Self Governance in Europe. <i>German Law Journal</i> , 2018, vol. 19, no. 7.
Book	2020	HANÁK, Jakub, Dominik ŽIDEK a Robert ČERNOCKÝ. Zákon o vyvlastnění. Praktický komentář. Praha: Wolters Kluwer, 2020. [Expropriation Act. Practical Commentary]
Book	2021	FRYŠTÁK, Marek. Znalecké dokazování v trestním řízení. 2. podst. přep. a doplněné. Praha: Wolters Kluwer ČR, 2021, 132 s. Právní monografie. ISBN 978-80-7676-063-9. [Expert Evidence in Criminal Proceedings]
Book	2021	WHELANOVÁ, Markéta, Robert ZBÍRAL a Jan GRINC. <i>Praktická příručka pro implementaci práva Evropské unie do českého právního řádu. Komentář s příklady k vybraným článkům Metodických pokynů pro zajišťování prací při plnění legislativních závazků vyplývajících z členství České republiky v Evropské unii</i> . Brno: Masarykova univerzita, 2022. [Practical Handbook for the Implementation of European Union Law into the Czech Legal System: Commentary with Examples on Selected Articles of the Methodological Guidelines for Ensuring Work in Fulfilling Legislative Commitments Arising from the Czech Republic's Membership in the European Union]
Article	2020	KOSAŘ, David, a Katarína Šipulová. How to Fight Court-packing? <i>Comparative Constitutional Studies</i> , 2020, vol. 6, no. 2.
Research report	2022	HARAŠTA, Jakub a kol. Omezení pohybu v souvislosti s řešením krizí způsobených biologickými agens a toxiny (výzkumná zpráva). Brno: Masarykova univerzita, 2022. [Restrictions on Movement in Crises caused by Biological Agents and Toxins (research report)]
Research report	2020	MYŠKA, Matěj a Dominika COLLETT. Právní analýza digitalizace audiovizuálního kulturního dědictví. Brno: Masarykova univerzita, 2020. [Legal Analysis of Digitalization of Audiovisual Cultural Heritage]
Book	2021	LOEBL, Zbyněk a kol. <i>Online soudnictví v České republice</i> . Praha: Wolters Kluwer, 2021. [Online Justice in the Czech Republic]

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

Since 2005, the Technology Transfer Office (TTO MUNI) has been an integral part of Masaryk University. TTO MUNI is perceived as an institutional unit providing support and conditions for the practical application of university's research results. It provides services in technology/knowledge transfer (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralised, ensuring the necessary personnel, methodological and technical frameworks.

TTO MUNI manages the intellectual property of MUNI and cooperates in its identification, protection and commercial exploitation (licensing, spinoffs, application consulting, contract research) following MUNI rules and standards.

TTO MUNI supports cooperation between the scientific community and companies by building the university's internal environment and defining the internal rules. It initiates opportunities for meeting scientists with company representatives or finding resources for collaborative research. All this contributes to the mutually beneficial development and implementation of commercially interesting results of scientific work into everyday life.

The faculty has however not yet utilized services provided by TTO MUNI. The reason was to be found in generally low suitability of transferring legal science research outputs into practice with the aim of monetary profit. As indicated in other parts of the report, legal science is not unique only with its basic/applied research relationship, but in relation to its commercialization it is important to note that provision of all legal services is constrained exclusively to subjects stipulated by Czech statutory norms (either public or private entities) and those could not out-source these services to anybody else. Due to this strict regulation and threat of severe sanctions, cooperation with corporate sector in the form foreseen in Section 3.5 is next to impossible for the faculty.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
-	-	-	-	-	-

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Total	-	-	-	-	-

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

The Faculty of Law at Masaryk University plays a vital role in bridging the gap between academia and society, fostering a culture of knowledge-sharing and public engagement. **Through a wide spectrum of initiatives that involve thousands of both professionals and laypersons, the faculty not only popularizes legal science but also cultivates broader discussions on justice, governance, and the role of law in everyday life.**

One of the faculty's key contributions to public engagement is its participation in large-scale activities such as the Researchers' Night or the Night with the Law which offer interactive workshops, lectures, and practical demonstrations for hundreds of people, illuminating the complexities of legal systems and contemporary legal challenges. These events allow both professionals and the wider public to encounter law beyond statutes and textbooks, making it more tangible and accessible. Similarly, involvement in the Open House Brno Festival opens the faculty's historic building and provides guided tours led by dedicated volunteers, revealing not only its architectural significance but also the long-standing role of the faculty in legal education and societal transformation. **For younger audiences, the faculty runs the MJUNI Children's University**, an initiative designed to ignite an interest in law and governance among children and teenagers. By simulating court proceedings at the Constitutional Court, participants gain hands-on experience of the judicial process, fostering an early appreciation for legal principles and the rule of law.

Beyond events, the faculty also embraces various media, digital and non-traditional means to engage the public. In the evaluated period, faculty members interpreted legal developments in **almost a hundred contributions in nation-wide TV and radio broadcasts or authored dozens of articles and commentaries in newspapers. They produced podcasts or recorded videos, authored blogs**, all with the aim to make complex legal topics accessible to both professionals and the general public. The Faculty Theatre Company brings legal history to life through dramatic performances that explore key judicial cases and the evolution of legal systems.

Moreover, **the faculty actively supports open-access publishing, ensuring that cutting-edge legal research is freely available to the public.** Through its journals and digital library initiatives, it facilitates the broad dissemination of legal scholarship, allowing both practitioners and the wider community to benefit from the latest research and legal analyses.

In collaboration with student organizations, such as ELSA Brno, **the faculty fosters a vibrant academic environment where students can develop practical skills, engage in international legal networks, and participate in various extracurricular activities.** Legal writing competitions, such as the Ius et Societas Award and Student's Scientific Activity (SVOČ), create a platform for young legal minds to contribute fresh perspectives to legal discourse. This strong student involvement not only enriches academic life but also enhances the faculty's societal impact.

Through these diverse initiatives, the faculty reaches beyond traditional academic boundaries and contributes to an informed and legally aware society that is indispensable for the future development of the Czech Republic as a democratic state based on the rule of law.

Details on selected activities/ projects:

1. Noc práva [Night with the Law]

The Night with the Law Brno is a unique cultural and educational event that introduces the general public to the world of law in an entertaining and inspiring way. It is held annually in Brno and the faculty cooperates in its organization with apex courts (Constitutional Court, Supreme Court, Supreme Administrative Court), private law firms and other institutions related to law (e.g. Czech Ombudsman). The aim of the event is to show that law is not just a set of complex paragraphs, but that it plays a fundamental role in the everyday life of society. **The programme of the Night with the Law is varied and includes lectures, workshops, mock trials, guided tours of court buildings, debate evenings and film screenings with legal themes. Each year, around 500 visitors may meet barristers, judges, academics and other experts who will give them insights into different areas of law and answer their questions.** The Night with the Law is intended not only for students and professionals, but also for the general public, thus contributing to strengthening legal awareness and civic engagement in society.

2. Noc vědců [Researchers' Night]

The Researchers' Night at faculty is a global project that takes place annually at the end of September and aims to popularize science and research. The faculty participated regularly and contributes to this initiative by organizing activities that explore contemporary legal issues, innovative approaches to legal problems, and emerging trends in legal science. **About 800 visitors each year can engage in lectures, workshops, and interactive presentations, gaining insight into the complexities of the legal system.** The event also features competitions, discussions, and practical demonstrations, offering participants a hands-on experience of real legal practice. By promoting dialogue between academia and society, the Researchers' Night helps to demystify legal science and highlights its broader societal impact.

3. Open House Brno Festival

The Open House Brno Festival is a significant architectural and cultural event that enhances public engagement with the city of Brno environment. By granting access to historical and modern buildings that are typically closed to the public, the festival allows approximately 300 visitors each year to explore both well-known landmarks and lesser-known architectural gems. **The faculty has regularly participated in the festival, reinforcing its commitment to education, cultural heritage, and public engagement. Through volunteer-led tours, the faculty opens its doors to visitors, offering insights into the building's unique architecture and rich, often turbulent history** (e.g. as the seat of Gestapo during the World War II). These guided tours are complemented by an exhibition showcasing the faculty's century long history as one of the founding faculties of Masaryk University. This initiative strengthens the connection between the university and the wider public, demonstrating how architecture, history, and education collectively influence everyday life and the development of society.

4. MjUNI dětská univerzita [MjUNI Children's University]

The MJUNI Children's University is a university-wide initiative designed to spark curiosity about science among children and young people (aged 8 to 17). The program offers a fun and interactive introduction to various scientific fields, encouraging further study and deepening interest in academia. **At the faculty, about 80 young participants per year gain foundational knowledge of legal disciplines through simulated court proceedings at the Constitutional Court in Brno, the faculty's main partner in this activity.** This experience provides insight into the role of the Constitutional Court in upholding constitutional principles in the Czech Republic, inspiring an early interest in law and legal science while motivating students to pursue further education in these fields. Beyond promoting scientific curiosity, MJUNI Children's University strengthens the connection between

academia and the public, demonstrating how science and law can be both engaging and relevant to everyday life. Such initiatives are essential for building a modern, educated society equipped to tackle future challenges.

5. Podcasts, Youtube videos or blogs

Several academics of the faculty tried to utilize modern tools such as podcasts, Youtube videos, blogs or social networks accounts to provide engaging and accessible transfer of legal knowledge to professionals or wider public. Jaromír Tauchen records podcast on the development of legal education in Brno that chart not only the academic transformations of the faculty since its foundation in 1919, but also the broader social and political contexts that have influenced the study of law over the decades. The sessions, freely accessible at faculty website (both as a podcast and Youtube channel) often include interviews with memoirists, former students, educators, and legal history experts who share personal experiences and professional insights. Milan Dobeš authors *Ozvěny právní historie* [Echoes of Legal History] podcast, available at Spotify, introducing listeners to key moments and personalities shaping the law over the centuries. Josef Kotásek authors numerous informative podcasts and video series related to various aspects of commercial law (all available at his website www.josefkotasek.cz). Many other academics actively participate or contribute to similar instruments produced by others, including international outlets (see e.g. contributions of authors from the Department of Constitutional Law to *Verfassungsblog*).

6. Promotion of open access publishing

The faculty actively promotes the widest possible access to scientific information through free and unrestricted access to scholarly works it publishes, supporting transparency and knowledge sharing and contributing to faster and more efficient development of science and education. **All journals published by the faculty** (*Časopis pro právní vědu a praxi* [The Journal of Jurisprudence and Legal Practice], Masaryk University Journal of Law and Technology and *Revue pro parvo a technologie* [Review for Law and Technology]) **grant full open-access at their respective websites**, also **many books released in Masaryk University Press by faculty authors are freely available for download**. The library of the faculty scanned large parts of the so-called historical legal collection and made it available at its website, many of these publications are unique in the whole Central Europe due to damage to Prague's Faculty of Law library by floods in 2002.

7. Fakultní divadelní společnost [Faculty Theatre Company]

The Faculty Theatre Company is a student and academic theatre group that brings together enthusiasts of acting, directing, stage design and other theatre disciplines. It was founded at the faculty in 2015 with the aim of enriching the cultural life of the students and provide them with a space for creative self-expression outside the traditional academic environment. **The company's repertoire focuses on plays with legal dimension**, recent examples are *Milada* (capturing the trial of Milada Horáková), *Lucerna* (The Lantern, on how culture influenced establishment of Czechoslovakia and its legal order) or *1918 - Hovory před zákonem* (1918 - Talks before the Law, conceptualizing legal dilemmas of negotiations in the National Committee during the World War I). This "verbatim style" of theater is aimed to approximate law (not only to) laymen. Performances are usually held at the auditorium of the faculty or outside academic environment (e.g. in *Scala* or *Reduta* theatres), in the latter case opening up the otherwise closed university environment to the general public. **Between 2019 and 2023, about 25 performances were held, visited in total by almost 2000 people.** The company encourages teamwork and creative thinking, which helps students not only in the artistic sphere but also in the professional sphere.

8. Student scientific writing competitions (*Ius et Societas* Award, Student's Scientific Activity – SVOČ)

By participating in legal writing competitions, students may test their knowledge and skills, gain valuable experience and establish deeper contacts with experts in the field. **The *Ius et Societas* is a prestigious competition for students of law and other social science disciplines that focuses on relationship between law and society.** It is organised by the faculty together with Jan Hus Educational Foundation, Constitutional Court, Supreme Court, Supreme Administrative Court, Supreme State Prosecutor's Office, Ombudsman and the Faculty of Social Studies of the Masaryk University. Experts from the involved institutions provide the students feedback on their essays and each year grant a prestigious award to the author of the paper

containing the most interesting suggestions, perspectives and questions. Similarly, **Student's Scientific Activity (SVOČ) is a competition of scientific papers related to any aspects of law.** Around 50 students participate at the faculty level each year, the best of them proceed to Czech-Slovak international round where they compete with students from other law faculties.

9. Support of student associations and their activities

Students' social activities at the faculty play a key role in enriching the academic and personal life of students. **Student organizations provide a space for self-realization, development of professional skills and foster new contacts not only within the faculty but also outside it.** Among the most important associations is European Law Students Association (ELSA) Brno, an independent, non-political and non-profit organisation of law students and young lawyers, whose history dates back to 1981. ELSA is part of an international network and offers students the opportunity to participate in international legal competitions, seminars and internships. At the faculty, it organizes activities such as Speak Up (improving speaking skills), Textbook Exchange, Právnická Vysočina (field trip of students and alumni) or Student Ball. Other student associations include Právo 21 [Law 21] issuing its own web magazine and podcast or CIR (Collegium Iuris Romani, promoting Roman Law) or Lexicon (promoting mainly constitutional law). Faculty supports student organisations, their activities (apart from the already mentioned ones also workshops, lectures, networking events, informal meetings) and members through grants and scholarships, thus contributing to building a community at the faculty which overlaps into the public space.

10. Publication of books in Reminiscentia Iuridica edition

In 2021, a **new editorial series, Reminiscentia Iuridica**, was launched, **focusing on publishing monographs written by individuals connected to the faculty or dedicated to them.** So far, seven volumes have been published. The flagship project of the series is the gradual release of previously unpublished works by professor Vladimír Kubeš. By making these manuscripts accessible, the faculty is, in a way, repaying a long-standing debt to professor Kubeš, whom it twice forced to leave the institution and prevented from conducting research or publishing his work—first during World War II and later under the communist regime. The publication of these books is usually accompanied by related events, such as book launches, lectures, and media coverage, helping to disseminate knowledge from the publications and raise awareness of their authors among the broader academic community.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

Recommendations for Module 3 from the previous evaluation period	Implementation by the Faculty
APPLIED RESEARCH PROJECTS The Faculty of Law does very well on applied science projects from the public realm. During the period under scrutiny, it does not have many projects from non-public sources. It is our assessment that the Faculty of Law fairly easily could improve its record in these dimensions. Historically, law professors have often done a lot of contracted work but it has often been on the side of their formal job description and thus not been	While it is true that part of the academics has pursued legal jobs outside of the faculty (e.g. as judges, assistants to judges, barristers), most of their work at these positions for obvious reasons could not be "transferred" to the faculty in a commercial (monetized) manner. The amount of contract research from non-public sources not affiliated to the faculty performed by academics has been rather negligible and consists mostly of teaching at courses for legal professionals

benefiting the institution. The information we have about the Faculty of Law suggests that the professors are very well positioned to be engaged for such work, both with regard to the public sector, law firms and private business. If the Faculty of Law will seek to improve its record in these dimensions, it will have to consider how it turns this body of work into publicly recognised contract research. We are aware this might entail changes in the culture of the Faculty but we nevertheless encourage the Dean's Office to look into this.	organized by private companies or professional organisations (e.g. Bar Association or Judicial Academy). As a countermeasure, the faculty successfully established innovative commercial study programmes for legal professionals (LL.M.), efforts to offer short-term training seminars for legal professionals were generally less fruitful due to long-term ties of traditional providers of such services with the target groups.
APPLIED RESEARCH RESULTS The Faculty does exceptionally well in these regards and the only recommendation we can make is to encourage the Faculty in developing ways of tracing and assessing these forms of impact. We have no reason to question their impact in this regard but it would be beneficial for the Faculty if it had the tools for better evidencing this impact.	The faculty began to track the impact of applied results, namely the citations of academic publications authored by academic staff in courts' decisions (see utilization of these data above). The heads of departments were encouraged to take this impact into account when determining personal financial bonuses to each employee.
COOPERATION WITH THE NON-ACADEMIC ENVIRONMENT AND TECHNOLOGY TRANSFER The Faculty has extensive and pro-active collaboration with the non-academic world, and easily ranks among the very best European law faculties in this regard. Due to the research focus of the Faculty, it is not the obvious candidate for spinning-off companies (at least directly). We encourage, however, the Faculty to increase its ability to document indirect spin-offs such as the setting up of specialised legal consultancy based on for example PhD and postdoc work done at the Faculty.	Establishment of the recommended for-profit legal consultancy "spin-off" would face enormous difficulties as provision of any legal services is regulated business limited to selected professions. During the Covid-19 outbreak, the faculty founded Students' legal advisory centre, where volunteering students supervised by faculty's experts offered free legal advice to hundreds of clients (primarily other Masaryk University students) affected by the pandemic. The centre has continued to operate even after the retreat of Covid-19 as part of MUNI pomáhá [MUNI Helps] initiative (see https://munipomaha.cz/dobrovolnicke-programy/studentstva-pravni-poradna).
RECOGNITION BY THE SCIENTIFIC COMMUNITY The Faculty of Law scores very good in this regard. We would however recommend the Dean to help spread the good practices beyond the faculty's top researchers. It is important that this becomes general practice for all researchers and not only the most recognised researchers at the faculty.	The list of received awards (see above) reflects the number and heterogeneity of recognized academics had increased. The faculty actively attempted to promote less visible (but good) researchers by nominating them to Masaryk University science awards (e.g. MUNI Scientists). Even if not all nominees received the award, the nomination itself was a motivating impulse for their further research endeavours.
POPULARISATION OF R&D&I The Faculty does exceptionally well in this regard. If it was to have a higher grade it would have to also	The faculty aimed to raise the international dimension of its popularization activities but these efforts met with only limited interest from

seek a more international impact in this regard. While that might be interesting, the Faculty seems to cleverly addressing its local environment and contributing to local culture. An internationalisation strategy should not be at the cost of this local embedment.	potential target groups. Yet the faculty has decided to hold at least parts of the large-scale events programme in English (e.g. some Open House tours or selected lectures/workshops during Night of Scientists).

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
List of projects	3.3.	https://www.law.muni.cz/content/cs/vyzkum/resene-projekty/?pageId=1&year=2025
Projects fulfilling sustainability objectives	3.3	https://sustain.muni.cz/en/areas-of-sustainability/science-and-research/projects/pravnicka-fakulta
HR Award	3.1.	https://is.muni.cz/do/law/odd/personal/hr_award/dokumenty_pro_euraxess_internal_review_2023/2023_-_2026_Akcni_plan_final_VM_04042023_EN-GB.pdf
The Journal of Jurisprudence and Legal Practice	3	https://journals.muni.cz/cpvp
Masaryk University Journal of Law and Technology	3	https://journals.muni.cz/mujlt/
Review of Law and Technology	3	https://journals.muni.cz/revue
MUNI Law Working Paper Series	3	https://workingpapers.law.muni.cz/content/en/issues/
Open Science Publications	3	https://www.law.muni.cz/content/en/vyzkum/publikacni-cinnost/elektronicke-volne-dostupne-publikace/

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Medicine, Masaryk University

FORD: 3 - Medical and health sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

Mission (1): MUNI MED strives to be a **place of innovation** in medical education, research and development. Our long-term goal is to continuously build **quality facilities, state-of-the-art infrastructure, a stimulating environment and a transparent personnel policy** that motivates junior and experienced scientists and clinicians.

Research activities cover the **entire spectrum of biomedicine** and reflect **current trends in modern therapeutic and diagnostic approaches**. They pursue **societal interests by translating research into clinical practice and respecting ethical principles**.

We foster international dimension and relevance of research. We want to be a sought-after place for career, study, and life, an attractive partner for **cooperation with academic, medical, industrial and public administration sectors**.

Basic self-reflection on societal benefits of research: We actively claim our societal role and responsibility. The main impact of research outcomes is helping **diagnose, prevent and cure diseases thanks to direct translation from basic research into clinical practice**. We are responsible and efficient in using public funds, strive for results that benefit society, communicate results to taxpayers, and educate general public towards a **healthy and sustainable society**. We strive for **sustainability-oriented research**.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

Basic research: conducted to **obtain and verify new scientific knowledge**, is carried out at most of the **pre-clinical and clinical departments** and in **29 established research groups (2)**, with key areas of excellence (3), particularly in **cellular, molecular and cancer biology, genetics, innovative therapies, cardiology, microbiology, neuroscience, oncology, reproductive medicine, tissue and regenerative medicine and stem cell research**. Through the spectrum of thesis topics, grant activities, and research collaboration, we promote **interdisciplinary cooperation between pre-clinical and clinical sciences and research areas**.

Applied research: the direct **translation** of results into **clinical practice** is possible thanks to close interconnection with Brno medical facilities, other academic and research institutions, cooperation with the regional innovation ecosystem and companies, the city of Brno and the South Moravian Region.

Applied research focuses on **medical research**, seeking the shortest possible path from the **laboratory to the patient** (development of **new drugs and innovative therapies, medical devices, software, instrumentation, 3D printing of implants, implementation of clinical recommendations, screening prevention programs, etc.**). In recent years, together with cooperating medical institutions, we have focused on **precision and personalised medicine**. Thanks to the **Centre of Excellence CREATIC (5)**, an in-house specialised facility for ATMP production, the Centre for Precision Medicine of the University Hospital Brno (6) and the Clinic for Pediatric Patients without Diagnosis, a strong expertise in this branch directly impacting clinical practice is being formed in the Brno scientific space.

We have an established **platform for active interaction between pre-clinical and clinical research** and increasing the value of results by moving them into the next TRL stage with the help of CZECRIN (4) (Czech National Node of the European Clinical Research Infrastructure Network) for academic clinical trials.

Contract research: we see contract research as a **complementary activity**, but there is an established support **system** (offer, quotation, advertising, cooperation, meetings with industry partners). The faculty conducted contract research of 1 412 thousand EUR in the evaluated period, more than double the last evaluation period.

The contracting parties were private companies (manufacturers of medical devices, cosmetics, pharmaceutical companies), state enterprises (power plants), hospitals, universities, regional or municipal governments or health insurance offices. These were usually **analyses and statistics, expert opinions and studies**.

Artistic research: not relevant

Organisational structure: faculty consists of **75** departments and centres:

- **16 pre-clinical,**
- **54 clinical** departments shared with **4 medical institutions** – University Hospital Brno, Trauma Hospital, St. Anne's University Hospital (including International Clinical Research Center, ICRC), Masaryk Memorial Cancer Institute (ESMO Designated Centre of Integrated Oncology and Palliative Care, coordinator of the Czech Biobanking and Biomolecular resources Research Infrastructure),
- **1 centre of excellence** (CREATIC),
- specialised facilities (animal breeding facility, medicinal herbs garden, institute of biostatistics, library),

- **29 research groups** (set up in the above-mentioned departments).

Infrastructure: located in the modern University Campus, directly connected to the University Hospital Brno, the campus houses all **pre-clinical departments, modern laboratories, a laboratory animal breeding facility** (GMO animals, transgenic strains), **clean rooms for ATMP production, library** and a dietetic ambulance. MUNI MED also hosts CZECRIN, the **national coordinator of the European ECRIN network for supporting academic clinical trials**, thanks to which we organise numerous academic clinical trials for internal and external subjects.

We share the campus with Faculty of Science (and its RECETOX centre), CEITEC Institute and Faculty of Sports. That enables collaboration in teaching, research, and infrastructure sharing. From 2026, Faculty of Pharmacy will be added to the newly built part of the campus (MUNI BioPharma Hub). This building will house the newly established MUNI MED **Pre-clinical Centre (7)**, which will be organically integrated into the scientific axis of the campus and will complete the unique environment of a **globally competitive biomedical research centre**. With in-vivo and ex-vivo models for experimental surgery, tumour biology, organoids, immunology, neurobehavioural experiments, and many others, the centre will be open to internal and external researchers and commercial partners.

Staff structure: as of 31 December 2023, the number of academics was **1084 (485 women)**, ranging from 0.1 - 1.0 FTE, with an age structure evenly distributed. More than 50 % of our academics are employed at workplaces shared with 4 Brno medical institutions (with contracts with the faculty and the hospital).

Study programmes: The faculty is primarily **professionally oriented**, preparing medical and non-medical professionals for clinical practice. Thanks to excellent pre-clinical institutes, close links with clinical institutions and research institutes in the interconnected Brno research ecosystem, and one of Central Europe's largest and most modern simulation centres, we keep up with the latest global trends in education.

10, mostly from Ministry of Health-regulated bachelor's and 5 follow-up master's programmes, and 1 five-year master's programme educates non-medical professionals. In academic master's degree programmes in Czech and English, we train general practitioners and dentists. In doctoral studies, 15 programmes are accredited in Czech and English, covering the entire spectrum of biomedicine. Since 2021, we have been members of the **Orpheus (8) organisation for PhD Education in Biomedicine and Health Sciences in the European System**.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3/ Indicator 3.1

Document name	No. criteria	Location (link in HTML)
MUNI MED Mission (1)	3.1	https://www.med.muni.cz/en/about-faculty/our-mission
MUNI MED Research Groups (2)	3.1	https://www.med.muni.cz/en/research-and-development/research-and-development/research/research-groups

MUNI MED Areas of Excellence (3)	3.1	https://www.med.muni.cz/en/research-and-development/research-and-development/research/areas-of-excellence
CZECRIN (4)	3.1	https://czecrin.cz/en/home/
Centre of Excellence CREATIC (5)	3.1	https://creatic.muni.cz/
Centre for Precision Medicine of the University Hospital Brno (6)	3.1	https://www.fnbrno.cz/en/center-for-precision-medicine/t7823
MUNI MED Pre-clinical Centre (7)	3.1	https://biopharmahub.muni.cz/en/muni-pre-clinical-centre
Orpheus (8)	3.1	https://orpheus-med.org/

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total, incl. entries and exits
Professor	52/13	51/13	54/16	55/16	55/15	89/21
Associate Professor	57/20	64/23	67/23	70/23	72/24	127/37
Assistant Professor	178/93	178/93	183/97	187/100	190/103	706/318
Assistant	44/24	44/26	45/27	45/26	45/27	285/164
R&D Personnel ³	0	0	0	0	0	0
Researchers in other categories ⁴	69/45	78/51	113/76	136/93	160/109	487/331
Technical and economic staff ⁵	62/50	65/50	58/46	63/50	71/56	149/116

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

Scientific, research and development staff involved in teaching activities	337/152	343/157	356/165	363/166	368/170	1220/543
Early career researchers ⁶	12/7	14/9	17/11	22/15	24/15	75/53
Total⁷	462/244	479/256	521/285	555/308	594/335	1843/987

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers, are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	1	0	13	3	25	7	33	6	8	3
Associate Professor	0	0	5	1	38	12	35	9	30	9	7	3
Assistant Professor	4	2	187	79	205	83	83	40	44	19	7	5
Assistant	50	21	74	40	22	14	10	7	6	6	0	0
R&D Personnel ⁹	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁰	50	31	53	35	37	23	5	1	2	2	2	0
Technical and economic staff ¹¹	19	11	13	9	25	19	17	15	7	7	3	3
Scientific, research and development staff involved in teaching activities	54	23	271	123	282	113	153	63	113	40	22	11
Early career researcher ¹²	4	2	29	21	0	0	0	0	0	0	0	0

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

Total ¹³	123	65	333	164	340	154	175	79	122	49	27	14

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	18	2	32	13	27	4	19	4
Associate Professor	0	0	16	3	39	11	45	16	33	13	13	4
Assistant Professor	1	0	166	70	256	111	129	60	61	28	6	3
Assistant	38	19	83	43	30	23	12	6	5	5	0	0
R&D Personnel ¹⁵	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁶	99	70	111	65	73	53	27	16	3	2	2	2
Technical and economic staff ¹⁷	19	11	21	15	32	24	21	19	4	3	2	2
Scientific, research and development staff involved in teaching activities	39	19	268	116	348	148	219	95	129	50	38	11
Early career researcher ¹⁸	1	1	35	23	0	0	0	0	0	0	0	0
Total ¹⁹	157	100	397	196	448	224	266	130	133	55	42	15

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

Type of study	2019		2020		2021		2022		2023	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	717	593	693	564	773	540	685	562	714	593
Master's ²⁰	3104	1928	3316	2081	3406	2212	3497	2304	3522	2546
Doctoral	676	396	637	345	626	335	606	317	605	316
Lifelong Learning Courses	54	24	298	204	375	261	519	363	597	404
Total	4551	2941	4944	3095	5180	3348	5307	3546	5438	3 859

Table 3.1.5 - Study programmes in Czech and English

Type of study programme	Total ²¹ / Of which professional study programmes.											
	2019		2020		2021		2022		2023		Total	
Undergraduate		10		10		10		10		10		10
Master's	2/2	5	2/3	5	2/3	5	2/3	5	2/3	5	2/3	5
Doctoral	28/28	-	30/30	-	30/30	-	30/30	-	30/30	-	30/30	-
Lifelong Learning courses												
Total	30/30	15	32/33	15	31/33	15	32/33	15	32/33	15	32/33	15

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in the Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	14,7
	1.2 Computer and information sciences	0,5	Basic Research	
	1.3 Physical sciences	0,3	Balanced basic and applied research	
	1.4 Chemical sciences	1,1	Balanced basic and applied research	
	1.5 Earth and related environmental sciences	0,5	Basic Research	

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	1.6 Biological sciences	11,8	Balanced basic and applied research	
	1.7 Other natural sciences	0,5	Basic Research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	1,4
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering	0,4	Balanced basic and applied research	
	2.6 Medical engineering	0,7	Basic Research	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology	0,3	Balanced basic and applied research	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	15	Basic Research	81,1
	3.2 Clinical medicine	55,5	Basic Research	
	3.3 Health sciences	8,9	Basic Research	
	3.4 Medical Biotechnology	0,8	Balanced basic and applied research	
	3.5 Other medical sciences	0,9	Basic Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	0,2
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science	0,2	Basic Research	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	1,2	Basic Research	2,3
	5.2 Economics and Business	0,1	Basic Research	
	5.3 Education	0,3	Basic Research	
	5.4 Sociology	0,7	Basic Research	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology	0,2	Basic Research	0,3
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion	0,1	Balanced basic and applied research	

	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

Position in the scientific community: MUNI MED occupies one of the **leading positions in the scientific community** in the Czech Republic. Many of our scientists are among the **leaders in their fields**, not only nationally but also internationally.

This is evidenced by the fact that they are **members of the editorial boards** of the most renowned scientific journals indexed in Web of Science (e.g. Annals of Hematology, Oral Health, Brain Topography, World Journal of Biological Psychiatry, Neuro-Oncology Practice, EWMA – Journal of Wound Management, etc., see table).

They are also **members and/or elected leaders and fellows** of national and international **professional societies, e.g.:**

- Šárka Pospíšilová: EMBO (elected member), European Leukemia Net (international board member), European Hematology Association (scientific working group vice-chair)
- Martin Repko: Scoliosis Research Society (executive committee member)
- Jaroslav Štěrba: European Medicines Agency – Pediatric Committee (member), Children's Oncology Group USA (international member)
- Jiří Mayer: fellow of the European Group for Blood and Marrow Transplantation, American Society of Hematology, International Society for Experimental Hematology, European Haematology Association, and American Society for Blood and Marrow Transplantation
- Andrea Pokorná: European Pressure Ulcers Advisory Panel (president-elect)
- Martina Kosinová: European Society of Anaesthesiology and Intensive Care Medicine (1st Czech representative in the ESAIC Council)
- Petr Štourač: European Society of Anaesthesiology and Intensive Care Medicine (fellow)
- Regina Demlová – Chair of the Network Committee within ECRIN-ERIC (European Clinical Research Infrastructure Network)
- Kateřina Kaňková - European Association for Study of Diabetes (fellow)

They also actively participate in the **creation of national and international recommendations, guidelines, legislations, policies and health care reforms, e.g.:**

- Marek Svoboda: 1st Czech representative in the Horizon Europe Mission Board Cancer (since 2022)
- Tomáš Kašpárek: Adviser to the Minister of Health for psychiatric care reform
- National guidelines: "Recommended early detection procedures, diagnosis and therapy of autistic disorders spectrum."

- Our scientific community members **evaluate European, non-European and national research projects**, such as Horizon Europe (various schemes), the German Parkinson Foundation, and the Swiss National Funding Service. Dozens of them are chairs or members of evaluation panels and committees in the most important Czech grant schemes (in biomedicine) of the Czech Health Research Council and the Czech Science Foundation.

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution

Marek Svoboda, prof. MUDr. Ph.D.	Medal of Merit 1st Class (for services to the state in the field of science)	President of the Czech Republic
Pavel Šlampa, prof. MUDr. CSc.	Medal of Merit 1st Class (for services to the state in the field of science)	President of the Czech Republic
Milan Brázdil, prof. MUDr. Ph.D.	Ambassador for Epilepsy	International League against Epilepsy International Bureau for Epilepsy
Lenka Krbková, doc. MUDr. Ph.D.	Minister of Health Award for Medical Research and Development	Ministry of Health of the Czech Republic
Marek Svoboda, prof. MUDr. Ph.D.	Minister of Health Award for Medical Research and Development	Ministry of Health of the Czech Republic
Aleš Hampl, doc. MUDr. Ph.D.	Minister of Health Award for Medical Research and Development	Ministry of Health of the Czech Republic
Magda Horáková, MUDr. Ph.D.	Albert Schweitzer Prize for Medicine	French Embassy in Prague
Katarína Rebrošová, Mgr.	ASM Young Ambassador pro ČR	American Society for Microbiology
Andrea Pokorná, prof. PhDr. Ph.D.	Award of the Minister of Health and Chief Nurse of the Ministry of Health of the Czech Republic for exceptional contribution to the field of nursing and solving the problem of non-healing wounds and decubitus ulcers	Ministry of Health of the Czech Republic
Ladislav Dušek, prof. RNDr. Ph.D., Jakub Gregor, Mgr. Ph.D., Martin Komenda, RNDr. Ph.D., MBA	AMEC Communication Effectiveness Awards	International Association for Measurement and Evaluation of Communication

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Andrea Pokorná, prof. PhDr. Ph.D.	Journal of Wound Care, 0969-0700, International Wound Journal, 1742-481X
Tomáš Kašpárek, prof. MUDr. Ph.D.	World Journal of Biological Psychiatry, 1562-2975
Tomáš Kazda, doc. MUDr. Ph.D.	Neuro-Oncology Practice, 2054-2577
Filip Růžička, prof. MUDr. Ph.D.	Journal of Medical Mycology, 1156-5233
Radka Lordick Obermannová, doc. MUDr. Ph.D.	Therapeutic Advances in Medical Oncology, 1758-8340
Lydie Izakovičová Hollá, prof. MUDr. Ph.D.	BMC Oral Health, 1472-6831
Irena Rektorová, prof. MUDr. Ph.D.	Parkinsonism and Related Disorders, 1353-8020, Journal of Alzheimer's Disease, 1387-2877, Brain Topography, 0896-0267
Michael Doubek, prof. MUDr. Ph.D.	Annals of Hematology, 0939-5555
Martin Smrčka, prof. MUDr. Ph.D., MBA	Neurosurgical Review, 0344-5607
Alena Slezáčková, doc. PhDr. Ph.D.	The International Journal of Well-being, 1179-8602

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Tomáš Kazda, doc. MUDr. Ph.D	MET-PET for optimisation of radiotherapy for glioblastoma patients with rapid early progression after initial surgery	The James Cancer Centre, Ohio State University in Columbus, Ohio, USA.	2023
Tomáš Kazda, doc. MUDr. Ph.D	MET-PET for optimisation of radiotherapy for glioblastoma patients with rapid early progression after initial surgery	Mayo Clinic, Rochester, Minnesota, USA.	2023
Zdeněk Dvořák, doc. MUDr. Ph.D.	Algorithm of the Complex Nasal Reconstruction	Chung Gun Memorial Hospital, Kaohsiung, Taiwan	2023
Tomáš Freiburger, prof. MUDr. Ph.D.,	FH screening in the Czech Republic., Technical meeting on Achieving Equity and Innovation in Newborn Screening and in Familial Hypercholesterolemia Paediatric Screening across Europe	An accompanying event of the Slovenian Presidency of the Council of the EU	2021
Marek Svoboda, prof. MUDr. Ph.D	State of the art of comprehensive cancer care delivery from the perspective of the MMCI	Expert Conference on Oncology, Czech Presidency of the Council of the European Union	2022
Irena Rektorová, prof. MUDr. Ph.D.	MRI brain networks and cognitive impairment in PD	University of Newcastle Newcastle, UK	2021
Lukáš Čajánek, Mgr.Ph.D.	Primary cilia: mechanisms and mysteries	Cambridge Institute for Medical Research, UK	2022
Daniel Schwarz, doc. Ing. Ph.D.	High-Volume Collaborative Medical Learning in the Hands of a Non-Medical Professional	CLUEDUP Senate House, London, UK	2023
Jan Křivánek, doc. Mgr. Ph.D.	Ever-Growing Rodent Teeth as a model system for the study of dental regeneration and dentin and enamel microstructure	University of Missouri, School of Dentistry	2021
Karla Plevová, Mgr. Ph.D.	Assessing suitability of various DNA sources for monitoring leukemia activity with WGS	American Society of Human Genetics, Rockville, USA	2019

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Emmanuelle Charpentier	CRISPR/Cas9: A Bacterial Immune System Repurposed as a Transformative Genome Engineering Technology	Max Planck Institute for Infection Biology, Berlin, Germany	2019
Fraser Stoddart	The Rise and Promise of Artificial Molecular Machines Based on the Mechanical Bond	Department of Chemistry, Northwestern University, Evanston, USA	2019

Ben Feringa	The Art of Building Small	University of Groningen, Netherlands	2022
Brian Kobilka	Structural insights into G protein-coupled receptor activation	Stanford University School of Medicine, Stanford, CA, USA	2023
Susumu Tonegawa	Molecular Genetics of the Immune and Nervous Systems-Antibody Diversity and Memory Engrams	MIT, Cambridge, Massachusetts, USA	2023
Tanmoye Saha	Cancer cells as immune vampires	Harvard Medical School, Brigham and Women's Hospital Boston, USA	2023
Lori Wiener Meaghan Shaw Weaver	Selfcare Activities for Caring Professionals in Pediatric Palliative Care	Center for Cancer Research, NIH, Bethesda, Maryland University of Nebraska Medical Center, USA	2023
Nava Levit-Binnun	Mindfulness, Contemplative Neuroscience and the Pillars of Wellbeing	Reichman University, Israel	2023
Christos Gancos	Tics and Tourette's: From Charcot's Variable Chorea to Brain Circuits as Targets for Neuromodulation	University Clinic Charité, Berlin, Germany	2023
Ysbrand van der Warf	NEURAL IMAGING OF PARKINSON'S DISEASE: A WORLDWIDE CONSORTIUM APPROACH	UMC Amsterdam, Netherlands	2022

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Kateřina Kaňková, prof. MUDr. Ph.D.	MSCA Innovative Training Networks	Horizon 2020, European Union	2019-2023
	FET Open Challenging Current Thinking		2019-2023
	Better health and care, economic growth and sustainable health systems		2019-2023
Kateřina Kaňková, prof. MUDr. Ph.D.	EIC Pathfinder	European Innovation Council	2019-2023
Alena Slezáčková, doc. PhDr. Ph.D.	National Research Foundation NRF	National Research Foundation NRF	2019-2023
Radka Lordick Obermannová, doc. MUDr. Ph.D.	MSCA	Horizon 2020, European Union	2019-2023
Irena Rektorová, prof. MUDr. Ph.D.	German Parkinson Foundation	German Parkinson Foundation	2019-2023
Šárka Pospíšilová, prof. RNDr. Ph.D.	Swiss National Science Foundation	Swiss National Science Foundation	2019-2023
Dáša Boháčiková, Mgr. Ph.D.	UK Research and Innovation Funding Service	UK Research and Innovation Funding Service	2019-2023

Aleš Hampl, doc. MVDr. CSc.	Teaming for Excellence	Horizon 2020, European Union	2019-2023
Several academics and researchers are members and heads of evaluation panels.	Czech Health Research Council	Ministry of Health of the Czech Republic	2019-2023
Several academics and researchers are members and heads of evaluation panels.	Czech Science Foundation	Czech Science Foundation	2019-2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

In the evaluated period, we obtained funding for scientific projects in the amount of **47 628 thousand EUR** in the beneficiary role and **17 723 thousand EUR** in the project participant role. The following projects were selected not only because they are strategically important and prestigious, but also because they are consistent with the Faculty's mission and long-term strategic research areas.

1. **EXCELES - Programme** to support excellent research in **priority areas of public interest in the health sector**, launched as part of the **National Recovery Plan** to establish the National Cancer Research Institute (NCRI), the National Institute for Neurological Research (NINR), the National Institute for Metabolic and Cardiovascular Diseases (CarDia), the National Institute for Research on the Socioeconomic Impact of Diseases and Systemic Risks (SYRI) and the National Institute of Virology and Bacteriology (NIVB). MUNI MED has a representation of its scientific teams in all projects. In the SYRI project, MUNI MED is in the position of coordinator, and in the other 4 projects, in the position of co-investigator.
 - a) **SYRI (1)**: 6 faculties of MUNI, 7 institutes of the Czech Academy of Sciences (CAS) and Charles University are conducting **cutting-edge social science research** in several disciplines (economics, pedagogy, sociology, psychology, legal science, political science, media studies, social geography, and public health). **Practically applicable project results**: in the field of public administration, communication of public administration with the public and the **behaviour of society in situations of health threats, the effectiveness of health care,**

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

- lifestyle and other socio-economic determinants of health risks**, as well as the **recovery of the economy after health or security crises** in terms of economic policy, labour market and unemployment, human capital and education, or tackling the growth of poverty. **Recent outcomes:** e.g. Factors affecting participation in the colorectal cancer screening program: a cross-sectional population study, Mental health conditions and help-seeking among Ukrainian war refugees in Czechia: a cross-sectional study
- b) **NCRI (2):** The main coordinator is Charles University and 10 institutions across the Czech Republic cooperate. The institute's scientific director is Professor Jaroslav Štěrbá from MUNI MED Department of Paediatric Oncology; 11 research teams from our faculty are involved. The aim is to create a nationwide network of collaborating institutes conducting coordinated **cutting-edge research in oncology**, linking top scientific expertise, tertiary education and relevant medical and health information resources. The direct result will be **more coordinated, strategic and efficient cancer research**. **Recent outcomes:** The potential of exome sequencing of paired colorectal tumours and synchronous liver metastases to improve treatment, Comprehensive genomic profiling and individual therapeutic planning in high-risk/refractory pediatric solid tumours: A single-centre real-world study.
- c) **NINR (3):** The coordinator is St. Anne's University Hospital in Brno, together with MUNI MED. The project participants include Charles University, Palacký University, the University of Technology, the University of Ostrava, and the CAS. The aim is to bring together excellent research teams in an interdisciplinary manner, to leverage unique expertise, to **promote efficient use of existing cohorts and already accumulated data**, and to enable **specialised research laboratories to perform data evaluation** so that work is **concentrated in these central laboratories** and not performed in multiple locations at once. The main mission is to systematically seek breakthroughs in brain and nervous system knowledge to use them programmatically to **reduce the burden of neurological disease and improve the quality of life of the affected population**. The research is focused mainly on **neurodegenerative diseases** (Parkinson's disease and dementia, and partly on the neurodegeneration impact of COVID-19). **Recent outcomes:** Droplet Counter for On-Chip Sorting 1.0 (Software), Engineered NanoLucCTZ luciferase (prototype, sample)
- d) **CarDia (4):** Coordinated by the Institute for Clinical and Experimental Medicine with MUNI, Charles University and the CAS as project members. A comprehensive research centre is created, including **experimental, preclinical, translational and clinical research activities in preventing and treating cardiovascular diseases**, their most common risk factors such as **obesity, diabetes, dyslipidaemia and their chronic complications, eliminating the most socially and economically serious diseases** in the Czech population, thereby **contributing to building the resilience of the country**. **Recent outcomes:** The crucial role of HIF-1 α and mitophagy in cardioprotection induced by chronic hypoxia, Strain of knockout rats SHR/Ola with deletion of Hif1a (hypoxia-inducible factor 1 subunit alpha) gene (functional sample)
- e) **NIVB (5):** brings together 28 Czech teams from MUNI, Charles University, Palacký University, University of Chemistry and Technology and the CAS. Research activities focused on characterising pathogens causing existing and emerging infectious diseases, describing virus and bacteria-host interactions, understanding the molecular mechanisms of pathogenesis, and **developing anti-viral and anti-bacterial agents and vaccines**. Individual research groups work on viruses and bacteria causing diseases with **significant health and economic impact, including HIV-1, influenza, tick-borne encephalitis, hepatitis B, SARS-CoV-2, enteroviruses, and the bacteria B. pertussis, S. aureus, and T. pallidum**. By working with pathogens relevant to current clinical practice, the research groups have the expertise and equipment

for the ongoing **study of new pathogens** that could become prevalent in the human population in the future. **Recent outcomes:** STING agonists induce robust cytokine secretion and rapid monocyte cell death in peripheral blood mononuclear cells.

2. **Horizon Europe MSCA (6): FANTOM Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of Resistance** (Technical University of Munich, University of Cambridge, Università degli Studi di Padova, Medical University Vienna, Università degli Studi di Torino, Università degli Studi di Milano, University Clinic Hamburg-Eppendorf)

The aim is to integrate 10 early-stage researchers into an established international research program, The European Research Initiative on Anaplastic Lymphoma Kinase (ALK)-related malignancies (ERIA), as well as a clinical network: The European Intergroup for Childhood Non-Hodgkin Lymphoma (EICNHL). In addition to training and development, the research programme addresses **the clinical problems of Anaplastic Large Cell Lymphoma (ALCL)** typified by aberrant ALK expression. Applying innovative model systems and multi-omics technologies, some performed to a single cell level, the biology of ALCL, including the roles of the immune system and tumour stroma, is uncovered. These data will be applied to **developing (non-invasive) biomarkers and novel therapeutic approaches** that will culminate in the **design of clinical trials** to address the issues of **chemotherapy toxicity, over-treatment and drug resistance**. Research activities **incorporate academic labs, key research institutes, biotechnology companies, clinical trial bodies and pharmaceutical companies** to realise the research goals. Recent outcomes: STAT3/LKB1 controls metastatic prostate cancer by regulating mTORC1/CREB pathway.

3. **Horizon Teaming for Excellence: Central European Advanced Therapy and Immunotherapy Centre (7)** (University of Leipzig, University of Copenhagen, Fraunhofer IZI)

The R&D **Centre of Excellence focused on Advanced therapy medicinal products (ATMPs)** was established at the MUNI MED, an excellent facility for ATMP R&D focused on **undiagnosed untreatable rare diseases, paediatric patients with high-risk tumours, and adult cancer patients suitable for ATMP treatment**. Based on the principles of **personalised medicine**, using cell and gene therapies and the potential to reverse the negative prognosis of patients with unmet medical needs for whom there is no currently available conventional treatment, **two unique clinical studies (vaccines) with the use of patients' dendritic cells in paediatric oncology (in collaboration with University Hospital Brno) and the field of treatment of bullous dermatitis** were already realised. Building on our long-standing expertise, the Centre of Excellence offers comprehensive **services and support** essential for successfully implementing clinical trials, especially in rare diseases and developing advanced therapy medicinal products. **Recent outcomes:** Diagnostic efficacy and clinical utility of whole-exome sequencing in Czech pediatric patients with rare and undiagnosed diseases.

4. **Horizon Europe MSCA Postdoctoral Fellowships: MetaChange**

Combining **large-scale online psychophysics experiments, invasive electrophysiological recordings in epileptic patients and computational modelling** to brush a comprehensive picture of the effect of post-decisional information on the cognitive and metacognitive components of decision-making. The project uses a causal approach based on **stimulus manipulation or direct brain stimulation** to **explore post-decisional information's effects on these decision-making components** and assess how these effects unfold in time. It also aims to determine the neuronal mechanisms supporting decisional and post-decisional integration and their link with metacognitive processes such as confidence ratings and changes of mind.

Finally, the intention is to **develop a computational decision-making model rooted in evidence accumulation, accounting** not only for response times and accuracy but also for changes of mind and confidence ratings. Overall, MetaChange aims to address in an interdisciplinary and synthetic manner some of the current challenges in decision-making and metacognition.

5. **Wellcome Trust** (Columbia University, Imperial College London, The Francis Crick Institute Limited)

The project aims to understand the molecular mechanisms of homologous recombination (HR) regulation, which is critical for **DNA repair and linked to genetic disorders, cancer, and ageing**. Focus Areas are to investigate how RAD51 co-factors and anti-recombinases regulate HR, to study the molecular mechanisms of HR regulators individually and cooperatively and to extend knowledge of Rad51 paralogs' role in modulating RAD51 activity during HR. By using the methods of cutting-edge biophysical approaches to **achieve unprecedented mechanistic resolution, integrate complementary methodologies to uncover the mechanisms of HR regulators**. The project is still running; the recent project's outputs are articles published, e.g. in Nature, Nucleic Acids Research, Nature Communications, and BMC Biology.

6. **National Institutes of Health: A global syphilis vaccine targeting outer membrane proteins of Treponema pallidum** (The University of North Carolina at Chapel Hill)

After years of steady decline during the 1990s, **syphilis**, a sexually transmitted infection caused by the uncultivable spirochete *Treponema pallidum* subsp. *Pallidum* (TPA) has undergone a **dramatic resurgence** in the United States, particularly in the gay community. Syphilis also poses a **major threat globally**, with an estimated **5.6 million new cases annually and 350,000 adverse pregnancy outcomes** due to mother-to-child transmission. The inability of epidemiological approaches to curtail the spread of syphilis underscores the **need for a safe and effective vaccine**. The CRC proposal is based on the premise that the success in identifying and topologically characterising TPA outer membrane proteins (OMPs) translates to a **roadmap for a vaccine against geographically widespread TPA strains**. The project is still running; the project's output is an article published in The Journal of Infectious Diseases.

7. **ERC Proof of Concept: FITSLEEP Fabricating Non-Invasive Temporal Interference Devices for Obstructive Sleep Apnea, which Electrically activate the Hypoglossal Nerve (8)** (Somnial Technologies s.r.o.)

Obstructive sleep apnea (OSA) is the world's **second-most common sleep disorder, plaguing over 1 billion patients worldwide** with relentless, disruptive periods of restricted airflow during sleep. **Currently used therapeutic methods**, such as positive airway pressure (PAP) delivered through a tight-fitting mask, have several **disadvantages**; patients often struggle to comply with the therapy. Another recent alternative treatment for airway modulation during sleep is hypoglossal nerve stimulation (HNS), which stimulates the genioglossus muscle of the tongue, causing the tongue to protrude and the airway to open. However, the **effectiveness** of this technique is **limited** due to its invasive nature. PI Adam Williamson is **developing a solution** combining the benefits of both approaches - the efficiency of electronic nerve stimulation and the cost-effectiveness of CPAP masks. Compared to these, the **wearable electronics-sized FitSleep device** should also be more comfortable. There is

currently no other device or technology capable of stimulating the sublingual nerve non-invasively. It is already the fifth ERC grant for this 35-year-old PI.

- 8. Horizon Europe: BEATsepsis - Biomarkers established to stratify sepsis long-term adverse effects to improve patients' health and quality of life (9)** (Aix-Marseille Université/CNRS/Inserm; University of Bonn, Comenius University, the Ludwig Boltzmann Institute for Traumatology Vienna, BioVariance GmbH Germany, National Institute of Health Prague, University of Galway, APHM - Marseille Hospitals)

The research consortium, established by the Cellular and Molecular Immunoregulation research team at MUNI MED ICRC, aims to **define markers of poor recovery of patients after sepsis and septic shock.** This should be achieved by **discovering novel mechanisms and their markers** predicting the decline of health-related quality of life after sepsis. Sepsis and septic shock, affecting up to **50 million people worldwide**, with **mortality reaching 20 %**, leaves large cohorts of vulnerable patients suffering from **long-term complications that affect their quality of life.** An interdisciplinary approach from research and clinical teams is working on developing, treating, and preventing **the long-term consequences of sepsis** and its impact on a patient's life quality. Comprehensive clinical and research data will be integrated using artificial intelligence algorithms into an **easy-to-use predictive tool capable of identifying patients at high risk of complications.** Furthermore, the consortium plans to design a **tertiary prevention strategy to improve the recovery outcomes.**
- 9. Czech Health Research Council: Bioartificial 3D graft for intervertebral fusion of the spine** (University Hospital Brno, Brno University of Technology)

Solid bone fusion is a prerequisite for treating various **spinal disorders.** The condition requires a graft containing organic and inorganic elements to achieve fusion. The autograft of a healthy individual carries an ideal ratio of biophysical properties expressed by the capacity for osteoinduction, osteoconduction and osteogenesis. With increasing age and comorbidities, the ideal ratios disappear, and the harvest is further burdened by morbidity. At the same time, graft quantity decreases. All allogeneic and artificial replacements combine biophysical conditions with the suppression of osteogenesis. Worldwide data point to the **potential of cell therapy.** This project combines the **development of a three-dimensional porous carrier with appropriate physical properties with the application of human mesenchymal stromal cells and endothelial precursors** to design and validate in vitro and subsequently in vivo in a small animal the **production of an ideal living- bio-artificial - osteogenic carrier with therapeutic potential to effectively induce solid intervertebral fusion.** The project outcomes have a clear **potential to impact clinical practice in spinal surgery.** Published in high-impact journals with implications for further research. The Minister of Health awarded the project.
- 10. Czech Health Research Council: Global methylation profiles and comprehensive analysis of gene fusions as a basis for therapeutic planning in pediatric oncology** (University Hospital Brno)

Pediatric oncology has achieved dramatic results over the last thirty years, with a decrease in mortality in children with cancer by more than 50 %. There are still about 15-20 % of children with **unsatisfactory treatment approaches**, where **individualised treatment strategies** are necessary. The condition for this precision medicine concept is **detailed molecular characterisation of the tumour.** In addition to changes in the coding regions of DNA (tumour

exome), additional molecular alterations contribute to cancer development, such as DNA methylation or structural rearrangements leading to the formation of fusion genes. Many of these methylation changes and fusions strongly influence tumour behaviour and are druggable by available drugs or represent important prognostic factors. This project aims to **evaluate the significance of analysis of global methylation profiles and fusion genes for therapeutic planning in pediatric patients with high-risk solid tumours** in whom tumour exome sequence is available. The project has provided significant **insights into using methylation profiling and fusion gene detection in diagnosing and treating high-risk pediatric solid tumours**. The results support **introducing these methods into clinical practice for more accurate diagnosis, better patient stratification and targeted therapies**. Eight high-quality publications were published in international journals.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3/ Indicator 3.3

Document name	No. criteria	Location (link in HTML)
SYRI (1)	3.3	https://www.syri.institute/
NCRI (2)	3.3	https://www.nuvr.cz/en/
NINR (3)	3.3	https://www.ninr.cz/
CarDia (4)	3.3	https://cardia.ikem.cz/en/home
NIVB (5)	3.3	https://nivb.cz/en/
FANTOM (6)	3.3	https://fantom-project.eu/
CREATIC (7)	3.3	https://creatic.muni.cz/
FITSLEEP (8)	3.3	https://www.med.muni.cz/en/news/matchbox-sized-device-set-to-revolutionise-sleep-apnea-treatment
BEATsepsis (9)	3.3	https://www.beatsepsis.eu/

Table 3.3.1 Projects supported by public funds

In the role of beneficiary -						
Provider ²⁵	Project name	Support (in thousands of CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Czech Health Research Council	-	40 778 / 1 609	39 235 / 1 548	67 740 / 2 672	100 432 / 3 961	114 409 / 4 513

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

Czech Science Foundation	-	20 132 / 794	12 272 / 484	35 355 / 1 395	36 143 / 1 426	45 577 / 1 798
Technology Agency of CZ	-	3 592 / 142	4 408 / 174	4 918 / 194	3 677 / 145	1 814 / 72
National grants (other)	-	15 068 / 594	42 697 / 1 684	46 435 / 1 832	47 915 / 1 890	82 831 / 3 267
International grants (other)	-	2 188 / 86	3 048 / 120	1 138 / 45	1 055 / 42	6 108 / 241
Horizon Europe MSCA:	FANTOM Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of Resistance				46 937 / 1 852	
Big Research Infrastructures	CZECRIN - Czech National Node to the European Clinical Research Infrastructure Network	15 068 / 595	42 697 / 1 684	46 435 / 1 832	47 915 / 1 890	82 831 / 3 267
Horizon Europe Teaming for Excellence	Central European Advanced Therapy and Immunotherapy Centre					126 734 / 4 999
Horizon Europe MSCA	MetaChange					2 553 / 101
Wellcome Trust		1 039 / 41	1 734 / 68	1 138 / 45	1 055 / 42	6 108 / 241
National Institutes of Health	A global syphilis vaccine targeting outer membrane proteins of Treponema pallidum	468 / 18	1 363 / 54	1 530 / 60	997 / 39	1 174 / 46
National Institutes of Health	RNA sequencing of Treponema pallidum subspecies pallidum			624 / 25		
European Research Council	FITSLEEP Fabricating Non-Invasive Temporal Interference Devices for Obstructive Sleep Apnea which Electrically activate the Hypoglossal Nerve					Awarded 2023, Financing starting in 2024

Total		98 333 / 3 879	147 454 / 5 816	205 313 / 8 100	286 126 / 11 287	470 139 / 18 546
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Czech Health Research Council	-	16 787 / 662	14 291 / 563	17 047 / 672	21 950 / 866	27 176 / 1 072
Czech Science Foundation	-	3 199 / 126	5 698 / 225	4 865 / 192	7 623 / 301	6 755 / 266
Technology Agency of CZ	-	0	814 / 32	3 193 / 126	2 363 / 93	1 864 / 74
National grants (other)	-	73 / 3	2 373 / 94	4 590 / 181	4 370 / 172	1 931 / 76
International grants (other)	-	468 / 18	1 363 / 54	2 155 / 85	997 / 39	1 174 / 46
Horizon Europe	-	1 629 / 64	2 082 / 82	2 614 / 103	6 141 / 242	575 / 23
Operational Programmes + National Recovery Plan	-	1 887 / 74	1 953 / 77	14 683 / 579	54 449 / 2 148	210 238 / 8 293
Total		24 043 / 947	28 575 / 1 127	49 147 / 1 938	97 893 / 3 861	249 683 / 9 850

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Amec Foster Wheeler s.r.o.	Hartmann - hand hygiene data collection	36 / 1,4				
Asociace inovativního farmaceutického průmyslu	Analysis of the potential impact of selected innovative pharmacological drugs					609 / 24
BioMarin Pharmaceutical Inc.	BioMarine					69 / 3
Boehringer Ingelheim Ilaç Ticaret A.Ş	Project EMPIRE – Turkey (international, multicentre, observational, non-interventional registry of patients with idiopathic pulmonary fibrosis)	5 / 0,2		198 / 8	277 / 11	

²⁷ Ibid.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

Boehringer Ingelheim RCV GmbH & Co KG	Project EMPIRE – Austria (international, multicentre, observational, non-interventional registry of patients with idiopathic pulmonary fibrosis)	253 / 10	167 / 7	144 / 6	151 / 6	
CB21 Pharma, s.r.o.	Investigating the safety of cannabinoids II.		605 / 24	653 / 26		
CBDepot, s.r.o.	Investigating the safety of cannabinoids I.+II		3122 / 123	653 / 26		
Czech Society of Cardiology	Registers of the Czech Society of Cardiology					248 / 10
Diabetic Association of the Czech Republic	Analyses – University Hospital Královské Vinohrady			100 / 4		
Dukovany II (nuclear power plant)	Expert opinion - health of inhabitants of the South Moravian Region			454 / 18		
Temelín II (nuclear power plant)	ETE study	471 / 19	471 / 19	484 / 19	484 / 19	484 / 19
University Hospital Brno	Analyses and laboratory tests				80 / 3	40 / 1,6
University Hospital Královské Vinohrady	Analyses				70 / 3	
GlaxoSmithKline, s.r.o.	Analyses					55 / 2
Jacobs Clean Energy s.r.o.	Jacobs Clean Energy – public health study					42 / 1,7
South Moravian Region	Services and analyses	1204 / 47	1286 / 51			
Health insurance office	Analyses, tests, studies, projects	1952 / 77	3606 / 142	4487 / 177	5060 / 200	2679 / 106
Vysočina Region	Analyses	348 / 14				
Regional Hygiene Station of the South Moravian Region	Expert opinion					8 / 0,3
Masaryk Memorial Cancer Institute	Project I-COP	15 / 0,6	15 / 0,6	15 / 0,6	15 / 0,6	15 / 0,6
Merck spol. s r.o.	Analyses				55 / 2	
SERVIER s.r.o.	Analyses				61 / 2	155 / 6
Brno municipality	Analyses	257 / 10	461 / 18		150 / 6	
Technology Agency of the Czech Republic	Services	1469 / 58	110 / 4			
Charles University Prague	ENDOMAZE HYBRID	56 / 2				
Komenského University Bratislava	Analyses, registers		5 / 0,2		3 / 0,1	

Central Inspection and Testing Institute of Agriculture	Analyses					120 / 5
Central Military Hospital Prague	Projekt I-COP	200 / 8	350 / 14	400 / 16	300 / 12	400 / 16
Total		6 266 / 247	10 198 / 403	7 588 / 301	6 706 / 265	4 924 / 196

Note: List and describe contract research activities with revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

- Material with proven properties - Titanium with surface modification (nanotubes):**
+ Methodology for verification of nanotube (NT) formation for routine practice
+ Methodology for fabrication of nanotubes (NT) on Ti alloy surface in organic solution
Methodology and material with verified properties: Titanium and its alloys are the most used material in creating implants (joint replacements, braces) in terms of their mechanical properties and biocompatibility. However, the **use of this material is associated with low cell adhesion and allergic or inflammatory reactions**, which may lead to the **need for reimplantation. The selected results provide solutions to prevent these undesirable phenomena.** Regarding societal impact, we can look at the number of **hip replacements** implanted, approximately **20,000 per year** in the Czech Republic, with an expected increase to 35,000. Research into **material innovation is ongoing**, with an emphasis on influencing material fatigue, wear and corrosion, which shortens the life of the material, leading to reimplantation. Supported by the Czech Technology Agency. Gender dimension: not relevant.
- Generation and validation of a high-throughput screening system for the identification of eIF4F inhibitors with anti-melanoma activity:**
 Result selected because of its **potential impact on the treatment of malignant melanoma**, one of the **most aggressive types of skin cancer**, annually diagnosed in more than 2500 patients in the Czech Republic. The **newly developed system for identifying inhibitors of the eIF4F complex represents an innovative approach to drug discovery** that is faster, more sensitive and less expensive than current methods and could lead to identifying **new therapeutic agents capable of overcoming resistance to existing BRAF/MEK inhibitors.** This could **increase anticancer therapy's effectiveness and potentially reduce mortality** in

²⁹ See Terms definition.

melanoma patients. Supported by LF Accelerate project (MUNI MED Internal Grant Agency). Gender dimension: not relevant.

3. **Microfluidic chip for antibiotic tests on bacteria:**

Prototype, potentially impacts **the diagnosis of infectious diseases**, representing one of the greatest challenges in medicine. The developed **compact device based on Raman spectroscopy enables rapid, non-invasive and non-destructive identification of pathogens and their resistance directly from human body fluids**, which could **reduce the diagnostic process from 48 hours to a few minutes**. The target market is the global healthcare sector, particularly patients with serious infections such as bloodstream infections with a high mortality rate. Infectious diseases affect **hundreds of millions of people worldwide** each year, and antimicrobial resistance is becoming one of the biggest health threats. Traditional diagnostic methods are slow, require expensive reagents and often do not allow the correct treatment to be deployed immediately. This tool could provide a **cheap, fast and environmentally sustainable alternative** that could bring significant savings in healthcare while helping to **combat antimicrobial resistance**. Gender dimension: not relevant

4. **Entrant Ltd., (1) aimed at assessing the impact of stress load on people in different situations:**

The spin-off company Entrant Ltd. focuses on **real-time assessment of human stress load without biological sampling**. The technology developed, originally designed for astronaut stress monitoring, works with common physiological data and, thanks to a **unique mathematical equation**, can accurately **determine stress levels**. The device could find a **wide range of applications**, from supporting **soldiers, pilots and firefighters** in crisis management to **medical applications**, such as in anaesthetic and resuscitation departments, to optimise the thermal handling of patients. The **support of the ESA BIC Brno space incubator** underlines the importance of this result. Gender dimension: relevant, based on the physiological data of individuals and morphological differences between female and male subjects.

5. **MilkyWay be well + LF a MilkyWay be well Ltd. (2) - cooperation agreement, development of MyWay analytix solution:**

Spin-off company MilkyWay Be Well brings **innovative solutions** in the field of **mental health**, an increasingly hot topic not only in medicine but also in the workplace. Mental health problems are one of the most common reasons for work disability, with millions of people worldwide suffering from anxiety disorders and depression. **Early prevention and support** for mental well-being can significantly **reduce the healthcare costs** and **economic losses** associated with burnout and absence from work. Our spin-off has developed the application MyWay Analytix, a workplace mental health analysis and support software that uses scientifically validated methods and modern technology. Its application helps employees **manage stress, prevent burnout** and helps companies **optimise their work environment**. This approach responds to companies' growing demand for well-being programs and promotes sustainable mental health care. By combining science and innovation, MilkyWay Be Well improves **the overall quality of life, helps reduce the stigma of mental illness and promotes a proactive approach to mental health** for individuals and at the level of companies and institutions.

The same research team from the Department for Medical Psychology and Ethics also authorises the application MOU Mindcare, developed in collaboration with the Masaryk Memorial Cancer Institute. This app allows cancer patients at the Masaryk Memorial Cancer Institute to receive **mental support** during their challenging treatment and subsequent recovery. The app has won several awards, e.g. Czech DIGI@MED Award. Gender dimension: relevant, based on the fact that the data about the subject's gender are part of the input data for accessing the application. A pilot sample of 1000 randomly selected people evenly represented in age and gender participated in creating the app.

6. **Substituted propanamides as inhibitors of nucleases. The patent is part of the intellectual property licensed to Artios Pharma Ltd.:**

Patented substituted propanamides as inhibitors of nucleases, especially the MRE11 enzyme, represent an **innovative approach to treating cancer and other diseases associated with genomic instability**. The MRE11 nuclease plays a key role in DNA repair, and its targeted inhibition can lead to **increased sensitivity of cancer cells to treatment**, opening the way to developing **new, more effective anti-cancer therapies**. Despite advances in oncology, treatment of many solid tumours remains inadequate, and effective therapeutic strategies for some malignancies do not yet exist. This patent offers the possibility of modulating the biological processes involved in DNA repair, which may lead to the targeted destruction of cancer cells using the principle of synthetic lethality. This strategy allows cancer cells to be targeted without damaging healthy tissue. In addition to cancer treatment, this technology **may be relevant in other areas of medicine**, such as treating **neurological disorders** associated with genomic instability. By more precisely targeted treatments, the new inhibitors **can minimise the side effects of traditional therapies, increase the success rate of treatment and improve the prognosis of patients**. This patent thus represents a significant step towards a **new generation of targeted therapies that can extend patients' lives, improve the quality of their treatment and contribute to overall advances in personalised medicine**. Gender dimension: not relevant – the patent focuses on substituted propanamides as inhibitors of nucleases, which are key enzymes for DNA repair processes, the same for all patients.

7. **Substituted aminothiazoles as inhibitors of nucleases:**

The patent on substituted aminothiazoles as nuclease inhibitors, particularly MRE11, represents an innovative approach to treating **cancer and other diseases associated with genomic instability**. The MRE11 nuclease plays a key role in DNA repair, and its inhibition can **increase the sensitivity of cancer cells to treatment, opening up the possibility of targeted therapy with minimal side effects**. Treatment of many solid tumours is still ineffective, and effective therapeutic options do not yet exist for some malignancies. This discovery allows modulation of the DNA repair mechanism through the principle of synthetic lethality, whereby **cancer cells can be selectively destroyed without damaging healthy tissues**. This method is particularly relevant in the context of **personalised medicine**, as it allows targeted treatment of specific subsets of cancer. In addition to oncology, these agents may treat other diseases associated with genomic instability, such as some **neurological disorders**. Thus, the development of these compounds represents a significant step towards a **new generation of anticancer drugs** that can prolong the life of patients, improve the quality of treatment and contribute to the advancement of modern medicine. Gender dimension: not relevant – The patent is directly related to cancer treatment by inhibiting MRE11, a DNA repair mechanism relevant to all patients.

8. Thermostable FGF2 polypeptide, use thereof:

The patent family has a significant societal impact on **regenerative medicine, wound care, pharmaceutical research and cosmetics**. The improved stability of Fibroblast Growth Factor 2 (FGF2) makes **stem cell cultivation more efficient**, which may **accelerate the development of cell therapies** for treating neurodegenerative disorders, heart disease and diabetes. More stable FGF2 **reduces cell culturing costs and increases advanced therapies' availability**. It also has important benefits in **tissue regeneration and wound healing**, where it promotes new blood vessel formation and cartilage and bone repair, which can **improve the treatment of chronic wounds or burns**. In cosmetics, it allows **safer use in anti-ageing products**, where it promotes skin cell renewal and improves skin elasticity. Due to its longer stability and functional lifetime, the new **FGF2 reduces the cost of laboratory and clinical applications and enables more sustainable biotechnological production**. It minimises the need for frequent growth factor replenishment, reduces waste and reduces the environmental burden. This discovery thus contributes to **improved healthcare, accelerated biomedical research** and wider use of modern therapies, which can **positively impact the quality of life** for millions of people worldwide. Gender dimension: not relevant – patent focuses on the structural analysis of FGF2, its stability, binding to FGFR receptors, and biological activity.

9. The development of a unique nail into an elbow bone:

Prototype, based on transnational medical cooperation under the coordination of the company MEDIN, a.s., supported by the Czech Technology Agency. **A surgical set of tools and implants for mini-invasive ulna fractures was developed** through the cooperation of the manufacturer of medical devices, major domestic clinical workplaces and a leading German partner in the research, development and testing of medical devices. The specificity is the operation of the final output (implant) from the proximal ulnar bone. Project outcomes: 2 prototypes (anatomically shaped with left and right versions and also in version long and short) Set of ulna instruments and Proximal ulna nail. Gender dimension: relevant anatomical differences between female and male subjects.

10. Intact Cell Mass Spectrometry as a Quality Control Tool for Revealing Minute Phenotypic Changes of Cultured Human Embryonic Stem Cells (6):

Article, excellent national M1 assessment (positive social impact, method's novelty and application potential)

Understanding biology of various stem and progenitor cells enables moving them from laboratories to preclinical and clinical settings. Implementation into clinical trials requires stringent cell quality and safety assurance, including formal monitoring methodologies for every production step. Unwanted phenotype or deviation from the optimal state of cells may inevitably fail the product or harm a patient. Standard operating procedures and good manufacturing practices are available for microbial and xenobiotic contamination management, but the genuine cells' identity and their karyotypes or functional testing and rigorous monitoring of the phenotypic stability of the in-vitro culture have not been sufficiently addressed. Conventional methods (microscopy, narrow-focused screening for molecular markers), don't recognise subtle phenotypic shifts or alterations. This newly developed innovative approach combines physical chemistry (mass spectrometry) and AI, bypassing the limits of standard biological methods and providing **a novel tool to identify, authenticate, and classify cells**. It was demonstrated, using human embryonic stem cells as a stem cell etalon, that "Intact Cell Mass Spectrometry" is capable of unravelling changes to the cells, not recognisable by standard approaches, including expression of stemness

transcription factors and/or cell morphology. A combination of state-of-the-art cell-directed mass spectrometry and specific patterns analysis stored in global mass spectra by AI may provide a diagnostic tool with **potential for routine or high-throughput characterisation of cells and cell products**. Simple, **robust, and hypothesis-free quality control tool for determining** induced and spontaneous alterations in genetically and morphologically uniform cell populations may complement the **portfolio of tools for monitoring clinical-grade stem/progenitor cells during manipulation, banking**. Gender dimension: not relevant; genetically and morphologically uniform embryonic stem cells were used.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3/ Indicator 3.4

Document name	No. criteria	Location (link in HTML)
Entrant (1)	3.4	https://www.entrant.cz/?lang=en
MilkyWay be well (2)	3.4	https://www.milkywaybewell.com/en/
Generation and validation of a high-throughput screening system for the identification of eIF4F inhibitors with anti-melanoma activity (3)	3.4	https://www.med.muni.cz/en/research-and-development/project-support/ongoing-projects/64032
Substituted propanamides as inhibitors of nucleases (4)	3.4	https://worldwide.espacenet.com/patent/search/family/062017188/publication/US11453663B2?q=pn%3DUS11453663B2
Thermostable FGF2 polypeptide, use thereof (5)	3.4	https://worldwide.espacenet.com/patent/search/family/054754475/publication/US11746135B2?q=pn%3DWO2017089016A1
Intact Cell Mass Spectrometry as a Quality Control Tool for Revealing Minute Phenotypic Changes of Cultured Human Embryonic Stem Cells (6)	3.4	https://stemcells.journals.onlinelibrary.wiley.com/doi/full/10.1002/sctm.17-0107

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Utility model	2019	Culture medium to differentiate Staphylococcus epidermidis from other Staphylococcus species
Czech patent	2019	High voltage AC power supply for electroporation purposes
G _{prot} - Prototype	2019	Set of ulna instruments
Utility model	2019	A kit for determining the catalytic activity of therapeutically administered asparaginase

³⁰ Specify the specific type of result. Add rows as needed.

O - Miscellaneous	2019	Material with proven properties - Titanium with surface modification (nanotubes)
O - Miscellaneous	2019	Methodology of verification of nanotube formation (NT) for common practice
O - Miscellaneous	2019	Methodology of nanotubes (NT) production on the surface of Ti alloy in organic solution
J _{imp} - Article in a specialist periodical, which is included in the Web of Science database	2019	Intact Cell Mass Spectrometry as a Quality Control Tool for Revealing Minute Phenotypic Changes of Cultured Human Embryonic Stem Cells
O - Miscellaneous	2019	Package of tools for validation and verification of analytical methods
Utility model	2020	AC electroporation generator
License	2020	MU and Artios Pharma Ltd. established a 3-year collaboration with MERCK – a know-how license agreement.
Spin-off	2020	Entrant s.r.o.
European patent	2020	Thermostable FGF2 polypeptide, use thereof and culture medium containing thermostable FGF2 - the patent is commercialised by Enantis s.r.o.
European patent	2020	Method for prediction of clinical response to VNS therapy in epileptic patients
European patent	2020	Substituted propanamides as inhibitors of nucleases - patent is part of the intellectual property licensed to Artios Pharma Ltd.
Utility model	2020	Kit for testing the effect of phage preparations
Trademark	2020	Obezita není dědičná
O - Miscellaneous	2020	MAMES – Monitoring, analysis, and management of epidemic situations: a description of the implementation of epidemic models and capacity mapping
O - Miscellaneous	2020	Exosomal long non-coding RNAs as non-invasive biomarkers for early detection of colorectal cancer
Australian patent	2021	Thermostable FGF2 polypeptide, use thereof
Singapore patent	2021	Thermostable FGF2 polypeptide, use thereof
European patent	2021	Substituted aminothiazoles as inhibitors of nucleases
Trademark	2021	Mindfulness Research and Practice Network of Masaryk University
Trademark	2021	Trýbův dermatologický den
License	2021	License to the patent Thermostable FGF2 polypeptide, use thereof - other information confidential
O - Miscellaneous	2021	Regulatory Information System (RIS)
V _{souhrn} - Summary research report	2021	Interim analysis of COVID-19 vaccine effectiveness against Severe Acute Respiratory Infection
Australian patent	2022	Substituted aminothiazoles as inhibitors of nucleases
Japan patent	2022	Substituted aminothiazoles as inhibitors of nucleases
Japan patent	2022	Thermostable FGF2 polypeptide, use thereof
Japan patent	2022	Substituted propanamides as inhibitors of nucleases
American patent	2022	Substituted propanamides as inhibitors of nucleases

Czech patent	2022	Method of preparing conjugates with a controlled release rate of the drug with antitumor drug carriers based on selectively oxidised polysaccharides
License	2022	Collaboration agreement with MilkyWay be well s.r.o. - development of MyWay analytix solution
Australian patent	2022	Substituted propanamides as inhibitors of nucleases
O - Miscellaneous	2022	MUNI-BLAST: In vitro system for embryotoxicity testing
O - Miscellaneous	2022	Analysis of cell death type by quantitative phase imaging
O - Miscellaneous	2022	Milk production using organoids
Utility model	2023	Kit for differentiating indolent and aggressive prostate cancer
American patent	2023	Substituted aminothiazoles as inhibitors of nucleases
Czech patent	2023	Kit for differentiating indolent and aggressive prostate cancer
Canadian patent	2023	Thermostable FGF2 polypeptide, use thereof
American patent	2023	Thermostable FGF2 polypeptide, use thereof
Israeli patent	2023	Substituted aminothiazoles as inhibitors of nucleases
Indian patent	2023	Thermostable FGF2 polypeptide, use thereof
Spin-off	2023	Milky Way be well
O - Miscellaneous	2023	Generation and validation of a high-throughput screening system for the identification of eIF4F inhibitors with anti-melanoma activity
G _{prot} - Prototype	2023	Microfluidic chip for antibiotic tests on bacteria

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities and services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, briefly describing the commercialisation methods used.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialisation.

Self-assessment:

MUNI Technology Transfer Office (TTO) (1) supports the application of university's research results and services in technology/knowledge transfer (TT).

Activities:

- IP protection, management,
- licensing, spinoffs,
- legal support,
- identifying partners, negotiating cooperation terms,
- cooperation between scientists and companies (student training, workshops, round tables, conferences)
- support of entrepreneurship, technology development, start-ups, business incubation,
- training programs together with South Moravian Innovation Centre and other institutions

Cooperation with application partners:

- grant projects,
- collaborative research,
- students' internships in companies, non-profit organisations and public administration,

Identifying collaboration partners by:

- contacts with alumni,
- workshops, roundtables, conferences,
- business meetings.

Faculty support (2):

Following recommendations from previous evaluation, **faculty applied research support unit** has been established (TT Manager and Assistant at Office for Research and Quality), closely cooperating with MUNI TTO.

Activities:

³² If the commercialisation of R&D&I results is carried out in this way.s

- IP consultations,
- identifying R&D results with application potential, coordinating their transfer,
- identifying opportunities for further development of IP, including spin-offs,
- promoting innovation and entrepreneurship.

We became a member of the **SPARK (3) network (2021)**, established 2006 at Stanford School of Medicine, for **supporting the transfer of academic biomedical research into clinical practice**.

Activities:

- **Education:** co-organisation of SPARK Europe Webinar Series and Edu Meetings, covering **design thinking, clinical needs, IP, regulation, entrepreneurship, industry collaboration** (with institutions from SPARK Europe, including Israel)
- **Mentoring: Joint Mentoring Nights**, co-organised with SPARK Fritz Lipmann Institute. Our LF Accelerate PIs receive feedback on their research and move their solutions closer to patients from academia and business experts
- **SPARK management meetings:** sharing good practices, grant opportunities, research collaboration
- Active participation at **annual conferences of SPARK Global**.

TT is supported by the **new MUNI MED Internal Grant Agency (4) scheme**. To **assess the application potential of R&D results** and achieve a noticeable shift in the application into practice, the **LF Accelerate** scheme was created (2021), based on principles of SPARK Stanford Programme.

Aim is to:

- increase number, quality and application potential of results,
- increase interaction with application sphere,
- support applied research, experimental development, Proof of Concept projects, and establishment of start-ups /spin-offs

Project progress monitoring:

- quarterly meetings with PIs and TTO,
- quarterly checklists and final reports,
- participation at SPARK Joint Mentoring Nights.

Results commercialisation:

TT team and TTO cooperate to scout **R&D results with application potential**. If those are identified, researchers and faculty management discuss their commercialisation (licenses, spin-offs, contract research). Faculty offers **administrative, legal, financial, and strategic support**.

Commercialisation system is framed by internal regulations (registration, cost and revenue calculations, and mechanisms for share distribution).

We plan to continuously work on effectively mapping applicable results with commercialisation potential, establishing of **Business Development Unit** and education to support a researcher's mindset change. We want to **foster our relationship with key regional and national innovation players to bridge the gap between academic research and practice**.

Research results users:

- patients,
- healthcare institutions,
- biotech companies,
- laboratories,
- public administration,

- MUNI students and employees.

In the evaluated period, **revenues from non-grant sources** amounted **1 555 thousand EUR**, predominantly gained from donations and foundations. **123 thousand EUR** was obtained for **licences**. In the previous period, licence revenue amounted 9,000 EUR.

The effectiveness of the transfer of results:

ARTIOS – licencing (2 patents “Substituted aminothiazoles as inhibitors of nucleases”, “Substituted propanamides as inhibitors of nucleases” + know how “Warhead compounds”, Pyrazolotriazines as inhibitors of nucleases)

In the previous period, the TTO secured and set the **legal conditions** for the long-term cooperation of research teams of the MUNI SCI and MUNI MED with the British biotechnology company Artios Pharma Ltd.

In 2019, a **second know-how license agreement** (Warhead compounds) was signed with the British company Artios Pharma regarding developing active compounds inhibiting specific nucleases.

In November 2020, a **third license agreement** was signed for the patented nuclease inhibitors MUS81. In December 2020, a **sublicensing agreement** was signed, and a collaboration with the multinational company Merck KGaA was initiated.

The license agreement for the unique know-how of Warhead Compounds remains in force and continues to bring MUNI annual royalties. MUNI’s cooperation with Artios in the reporting period generated over CZK 30 million in contracted research and almost CZK 6 million in royalties.

1. Enantis – licensing (*patent family “Thermostable FGF2 polypeptide....”*)

Enantis is the **first spin-off company** established at MUNI (2006). Among other things, it develops and produces stabilised growth factors based on a joint invention with MUNI (co-ownership of MUNI x Enantis is 80 % x 20 %). These substances can be used, for example, in research to cultivate stem cells, in medicine (in the wound healing process, in the promotion of bone growth, in the treatment of neurovegetative diseases, etc.). They can also be used in the cosmetics industry to increase the skin’s elasticity and hydration and smooth wrinkles.

Within four years, **6 licensing agreements** were concluded with foreign companies for this joint invention. TTO staff were involved in preparing the contracts and negotiating the terms.

2. Spin-off company Entrant:

In 2020, the **spin-off company** Entrant was established. Based on a **licensing agreement**, the company utilised the stress measurement technology developed by the research team at the Faculty of Medicine. Stress can be measured in real-time and without taking samples (blood, saliva, etc.). A unique mathematical equation works with common physiological data to determine stress levels. Originally developed to identify astronaut stress, the method was tested in the stressful conditions of Antarctica. Entrant used this technology under a licensing agreement as a spin-off of Masaryk University in 2020-2023. Setting the licensing terms and negotiating were conducted through the MUNI TTO.

3. Spin-off company Milky Way be Well:

In collaboration with MUNI MED, Milky Way Be Well (MUNI’s **spin-off** from 2023) developed MyWay Analytix online software (platform) to analyse and support mental health in the work

environment, integrating evidence-based medicine and modern mental eHealth technologies. The programme aims to promote mental health, where the prevention of mental illness is becoming one of the major challenges of modern societies in the 21st century. The company uses this tool under a licensing agreement.

Setting the licensing terms and negotiating were conducted through the MUNI TTO.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3/ Indicator 3.5

Document name	No. criteria	Location (link in HTML)
MUNI TTO (1)	3.5	https://www.ctt.muni.cz/en
Faculty Support (2)	3.5	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research
SPARK (3)	3.5	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research/spark-global
InGA LF Accelerate (4)	3.5	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research/inga-lf-acceleratespark

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Domestic Donations	72	26	98	16	58
Foreign Donations	0	0	31	0	15
Foundations funding	285	126	66	45	269
Ancillary non-business activity	11	28	10	74	158
Ancillary business activity	0	0	0	0	0
Other earmarked funds for R&D	0	0	0	2	1
Other non-public funds for R&D	16	25	0	0	0
Revenues for licences	19	30	25	30	19
Total	403	235	230	167	520

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

A **system** of communication and popularisation of science has been **established**, and a database of experts who comment on current topics (e.g. the COVID-19 pandemic, increase of mental health issues in children, etc) and contribute their topics. We communicate about our research activities to the professional and lay public. The Office for Communication and External Relations has been expanded by a **scientific editor** who prepares **scientific interviews** and **press releases** for journalists about important milestones (winning European grants, launching a strategic project, a significant discovery, and cooperation with university hospitals). Every month, we publish our podcast, STETOSKOP, which presents research results and faculty activities in a way attractive to the general public.

To better promote the activities of individual scientific teams and departments, we launched the so-called **Research Breakfast** (1). Each month, the Vice Dean for Science introduces an interesting guest and discusses their research with them in our library. There are undergraduate and postgraduate students, postdocs, and PIs not only from our faculty in the auditorium. The record is later available anytime on YouTube and Spotify.

We are **active content creators** (also on social media) and participate in **informing society and co-creating public opinion**. Our goal is to inform the general public and taxpayers about research results and new findings (justifying the social and economic need to support science, which is highly costly and has a very long payback horizon) and to participate in **educating society in health, healthy lifestyle, prevention and avoidance of diseases and injuries**.

Scientists representing MUNI MED in the media receive **individualised support** through contact with the media editorial team, proofreading/approval of the output, good practice in media cooperation and specialised courses.

Most important popularisation and communication events:

1. **Researchers' Night (2):** a nationwide event (September) where hundreds of normally inaccessible **science buildings open to the public in one evening**. Visitors visit laboratory experiments, lectures, a simulation centre, and clinical sites. Most of the attractions are interactive – the participants can try them out.
2. **Brain Week:** nationwide festival (March) of the latest discoveries and **trends in brain research and neuroscience**, part of Brain Awareness Week (BAW) - a global campaign to raise **public awareness of the achievements and benefits of brain research**. The tradition of Brain Week in the Czech Republic was initiated and founded by Czech neuroscientist Professor Josef Syka in 1998. Our pre-clinical and clinical departments involved in neuroscience research are regularly part of the week full of lectures, workshops and seminars.
3. **Junior Academy MED MUNI (4):** **workshops, courses and lectures for young high school enthusiasts** who want to discover the mysteries of science and medicine and **develop critical thinking** and scientific research. The basis is collaboration with secondary school **teachers**, especially those teaching biology, chemistry, physics and mathematics.

4. **Bioscope: courses and events for primary and secondary school children and their teachers**, holiday camps. A fun and practical approach to the world of science, to **popularise and complement the teaching of science** in primary and secondary schools, to create a **platform for training** current and future **teachers** and, last but not least, to **motivate talented students**.
5. **SPAT (5)**: a prestigious **competition for high school students** to solve problems in one of 18 science disciplines. They work in consultation directly with the **research group** on a paper that must meet the requirements of a **mature scientific paper**. The student defends the submitted competition work (if it advances) before an expert jury in the school and district or regional and national rounds. Examples of successful projects: Jana Nguyenová-winner of the national competition Czech Head (2020), Extreme metabolic stress of tumour cells"; Martin Kaleta, winner of the national competition Czech Head (2021), Subarachnoid haemorrhage and changes of the blood-brain barrier in inflammatory cancer, Karolína Jeřábková, 4. Regeneron ISEF (2023), Dallas, Texas, Alzheimer's disease and its relationship with choroid plexus, Štěpánka Kepřtová, 3rd place at International Wildlife Research Week (2023), Stem cell activity in mouse incisors after their damage.
6. **World Health Day**: A worldwide event (April) where students measure blood pressure, glycaemia (blood sugar), BMI and body fat percentage during one weekend in one of Brno's biggest shopping centres. They introduce the public to the basics of first aid, sexual health, proper hand hygiene techniques and breast and testicular self-examination. Thanks to interdisciplinary collaboration, future dentists, dietitians, embryologists and physiotherapists are also present. Visitors can also review proper oral hygiene techniques and the rules of a healthy diet, learn a lot about pregnancy and fertility and find out how we should sit and move properly.
7. **Mendel Festival**: Mendel Festival is one of the most important summer open-air festivals in Brno, co-organised by MUNI. It combines the seemingly incompatible - **science, faith and fun**. Through its regular events, it popularises the legacy of Gregor Mendel, who lived in Brno and discovered the basics of genetics to the world. The combination of quality music, educational activities and popular science lectures has become one of the most visited events in the South Moravian Region. The popularization lectures bring the public the latest findings not only in genetics but also in environmental topics, AI, etc.
8. **Festival of Science and Technic (3)**: a weekend showcase of the most **interesting of Brno's scientific space**, this time not in institutions, but all concentrated at the Brno Exhibition Centre.
9. **MjUNI**: all 10 university faculties provide an educational program **for primary and secondary school students from 9 to 18 years old**. It is a **unique opportunity to get to know different academic departments** and try out the role of a student for real. At the same time, a web-based educational portal and a summer camp operate under the mJuni umbrella.
10. **University of the Third Age**: a set of lifelong learning programmes aimed **at educating people of post-productive age**. The basic mission is to open up university resources of knowledge, skills and knowledge for people of senior age. The aim is to **deepen existing knowledge and present new knowledge, disciplines and technologies** that are otherwise inaccessible to seniors. MUNI has successfully implemented the University of the Third Age courses since 1990. It is

considered one of the largest and most sought-after universities of the third age in the Czech Republic.

Awareness-raising actions:

Students and academics participate actively in many more volunteer actions, where current results of knowledge and news from outpatient and clinical practice are presented to the general public and volunteer in the Czech Republic and abroad (Medecins Sans Frontiers, People in Need, MEDEVAC missions).

Citizen Science:

- The Department of Physiology, in cooperation with students of the primary school in Uherské Hradiště, investigated the origin of skeletal remains commonly used in science lessons using DNA analysis.
- The Department of Public Health involved the general public in research on intermittent fasting.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3/ Indicator 3.6

Document name	No. criteria	Location (link in HTML)
Research Breakfast (1)	3.6	https://www.med.muni.cz/en/research-and-development/research-breakfasts
Researchers' Night (2):	3.6	https://www.nocvedcu.cz/en
Festival of Science and Technic (3)	3.6	https://www.festivalvedytechniky.cz/
Junior Academy (4)	3.6	https://www.med.muni.cz/akademie/en
SPAT (5)	3.6	https://www.med.muni.cz/akademie/en/spat

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

Recommendations 3.2, 3.3, 3.4: *With a very good infrastructure and state-of-the-art equipment unique within the Brno Research Area, more efficient and closer collaboration with other institutions (University Hospitals, CEITEC, biopharma and biotech companies) could be beneficiary not only for faculty but for all the players. PhD industry-oriented programs collaborating with companies could increase monetary revenue and a leading position in a research-based education.*

Implementation: Deepening **cooperation** with CEITEC MU (1) in the form of **sharing infrastructure, joint PhD school, co-organization of conferences and educational events, and joint popularisation of research results** shared between departments.

Cooperation with ICRC (2), a newly joint workplace with **shared research groups, research topics and grants applied and realised.**

Deepening the cooperation with the biobank BBMRI (3) (promoting the possibility of **using biobanking services** among PhD students and researchers, educational events).

Incorporation of the **large research infrastructure CZECRIN** into the CREATIC Centre of Excellence, promotion of the possibility of academic clinical trials among the MUNI MED scientific community, co-organized conferences, and educational events. CREATIC integrates the university hospitals and offers a **complete life-cycle of the clinical problem/need** (drug development and solution - academic clinical trial - application in clinical practice).

Active inclusion in the **ecosystem of the South Moravian Innovation Centre** (4) to connect academia with industry. Co-organized events, conferences, roundtables.

Submission of a project proposal into the **HORIZON MSCA COFUND** scheme for support of industrial and interdisciplinary doctorates (not supported). In 2025, we plan to apply again.

Recommendation 3.5, 3.6: *Selection and developing of unique areas of excellence (benchmarks) (ageing, neurodegenerative diseases, leukaemia) could increase visibility, increase collaboration with the rest of institutions and probably reduce a local competition for the same human/financial resources. In general, achieving critical mass in the selected areas.*

Implementation: To address the recommendation new organisational entity in the faculty structure was established – a research group. Currently, 29 research groups (5) with outstanding research topics are established and supported by the MUNI MED as a tool to highlight the unique areas of excellence and higher visibility of the excellent research areas.

Moreover, the Faculty develops **expertise in existing and newly defined strategic areas of excellence**, both individually and in conjunction with other Brno, national and international institutions, f.e:

- Masaryk Neuroscience Hub (Neuroscience): St. Anne's University Hospital, University Hospital Brno, CEITEC MUNI, Faculty of Arts, Faculty of Social Sciences, Czech Academy of Sciences of the CZ
- NÚVR (Oncology): Charles University, Czech Academy of Sciences, Masaryk Memorial Cancer Institute, Palacký University
- NINR (neurology): Charles University, Palacký University, Czech Academy of Sciences, Brno University of Technology, F St. Anne's University Hospital, CTU Prague, University of Ostrava
- CarDia (metabolic and cardiovascular diseases): IKEM, Czech Academy of Sciences, Charles University
- SYRI (socio-economic impacts of diseases and systemic risks): Charles University, Czech Academy of Sciences,
- CREATIC Centre of Excellence (ATMPs): University of Leipzig, Fraunhofer IZI, University of Copenhagen
- Academic Centre MARS (Neuroscience - Schizophrenia Research): cooperation with University Hospital Brno, CEITEC MUNI, Faculty of Social Sciences, Faculty of Pharmacy, Faculty of Science.
- Other Academic Centres for research of malignant hyperthermia, mindfulness, epilepsy, quality assurance in healthcare, treatment of scoliosis and spinal deformities, medical genetics etc.

Recommendation 3.7, 3.8, 3.9.: *The MUNI level TTO should be accompanied by the Faculty level activity, with an increased students and PhD students pro-entrepreneurial education, and support for innovative training of R&I for staff and students.*

Implementation: The faculty has had the local **TT manager and coordinator** for 4 years.

As of 2021, we are **members of the SPARK Global network** (founded at Stanford School of Medicine in 2006 to facilitate the pathway of biomedical research into clinical practice in the form of new

treatments and diagnostics for patients. The program provides cutting-edge advice through a network of experts and helps scientists **move results closer to practical application**.

We organise **educational activities** for students and researchers (SPARK webinar series, active content co-creators), SPARK Joint Mentoring Nights - for LF Accelerate internal grants PIs - regular meetings with mentors from the SPARK network, feedback on projects and research plans from experts from various fields and industry), BIOTOP seminars (6) for PhD students, FRESHERS course preparing students for **life after PhD** and working outside academia is mandatory for all PhD students.

Scouting of potential topics and potential applicability of research results of individual research groups in collaboration with TTO.

The newly introduced **internal LF Accelerate (7) grant scheme** supports projects aimed at **assessing the application potential** of results at MUNI MED and achieving a noticeable **shift in the process of their application in practice**. 3 projects per year are supported (with an amount of 500 000 CZK/project), and 9 have already been supported.

Recommendation 3.10, 3.11: *The efforts to get recognition by the international R&D&I community are appreciated, especially in promoting young researchers, visible a long-term policy.*

Implementation: We continue to support and attract young, promising researchers through two MUNI MED **Internal Grants Agency (8)** schemes, the Junior Research Group and the Postdoc. Thanks to this support, **several research groups with junior PIs with significant international experience** have been established, and **6 postdocs** have been integrated into existing research teams.

We also actively recruit postdocs in the MSCA scheme.

We advertise PhD study opportunities in our 15 accredited degree programmes on international platforms. Thanks to this, the proportion of **international PhD students** has exceeded **10 %** of the total number of PhD candidates.

Recommendation 3.12: *Impressive activity in popularising medicine and medical sciences and communication with the public. However, more targeted activity focusing on industry, companies and R&I SMEs could be recommended in building platforms of long-term collaboration built on trust and mutual interest (graduates responding to the demand of local and global markets).*

Implementation: Active inclusion in the ecosystem of the South Moravian Innovation Centre to connect academia with industry. Co-organized events, conferences, roundtables. Active participation in conferences/workshops/roundtables connecting the academia with business (Brno Business Forum, Velvet Innovation meetups, Transfera Days).

Web presentation of the possibilities of contract research of individual departments of MUNI MED and CZEIRN.

General qualitative assessment (summary): *In most of criteria the Faculty has performed very well to excellent (3.7 criterion), considering a strong competition for human and financial resources (University Hospitals with their research centres and CEITEC) in the BRNO RESEARCH AREA. The public mission of the Faculty has been fulfilled very well. The complex balance between teaching, clinical activity and research activities is set well. The support and promotion of young researchers is highly appreciated.*

Implementation: In the evaluated period, we increased the quantity and quality of research results and success rate in gaining strategic international and national grants, such as Horizon Europe, MSCA, ERC, etc.

In addition to the Module 3 evaluation, we conducted our own **formative Internal Research and Doctoral Studies evaluation (9)**. In autumn 2022, a 12-member ISAB MED MUNI was established, composed of foreign experts from the EU, which continues to act as an advisory body to the Dean of

the Faculty after the evaluation cycle. Based on the outcomes of this formative evaluation and ISAB MED MUNI recommendations, an **implementation plan** (10) was created, which was transformed into a **contract with MUNI** (11) (future contract funding of the research) with milestones and implemented measures.

Our efforts to create a stimulating academic and research environment and optimal conditions to combine teaching, clinical work and research culminated in 2021 with the acquisition of the EU **HR Excellence in Research Award** (12). This certificate guarantees current and potential employees a professional, open and ethical work environment by implementing the European Human Resources Strategy for Researchers.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3/Indicator 3.7

Document name	No. criteria	Location (link in HTML)
CEITEC MU (1)	3.7	https://www.ceitec.eu/ceitec-mu
ICRC (2)	3.7	https://www.fnusa-icrc.org/en/we-create-the-future-of-medicine/
BBMRI (3)	3.7	https://www.bbmri.cz/about/about
South Moravian Innovation Centre (4)	3.7	https://www.jic.cz/en/
Research Groups (5)	3.7	https://www.med.muni.cz/en/research-and-development/research-and-development/research/research-groups
BIOTOP seminars (6)	3.7	https://biology.med.muni.cz/phd-program/biotop-seminars
LF Accelerate (7)	3.7	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research/inga-lf-acceleratespark
MUNI MED Internal Grant Agency (8)	3.7	https://www.med.muni.cz/en/research-and-development/project-support/inga
Internal Research and Doctoral Studies Evaluation (9)	3.7	https://researchevaluation.muni.cz/institutional-evaluation/internal-research-and-doctoral-studies-evaluation-irde-2022
ISAB MED MUNI Recommendations and Implementation Plan (10)	3.7	https://www.med.muni.cz/en/research-and-development/research-and-development/evaluation/internal-research-and-doctoral-studies-evaluation
Contract with MUNI (11)	3.7	https://muni.cz/go/d5114e
HR Award (12)	3.7	https://www.med.muni.cz/en/research-and-development/hrs4r-hr-award

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3/All indicators

Document name	No. criteria	Location (link in HTML)
MUNI MED Mission (1)	3.1	https://www.med.muni.cz/en/about-faculty/our-mission
MUNI MED Research Groups (2)	3.1	https://www.med.muni.cz/en/research-and-development/research-and-development/research/research-groups
MUNI MED Areas of Excellence (3)	3.1	https://www.med.muni.cz/en/research-and-development/research-and-development/research/areas-of-excellence
CZECRIN (4)	3.1	https://czecrin.cz/en/home/
Centre of Excellence CREATIC (5)	3.1	https://creatic.muni.cz/
Centre for Precision Medicine of the University Hospital Brno (6)	3.1	https://www.fnbrno.cz/en/center-for-precision-medicine/t7823
MUNI MED Pre-clinical Centre (7)	3.1	https://biopharmahub.muni.cz/en/muni-pre-clinical-centre
Orpheus (8)	3.1	https://orpheus-med.org/
Media coverage (1)	3.2	https://www-med-muni.cz.translate.goog/pro-verejnost/medialni-ohlasy? x tr sl=cs& x tr tl=en& x tr hl=cs & x tr_pto=wapp
Mendel Lectures (2)	3.2	https://mendellectures.muni.cz/
SYRI (1)	3.3	https://www.syri.institute/
NCRI (2)	3.3	https://www.nuvr.cz/en/
NINR (3)	3.3	https://www.ninr.cz/
CarDia (4)	3.3	https://cardia.ikem.cz/en/home
NIVB (5)	3.3	https://nivb.cz/en/
FANTOM (6)	3.3	https://fantom-project.eu/
CREATIC (7)	3.3	https://creatic.muni.cz/
FITSLEEP (8)	3.3	https://www.med.muni.cz/en/news/matchbox-sized-device-set-to-revolutionise-sleep-apnea-treatment
BEATsepsis (9)	3.3	https://www.beatsepsis.eu/
Entrant (1)	3.4	https://www.entrant.cz/?lang=en
MilkyWay be well (2)	3.4	https://www.milkywaybewell.com/en/

Generation and validation of a high-throughput screening system for the identification of eIF4F inhibitors with anti-melanoma activity (3)	3.4	https://www.med.muni.cz/en/research-and-development/project-support/ongoing-projects/64032
Substituted propanamides as inhibitors of nucleases (4)	3.4	https://worldwide.espacenet.com/patent/search/family/062017188/publication/US11453663B2?q=pn%3DUS11453663B2
Thermostable FGF2 polypeptide, use thereof (5)	3.4	https://worldwide.espacenet.com/patent/search/family/054754475/publication/US11746135B2?q=pn%3DWO2017089016A1
MUNI TTO (1)	3.5	https://www.ctt.muni.cz/en
Faculty Support (2)	3.5	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research
SPARK (3)	3.5	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research/spark-global
InGA LF Accelerate (4)	3.5	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research/inga-lf-acceleratespark
Research Breakfast (1)	3.6	https://www.med.muni.cz/en/research-and-development/research-breakfasts
Researchers' Night (2):	3.6	https://www.nocvedcu.cz/en
Festival of Science and Technic (3)	3.6	https://www.festivalvedyatechniky.cz/
Junior Academy (4)	3.6	https://www.med.muni.cz/akademie/en
SPAT (5)	3.6	https://www.med.muni.cz/akademie/en/spat
CEITEC MU (1)	3.7	https://www.ceitec.eu/ceitec-mu
ICRC (2)	3.7	https://www.fnusa-icrc.org/en/we-create-the-future-of-medicine/
BBMRI (3)	3.7	https://www.bbmri.cz/about/about
South Moravian Innovation Centre (4)	3.7	https://www.jic.cz/en/
Research Groups (5)	3.7	https://www.med.muni.cz/en/research-and-development/research-and-development/research/research-groups
BIOTOP seminars (6)	3.7	https://biology.med.muni.cz/phd-program/biotop-seminars

LF Accelerate (7)	3.7	https://www.med.muni.cz/en/research-and-development/research-and-development/applied-research/inga-lf-acceleratespark
MUNI MED Internal Grant Agency (8)	3.7	https://www.med.muni.cz/en/research-and-development/project-support/inga
Internal Research and Doctoral Studies Evaluation (9)	3.7	https://researchevaluation.muni.cz/institutional-evaluation/internal-research-and-doctoral-studies-evaluation-irde-2022
ISAB MED MUNI Recommendations and Implementation Plan (10)	3.7	https://www.med.muni.cz/en/research-and-development/research-and-development/evaluation/internal-research-and-doctoral-studies-evaluation
Contract with MUNI (11)	3.7	https://muni.cz/go/d5114e
HR Award (12)	3.7	https://www.med.muni.cz/en/research-and-development/hrs4r-hr-award

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED:

Faculty of Science, Masaryk University

FORD: 1 - Natural sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Mission

The Faculty of Science, Masaryk University – SCI MUNI offers **university education in all levels** of biology, chemistry, environmental, physical, mathematical, geological and geographical sciences, including interdisciplinary studies and teacher training. The faculty is engaged in **scientific, research** and creative activities, **develops** knowledge and cooperates with other institutions at home and abroad to contribute to the scientific **knowledge in key areas** for the 21st century.

Vision

Long-term strategy and R&D&I activities of SCI MUNI address **11 UN Goals for Sustainable Development**, including healthy, clean water, industry and innovation, climate, and life sciences that are **in synergy with "Innovation Strategy of the Czech Republic 2019-2030: The Country for the Future"**, and with the **MUNI Strategic Plan**. The faculty advances knowledge and brings discoveries in the natural sciences with **applications** in biological and chemical **research**, environmental and biomedical research, environmental and health safety, low-temperature plasma, solid phase physics, nanotechnologies, mathematics, geography, geology and seismic hazard assessment toward safe nuclear power plants.

Self-reflection of the societal contribution of R&D&I

The scientific applications have a direct impact on society in cities, regions, European countries, and globally with significant financial consequences: during 2019–2023, SCI MUNI attracted funding for projects of **basic and applied research** of more than €132M, **contracted research** of more than €10 M, and gained an additional €973k in **revenues from non-public sources**. The faculty **positively influences policymakers**, involving **international organizations** like **WHO**, the **UN**, and **national ministries**. Additionally, the faculty boasts a diverse pool of experts, ensuring low student-to-staff ratios and warranting outstanding **educational support for high-quality R&D&I**.

SCI MUNI has consistently achieved **internationally competitive results** in terms of **quality** and **quantity**. Our research outputs are regularly published in top-tier international journals, and our faculty members are frequently invited to present their work at prestigious conferences worldwide, demonstrating our commitment to producing high-quality research that meets global standards. Faculty policies and procedures support excellence in research and education.

The faculty members are provided with ample **professional development opportunities**, including workshops, seminars, and collaborations with leading international researchers. SCI MUNI **study programs** are designed to provide students with a comprehensive and up-to-date understanding of

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

their field. We regularly review and update our curricula to reflect on the **latest advancements in science and technology**. Our students have access to **state-of-the-art facilities** and resources, enabling them to conduct cutting-edge research and gain hands-on experience in their chosen field.

SCI MUNI's **commitment to excellence** is further demonstrated by the strong track record of securing competitive research grants and funding from both international and national sources. SCI MUNI develops new research initiatives, successfully **attracts top talents**, and provides students and faculty with the resources they need to succeed internationally.

Organizational structure

The Faculty of Science comprises **13 departments**: Department of **Theoretical Physics and Astrophysics**, Department of **Plasma Physics and Technology**, Department of **Condensed Matter Physics**, Department of **Mathematics and Statistics**, Department of **Chemistry**, Department of **Geological Sciences**, Department of **Geography**, Department of **Experimental Biology**, Department of **Botany and Zoology**, Department of **Biochemistry**, Department of **Anthropology**, Research Centre for **Toxic Compounds in the Environment** – RECETOX, National Centre for **Biomolecular Research** – NCBR, and a **specialized** Institute of **Physics of the Earth**, together covering all natural sciences fields. The departments are sufficiently large and independent, with a director having significant decision-making authority and responsibility.

Staff and students: The faculty employs a highly qualified and diverse team of professionals, including **1,324 employees**, with **97 professors** and **135 associate professors** – docents. The Faculty of Science is home to approximately **3 542 students** – **1900 undergraduate**, **906 Master's**, **686 Postgraduate**, and 50 Lifelong, across **109 study programs**, including 23 Undergraduate, 40 Master's, and Doctoral 42, and 4 Lifelong learning programs.

In summary, internationally competitive research, high-quality policies and procedures, and commitment to continuous improvement position **SCI MUNI** as an **internationally well-recognized** leader in science, education, and R&D&I, with broad potential for further development.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	58/7,1	62,4/8,1	69,7/9,2	72,5/8,9	74,6/7,8	85,5/9,9
Associate Professor	109,7/16,4	109,5/15,8	109,1/16,1	110,3/16,7	108,5/18,5	154,6/21,7
Assistant Professor	72,7/22,1	77,5/24,9	83,6/28	80,3/26,7	85,4/28,2	122,7/31
Assistant	19,97/1.0	1,86/0,9	0,9/0,2	0,5/0,5	0,1/0,1	3,5/1,6
R&D Personnel ³	0	0	0	0	0	0

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

Researchers in other categories ⁴	209,3/104,4	237,7/121,9	263,6/130,5	243,5/117,3	255,6/133,9	500,4/163,3
Technical and economic staff ⁵	99,8/59,4	106,9/66,8	139/87,9	147,1/93,6	155,1/97,8	129,22/89,8
Scientific, research and development staff involved in teaching activities	99,8/59,4	106,9/66,8	139/87,9	147,1/93,6	155,1/97,8	388,5/64,74
Early career researchers ⁶	77,6/34,9	80,9/34,3	85,3/38,2	76,8/35,6	77,8/29,4	192,9/172,3
Total⁷	569,4/210,2	595,8/238,3	665,9/272	654,2/237	679,1/286,3	1577,3/490,1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories, and technical and economic staff are mutually exclusive, i.e., one staff member is reported under one category only. Scientific, R&D staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	15	1	25	4	20	2	14	2
Associate Professor	0	0	12	1	53	8	27	6	25	2	5	2
Assistant Professor	0	0	43	14	36	12	4	1	0	0	0	0
Assistant	0	0	2	1	0	0	0	0	0	0	0	0
R&D Personnel ⁹	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁰	136	71	198	111	72	36	27	11	12	2	9	1
Technical and economic staff ¹¹	31	23	53	36	35	20	25	17	4	2	1	1
Scientific, R&D staff involved in teaching	1	0	72	21	134	30	66	14	52	7	19	4
Early career researcher ¹²	5	0	47	18	7	2	1	1	1	0	0	0

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

Total¹³	173	94	427	202	352	109	175	54	114	15	48	10

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	19	1	24	2	25	3	24	3
Associate Professor	0	0	8	1	52	8	40	9	20	5	10	3
Assistant Professor	0	0	28	5	56	25	10	4	1	0	0	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ¹⁵	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁶	156	82	205	110	89	46	23	10	7	2	3	1
Technical and economic staff ¹⁷	52	35	64	44	67	46	29	23	16	6	1	0
Scientific, R&D staff involved in teaching	1	0	53	13	164	48	14	4	49	10	38	6
Early career researcher ¹⁸	1	0	29	13	0	0	0	0	0	0	0	0
Total¹⁹	211	117	387	186,5	447	174	140	52	118	26	76	13

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	1778	1100	1905	1152	1835	1141	1890	1149	1900	1163	9308	5705
Master's ²⁰	847	517	821	511	828	511	826	531	906	599	4228	2669
Doctoral	809	374	805	376	782	379	729	359	686	328	3811	1816
Lifelong Learning Courses	17	10	23	15	12	9	21	9	50	27	123	70
Total	3451	2001	3554	2054	3457	2040	3466	2048	3542	2117	17470	10260

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes.											
	2019		2020		2021		2022		2023		Total	
Undergraduate	23/0	0/0	22/0	0/0	22/0	0/0	22/0	0/0	22/0	0/0	23/0	0/0
Master's	34/0	3/0	36/0	4/0	37/1	4/0	37/1	4/0	37/2	4/0	38/2	4/0
Doctoral	38/38	0/0	42/42	0/0	42/42	0/0	42/42	0/0	42/42	0/0	42/42	0/0
Lifelong Learning courses	2/0	0/0	2/0	0/0	2/0	0/0	2/0	0/0	4/0	0/0	4/0	0/0
Total	97/38	3/0	102/42	4/0	103/43	4/0	103/43	4/0	105/46	4/0	107/44	4/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share [%]
1. Natural Sciences	1.1 Mathematics	6.6	Basic Research	83.5
	1.2 Computer and information sciences	1.2	Basic Research	
	1.3 Physical sciences	12.7	Basic Research	
	1.4 Chemical sciences	12.1	Basic Research	
	1.5 Earth and related environmental sciences	17.2	Basic Research	
	1.6 Biological sciences	31.6	Basic Research	
	1.7 Other natural sciences	2.1	Basic Research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering	0.1	Basic Research	

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	2.5 Materials engineering	1.1	Balanced basic and applied research	
	2.6 Medical engineering	0.1	Basic Research	
	2.7 Environmental engineering	0.2	Basic Research	
	2.8 Environmental biotechnology	0.6	Basic Research	
	2.9 Industrial biotechnology		Zvolte položku.	2.7
	2.10 Nanotechnology	0.4	Basic Research	
	2.11 Other engineering and technologies	0.2	Basic Research	
3. Medical and Health Sciences	3.1 Basic medicine	2.7	Basic Research	9.3
	3.2 Clinical medicine	3.1	Basic Research	
	3.3 Health sciences	3.2	Basic Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	0.3	Basic Research	0.6
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science	0.2	Basic Research	
	4.4 Other agricultural sciences	0.1	Basic Research	
5. Social Sciences	5.1 Psychology and cognitive sciences	1	Basic Research	3.2
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education	0.1	Basic Research	
	5.4 Sociology	0.5	Basic Research	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography	1.6	Balanced basic and applied research	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology	0.7	Basic Research	0.7
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, Participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment

The faculty has established a prominent position within the international research community, evidenced by selected **prestigious R&D&I foreign and national awards**, active Participation in **editorial boards of well-recognized scientific journals**, elected memberships in **professional societies**, and **significant invited lectures** by our academic staff and distinguished foreign scientists. The faculty's exceptional recognition by the international research community is demonstrated by the **successful attraction of investigators** with the most prestigious funding – **ERC, HE, and H2020**.

3.2.1. Prestigious R&D&I awards

Academics and doctoral students were awarded more than 120 extramural, out of MUNI, awards; the 10 most prestigious are listed in [Table 3.2.1](#) including:

Highly respected European awards – Prof. Jiří Fajkus was honored as an **EMBO Member** in 2021, as one of only 19 members of the **European Molecular Biology Organisation** in the Czech Republic; Jana Klánová received the **Doctor Honoris Causa** award in 2023 from **Örebro University, Sweden**, and Prof. Norbert Werner was awarded the **Ignaz L. Lieben Award** in 2021 by the **Austrian Academy of Sciences**.

National prestigious awards – Prof. Jiří Damborský received **The Learned Society of the Czech Republic Award for Research**. Prof. Mojmír Šob was honored with **The Ernst Mach Honorary Medal** for Merit in the Physical Sciences in 2020 by the **Czech Academy of Sciences**. Prof. Petr Klán received The Minister of Health's Health Research and Development award in 2022 from the **Ministry of Health of the Czech Republic**.

In 2023, PhD student Martin Toul from Masaryk University's Faculty of Science received the nationally most prestigious the **Czech Mind Award** (Česká hlava) for his research on staphylokinase, a protein used in stroke treatment. Additionally, Tereza Šustrová, a high school student working in the Faculty's laboratories, won the **Young Czech Mind Award** (Česká hlavička) award for her research on nanoluciferase. The achievements of the youngest researchers highlight the faculty's commitment to groundbreaking research and nurturing young talents.

3.2.2 Participation in editorial boards of international scientific journals

During 2019-23, more than 40 faculty members served actively on the boards of internationally recognized journals at more than 70 editorial positions, the most prominent examples of which are given in [Table 3.2.2](#). For instance, Prof. Jiri Damborsky serves on the editorial boards of **ACS Catalysis** and **Current Opinions in Biotechnology** (Elsevier). Prof. Michaela Wimmerová is a member of the editorial board of **Glycobiology** (Oxford University Press). Prof. Milan Chytrý serves as the **Chief**

Editor of Applied Vegetation Science (International Association for Vegetation Science), and Prof. Tomáš Řezník is on the editorial board of the **International Journal of Digital Earth** (Taylor & Francis). Prof. RNDr. Roman Šimon Hilscher is an associate editor for **Differential Equations and Dynamical Systems** (Springer).

3.2.3 Invited lectures delivered by the academic staff of the evaluated unit at foreign institutions

From a total of more than 130 invited speakers at prestigious international conferences and institutions in person or online, the following are the most prominent: Assoc Prof. Jan Cempírek's plenary presentation on the incorporation of large cations in tourmaline at the **Geological Society of America** Annual Meeting in Phoenix, Arizona, USA in 2019, and Prof. Petr Klán's lecture on transition-metal-free releasing compounds at the **Detlef Schröder Seminars** in Prague, CZ in 2019. Additionally, Assoc Prof. Tomáš Hoder presented on streamer discharges at the **Gaseous Electronics Conference** in Huntsville, USA in 2021. These lectures, and others listed in Table 3.2.3, demonstrate the Faculty's commitment to advancing scientific knowledge and fostering international collaboration.

3.2.4 - The most important lectures by foreign scientists

The Faculty of Science at Masaryk University has hosted more than 220 lectures by distinguished foreign scientists, significantly enhancing its academic environment and research capabilities in 2019-2023. Esteemed international experts are attracted to MUNI, Brno, through the **Mendel Lectures** [2.1], which have a 23-year tradition of very prominent invited lectures and have attracted a total of 15 world-leading scientists, including Nobel laureates, in five years.

Since 2015, the **MUNI seminar series** [2.2] has been running, inviting around 10 scientists each semester to give lectures in the 'Life Sciences' and 'Mathematics, Physics & Computer Science' series.

The Faculty of Science at Masaryk University introduced and has been developing the **Innovation Lectures – INNOLEC** since 2004 [2.3]. INNOLEC annually invites **more than 30 foreign experts** to improve the scientific knowledge, practical skills and teaching abilities of students, academics and researchers. The invited experts share their knowledge primarily through talks, seminars, and workshops.

Table 3.2.4 includes Prof. **John P. Giesy**, Jr. from the University of Saskatchewan in 2019. Masaryk University awarded Prof. John P. Giesy the title of Doctor honoris. In 2020, Prof. **Helma Wennemers** from ETH Zurich delivered a lecture. Prof. **Thomas R. Cech**, a Nobel Prize winner from Colorado University Boulder, presented on RNA catalysis at the **Mendel Genetic Conference in 2022** (see below). Prof. **Eric Masson** from the University of Ohio visited Brno in 2023. These lectures, among others listed in Table 3.2.4, have provided valuable insights into various scientific fields, **fostering tight collaboration and international knowledge exchange**.

The faculty contributed to the globally recognized **Mendel Genetic Conference in 2022** [2.4], tributing to Gregor Johann Mendel on His Birth Bicentennial and hosting numerous distinguished speakers, including Nobel Laureates - **Ada E. Yonath**, **Thomas R. Cech**, and **Sir Paul Nurse**.

3.2.5 - Involvement in the evaluation of European and national research projects and program calls

More than 60 faculty members have evaluated and led **significant European and national research initiatives**. For instance, Prof. Petr Klán has served on the evaluation committee of the **ERC Consolidator Grants** and H2020-FETOPEN projects. Prof. Gerhard Lammel has been involved in the

Marie Skłodowska-Curie Actions - MSCA under the EC HORIZON MSCA. Additionally, Prof. Jana Klánová has participated in **FORMAS Research Grants in Sweden** and **NWO Investment Grants in the Netherlands**, further highlighting the faculty's engagement with European research funding bodies.

Overall, the Faculty of Science demonstrates a **balanced integration of individual achievements and institutional prestige**, contributing significantly to the international research community through awards, editorial participation, invited lectures, and involvement in research evaluations at the European level.

List of supporting links for indicator 3.2

[2.1] <https://mendellectures.muni.cz>

[2.2] <https://seminarseries.muni.cz>

[2.3] <https://innolec.sci.muni.cz>

[2.4] <https://www.mendel22.cz/conference>

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
Prof. Jiří Fajkus	EMBO Member; 2021	European Molecular Biology Organisation
Jana Klánová, prof.	Doctor Honoris Causa; 2023	Örebro University, Sweden
Norbert Werner, prof.	Ignaz L. Lieben Award; 2021	Austrian Academy of Sciences
Jiří Damborský, prof. Dr. Mgr.	The Learned Society of the Czech Republic Award for Research	The Learned Society of the Czech Republic
Prof. RNDr. Mojmír Šob, DrSc.	The Ernst Mach Honorary Medal for Merit in the Physical Sciences, 2020	Czech Academy of Sciences
Prof. RNDr. Petr Klán, Ph.D.	The Minister of Health's Award for Health Research and Development (awarded by the Ministry of Health of the Czech Republic); 2022	Minister of Health, Czech Rep.
Prof. Ing. Vladimír Šindelář, Ph.D.	Czech Science Foundation President's award for outstanding research, 2021	Czech Science Foundation
Prof. RNDr. Mirko Černák, CSc.	Technology Agency Award 2022 – category Partnership, project MATCA	Technology Agency of the Czech Republic
Assoc. Prof. Jiří Schlaghamerský, Ph.D.	TA CR Awards 2023	Technology Agency of the Czech Republic
Prof. RNDr. Milan Novák, CSc.	Radim Kettner Medal for lifelong contribution to the development of geological sciences; 2023	Czech Geological Society

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Prof. Jiri Damborsky	ACS Catalysis, ISSN: 2155-5435; Current Opinions in Biotechnology, ISSN: 0958-1669
Prof. Michaela Wimmerová	Glycobiology, ISSN: 0959-6658
Prof. Vladimír Sklenář	Journal of Biomolecular NMR, ISSN: 0925-2738
Prof. Jana Klánová	Exposome, ISSN: 2634-4602
Prof. Petr Klán	Photochemical & Photobiological Sciences, ISSN 1474-905X
Prof. Milan Chytrý	Applied Vegetation Science ISSN: 1402-2001
Assoc. Prof. Daniel Nývt	Frontiers in Earth Science, ISSN: 2296-6463
Doc. Mgr. Jan Cempírek, Ph.D.	The Canadian Mineralogist, ISSN 0008-4476; Journal of Geosciences, ISSN 1802-6222
Prof. Tomáš Řezník	International Journal of Digital Earth *from 2022 Print ISSN is inactive, as this digital journal is no longer published in print
Prof. RNDr. Roman Šimon Hilscher	Advances in Difference Equations Differential Equations and Dynamical Systems, ISSN 1687-1847 0971-3514

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Doc. Mgr. Jan Cempírek, Ph.D.	Incorporation of large cations in tourmaline: Influences of P-T-X and structural constraints	Geological Society of America Annual Meeting, Phoenix, Arizona, USA	2019
prof. RNDr. Petr Klán, Ph.D.	Transition-metal-free releasing compounds activatable by visible to NIR light	Detlef Schröder Seminars, Prague, CZ	2019
doc. Mgr. Tomáš Hoder, Ph.D.	Streamer discharges, their initiation and electric field	Gaseous Electronics Conference, Huntsville, USA	2021
Prof. Lukáš Židek	NMR reveals structure-function relationship in disordered proteins: MAP2c as an example	17th EUROMAR, Portorož, Slovenia	2021
doc. Mgr. Pavel Souček, Ph.D.	Mapping the X-B-C Systems: Search for the Elusive X2BC Phase	48th International Conference on Metallurgical Coatings and Thin Films, San Diego, USA	2022
doc. PaedDr. RNDr. Stanislav Katina, Ph.D.	Functional data analysis of three-dimensional surface data	LinStat 2022, Polytechnic Institute of Tomar, Portugal	2022
Prof. Jiří Fajkus	In Mendel's footsteps: Telomere and telomerase research in Brno	Bicentenary of Gregor Johann Mendel - from the emergence of genetics toward the development of genomics, Sapporo, Japan	2022

prof. RNDr. Milan Chytrý, Ph.D.	FloraVeg.EU – a new online database of European vegetation and flora	65th Annual Symposium of the International Association for Vegetation Science	2023
Jana Klánová, prof.	EIRENE – European infrastructure for exposome research	Coldspring Harbor Laboratories, Banbury centre, Integrating Exposomics into the Biomedical Enterprise	2023
Prof. Jiri Damborsky	Machine Learning-Powered Web Tools for Protein Engineering	Protein Engineering conference organized by the Gordon Research Conferences was held at Bryant University in Smithfield, Rhode Island, United States	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Prof. John P. Giesy, Jr., Fellow of the Royal Society of Chemistry, Fellow of the Society of Environmental Toxicology and Chemistry	University of Saskatchewan, US Michigan State University, US Baylor University, US	Toxicological evaluation of perfluorooctane (PFOS) in the environment: anatomy of an environmental issue	2019
prof. Klaus R. Reicherter	RWTH Aachen University, Germany	Geoenvironmental Hazards	2019
Prof. Helma Wennemers	ETH Zurich, Switzerland	Asymmetric Catalysis with Peptide	2020
Prof. Dr. Achim von Keudell	Bochum University, Germany	Dynamic Plasmas from Pascal to Gigapascal Pressures	2020
Prof. Serge Pérez	University Grenoble Alpes, France	Polysaccharides in the Bioeconomy; Structural Complexity; Functional Diversity	2022
Prof. Hans Zanna Munthe-Kaas	University of Bergen	Computational Mathematics between Dynamics, Geometry and Algebra	2022
Prof. Thomas. R Cech Nobel Prize Winner	Colorado University Boulder, USA	RNA Catalysis: From Discovery to Therapeutic Applications	2022
Prof. Eric Masson	University Ohio, USA	Supramolecular Lego with Cucurbiturils, Lanthanides, and More	2023
Prof. Uwe Bornscheuer	University Greifswald, Germany	Protein engineering for biocatalysis	2023
Prof. Yves Desdevises	Sorbonne Université, France	Monogeneans, microbes, molecules and fish: multiple players involved in parasite-host specificity	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the project/programme call research	Name of the contracting authority/guarantor of the project/programme call	Year
Petr Klán, prof.	ERC Consolidator Grant	EU	2020
Prof. Jiří Fajkus	Marie Skłodowska-Curie Actions (MSCA), ERC	EC HORIZON	2019-2023
Petr Klán, prof.	H2020-FETOPEN	Research Executive Agency (REA), EUROPEAN COMMISSION	2021-2023
Gerhard Lammel, prof.	Marie Skłodowska-Curie Actions (MSCA)	EC HORIZON MSCA	2021 - 2023
Jana Klánová, prof.	FORMAS Research Grants - a Swedish Research Council for sustainable development	FORMAS, Sweden	2021-2023
Petr Klán, prof.	Junior and Senior Research Projects	European Science Foundation	2022
Jana Klánová, prof.	NWO Investment Grants	NWO, Netherlands	
Tomáš Řezník, prof.	Horizon Europe, HORIZON-CL6-2021-GOVERNANCE-01-20	European Commission	2021
Luděk Bláha, prof.	Chair of the expert panel at ETAG – Environmental sciences - ca 25 grants annually	ETAG – Estonian Research Council	2022-2023
Luděk Bláha, prof.	Chair of the GAČR panel P503 and Committee OK5 (Biological and agricultural sciences) - ca 400 grants annually	GAČR - Czech National Science Foundation	2020-2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment

1. ERC Starting: Establishment of a Research Group on Skeletal Stem Cells

Finance: 22M EUR for 2023-2029

Researcher: Dr. Peter Fabian, a young PI incoming from abroad, Department of Experimental Biology

Overview: Peter Fabian's project, supported by the prestigious ERC Starting grant, focuses on understanding a new type of cell crucial for maintaining homeostasis and metabolism of skeletal stem cells, ensuring **healthy bone regeneration** following the UN Sustainable Development Goal **Good Health and Well-being**. The five-year project involves establishing a research group at the Department of Experimental Biology at SCI MUNI. The research uses zebrafish as a model organism and employs state-of-the-art genomic, genetic, and high-resolution imaging methods.

Results Achieved and Application Potential: The project has significant potential for application in regenerative medicine. The insights gained from studying zebrafish are expected to have implications for understanding human bone regeneration and developing treatments for bone-related disorders.

Contribution to Mission and Purpose: The project aligns with the sustainable development objective defined by the UN – **Good health and well-being** and the primary mission of the Faculty of Science to **advance and develop scientific knowledge and innovation**. By securing the ERC Starting grant, the project has validated the faculty's personnel and infrastructure policies. The project has also fostered a stimulating research environment that attracts young, talented researchers.

Collaborations and Interdisciplinary Aspects: The project involves collaboration with researchers from the University of Southern California and Charles University in Prague. The interdisciplinary approach integrates developmental biology, genetics, and advanced imaging techniques, enhancing the research's comprehensiveness and influence on global society.

Impact: The project's successful initiation has generated local synergies, increasing the attractiveness of SCI MUNI for early career researchers. The innovative research is expected to advance significantly in understanding skeletal stem cells, with broader implications for regenerative medicine.

2. CETOCOEN Excellence

Grant provider: Horizon Europe – Teaming for Excellence;

Finance: €15M from EU + €15M from ESIF, 2019-23;

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

Department: RECETOX

Overview

The CETOCOEN Excellence project, funded by Horizon Europe – Teaming for Excellence, aims to transform the existing Centre RECETOX into an internationally recognized Centre of Excellence in Environmental Health Sciences. With total funding of 30 million EUR (15 million EUR from the EU and 15 million EUR from ESIF) for 2019-2023, the project focuses on significant organizational and management changes to align RECETOX with European standards, expanding research activities, enhancing the RECETOX Research Infrastructure, and developing educational and training programs.

Contribution to Mission and Purpose: The project contributes to the mission of RECETOX by building excellence in Environmental Health Sciences, not only in the Widening region but across the entire European Research Area (ERA). By upgrading RECETOX, the project aims to establish a top-notch research environment that attracts talent and investments, elevating Masaryk University's (MUNI) global reputation.

Collaboration and Interdisciplinary Aspects: The project involves a strong partnership with leading European research institutions, including University College London, ETH Zurich, BBMRI-ERIC, and FNUSA ICRC. International collaboration facilitates future joint projects under Horizon Europe and promotes interdisciplinary research by integrating diverse expertise from various fields.

Impact: The CETOCOEN Excellence project has been affecting the research landscape by opening innovative research avenues towards an improved understanding of the role of environmental factors in human health and aging and innovative approaches to environmental and health protection in Europe.

3. LIFE in Salt Marshes: Complex Ecological Restoration of Degraded and Disappearing Salt Marshes in Moravian Pannonia

Grant provider: EU-LIFE

Finance: €4.7M, 2023-2029

Department: Dept. of Botany and Zoology,

Overview: The LIFE in Salt Marshes project aims at the comprehensive ecological restoration of wetlands. It involves a detailed analysis of the condition of the wetlands and the subsequent implementation of innovative and proven measures.

Contribution to Mission and Purpose: The project aims to restore and stabilize 506 hectares of wetlands and 20 hectares of inland salt meadows, creating a mosaic of various habitats and eliminating invasive species, which aligns with the UN Sustainable Development Goals - **Good Health and Well-being, Climate Action, Life Below Water, Life on Land** – Protect, restore and promote sustainable use of terrestrial ecosystems sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss, **Partnerships for the Goals**, and also mission of preserving biodiversity and enhancing ecosystem services within the Natura 2000 network.

Collaborations and Interdisciplinary Aspects: The project involves interdisciplinary collaboration among European ecologists, hydrologists, and conservationists to address complex ecological challenges and promote sustainable management practices by integrating expertise from various fields. The involvement of **stakeholders**, including **governmental agencies and local communities**, ensures a holistic approach to wetland restoration. The project's impact on biodiversity and populations of protected species will be documented using interdisciplinary expertise that links the latest scientific knowledge with practical ecological conservation.

Impact: The project has been reducing wetlands' vulnerability to climate change, supporting populations of endangered species, and increasing habitat heterogeneity. The project contributes to the overall health and resilience of the ecosystem, providing long-term benefits for biodiversity and

ecosystem services. The project has been validating and scaling up **innovative conservation practices** implemented in partnership **with the Ministry of Environment of the Czech Republic** and developing good practices to transfer them to the European level.

4. R-Exposome Chair: Unlocking the potential of RECETOX in Exposome research

Grant provider: Horizon Europe – ERA-Chair

Finance: €2.5M, 2019-25

Department: RECETOX

Overview: The "R-Exposome Chair" project aims to develop new capacities for Environmental Health research in Central and Eastern Europe. The project, hosted by RECETOX at Masaryk University, focuses on establishing an internationally renowned scientist as an ERA Chair to lead a new research program on Environmental Epidemiology, Biostatistics, and Bioinformatics.

Outcomes and application potential: The project has successfully established a research group that interprets regional data on environmental exposures and their impact on population health. This group has significantly contributed to the development of new study programs in Environmental Health sciences, including a Ph.D. school. The research outcomes have potential applications in public health policies, risk assessment, and the design of intervention strategies to mitigate environmental health risks.

Contribution to mission and purpose: The R-Exposome Chair project aligns with the faculty's mission by attracting top scientists and fostering research excellence. By establishing a leading researcher in environmental health, the project promotes interdisciplinary collaboration and enhances the institution's scientific performance. The project supports the faculty's goal of achieving higher scientific excellence and innovation levels.

Impact: The project's impact includes improved regional capacities for Environmental Health research and increased collaboration with international research networks. The enhanced research capabilities have raised the personal profiles of researchers and the institutional reputation of Masaryk University on the international stage. The project also contributes to the development of evidence-based public health policies and interventions that address environmental health challenges in the Central European region.

5. GACR EXPRO, Faculty of Science MU – primary beneficiary

Funding scheme contributing to the faculty mission: The EXPRO projects, funded by the Czech Science Foundation (GACR), have substantially supported excellent scientists from the faculty for five years - up to 50M CZK ~ 2M EUR. EXPRO funding primarily aims to foster groundbreaking research with the potential for significant scientific breakthroughs – closely following SCI MUNI's mission. A key requirement is that project leaders must submit a proposal to the European Research Council (ERC) before finishing projects.

GACR EXPRO Projects Funding Impact: Supports the mission of SCI MUNI - advancing scientific knowledge through innovative research. EXPRO grants by securing funding for cutting-edge research synergically enhance success in ERC scheme, thus **boosting the faculty's ability to secure more ERC grants**, further solidifying faculty position as a hub for innovative science.

During the evaluation period, SCI MUNI successfully secured three EXPRO projects, with project details highlighted below.

5. EXPRO GX19-28491X, 2019-23; PI: prof. Chytrý, Department of Botany and Zoology

Overview and Impact: The project "Fine-resolution continental syntheses of vegetation and habitat diversity" has opened new avenues for research after establishing the **European Vegetation Archive**

(EVA), an integrated database of 1.5 million phytocenological images. By creating a European center for vegetation syntheses with an extensive network of international collaborators, the project promotes interdisciplinary research and collaboration within basic macroecological and biogeographical research. The results are available to the professional and public through a web portal Eva-database [3.2] promoting informed decision-making within **international policy in conservation planning**.

6. EXPRO; GX19-28347X; 2019-23; PI: Prof V. Bryja, Department of Experimental Biology

Overview and impact: The project **Molecular and functional analysis of casein kinase 1 biology** aims to understand how casein kinase 1 (CK1) regulates cellular processes in normal and cancer cells. Utilizing advanced proteomics, structural biology, and next-gen sequencing, we explore CK1's control over molecular events, Wnt pathway activation, and the impact of CK1 **inhibition** in **chronic lymphocytic leukemia** for advanced clinical applications.

7. EXPRO GX21-13491X; 2021-25; PI: Prof. N. Werner, Department of Theoretical Physics and Astrophysics

Overview and impact: The project **Exploring the Hot Universe and Understanding Cosmic Feedback** (EHU) explores the Lambda Cold Dark Matter model's success in describing the Universe and the complex evolution of baryonic matter. Studies aim to understand galactic feedback processes regulating galaxy growth and their impact on star formation and supermassive black holes. The research will **advance galaxy formation and evolution knowledge**, providing new observational opportunities and facilitating the development of highly advanced observational techniques.

8. Research infrastructures

Funding provider: Ministry of Education, Youth, and Sport – MEYS

Finance: €439M, 2019-2023

Beneficiary: Several departments of SCI MUNI

Overview: At the European level, the Faculty of Science is involved in projects and landmarks on the **European Strategy Forum on Research Infrastructures** – ESFRI Roadmap. A notable ESFRI project, **EIRENE**, focused on the human exposome and coordinated by Masaryk University, marks only the second ESFRI project coordinated by the Czech Republic. Other significant European projects include **EU-OPENSREEN** (chemical biology), **ACTRIS** (atmosphere exploration), and **BBMRI-ERIC** (biobanking).

Application potential: From 2019 to 2023, the Faculty of Science's scientific teams participated in **seven large research infrastructures** listed in the Roadmap of Large Research Infrastructures of the Czech Republic [3.1]. The infrastructures, funded MEYS, provide open access to international and Czech researchers. Projects include, **CEPLANT** (R&D centre for plasma and nanotechnology surface modifications), **BBMRI-CZ** (Network of Czech Biobanks), **CZ-OPENSREEN** (National infrastructure for chemical biology and genetics to identify new molecular probes and develop therapeutics), **ACTRIS-CZ** (monitoring and measuring the quality of air in Europe using national atmospheric observatories), **CZECH POLAR RESEARCH INFRASTRUCTURE** (operation of J.G. Mendel Polar station in Antarctica, see more below), and the national infrastructure **C4SYS** – CENTRE FOR SYSTEMS BIOLOGY, and **RECETOX RI** (Research Infrastructure housing Central Laboratories for Trace, Microbiome, and Biomarker Analyses). Infrastructures facilitated international collaboration, enhancing the faculty's global research profile.

Contribution to Mission and Purpose: Involvement in international and national infrastructure networks increases Faculty's international visibility and appeal. This strategic development aligns with the broader objectives of enhancing EU R&D&I capacities.

Impact: The large infrastructures significantly impact on the European and national scientific landscape. The open access policy democratizes research facilities, fostering inclusive and collaborative research. The synergic funding model ensures long-term sustainability of innovation, contributing to economic growth and well-being through scientific excellence.

9. EXCELES – Implementation Programme of National Recovery and Resilience Plan

Grant provider: Ministry of Education, Youth and Sport;

Finance: €5.9M in total; 2022-2026

Beneficiary: Departments of the Faculty of Science

Funding scheme contributing to the faculty mission: The EXCELES program, funded by EU Recovery and Resilience Facility, supports research in medical and social sciences in the Czech Republic. Collaborating with the R&D&I Council addresses national health research needs via enhancing research capacities and fostering international collaborations. The program improves healthcare system efficiency, aids economic recovery, develops innovative methodologies, and trains specialists, driving advancements in health research and innovation while addressing systemic health risks.

Overview: Faculty of Science is involved in five EXCELES projects funded by National Recovery Plan:

- National Cancer Research Institute: €2.3M
- National Institute of Virology and Bacteriology: €1.9M
- National Institute for Neurological Research: €0.2M
- National Institute of Metabolical and Cardiovascular Diseases: €0.5M
- National Institute for Research on the Socioeconomic Impact of Disease and Systemic Risk: €1M

Application Potential: The faculty's involvement in EXCELES underscores the well-recognized role of SCI MUNI in advancing scientific knowledge and addressing critical health issues through innovative research. The diverse projects demonstrate the faculty's ability to integrate diverse scientific approaches to develop comprehensive solutions.

Contribution to Mission and Purpose: EXCELES addressed national health priorities. The faculty's work aligns with the goals of supporting health research, filling gaps in the national R&D&I support system, and enhancing research capacities for current trends and needs.

Impact: The program advanced understanding and helped to address systemic health risks, improved healthcare system efficiency, and contributed to economic recovery from health crises. The program advanced innovative research methodologies, trained specialists, and enhanced health research excellence. SCI MUNI through EXCELES fostered pivotal in advancing research and addressed health challenges nationally and internationally.

10. Czech Antarctic Research Programme (CARP)

Grant provider: Ministry of Education, Youth, and Sport

Finance: €3M in 2019-23

Overview: Masaryk University is the only university in the world and the only public institution in the Czech Republic that owns and operates a scientific station in Antarctica. The operation includes the **Czech Scientific Station J.G. Mendel on James Ross Island**, technical and logistical facilities on Nelson

Island, and laboratory infrastructure at SCI MUNI [3.3]. This unique setup allows for complex multidisciplinary research in a rapidly changing natural environment that significantly impacts the global ecosystem.

Application Potential: The CARP provides the Czech and international research community with unparalleled opportunities to conduct multidisciplinary research in Antarctica. The infrastructure supports studies on a wide range of scientific fields, from environmental changes to biological processes, enabling comprehensive research that addresses critical global challenges. The program's ability to integrate various scientific approaches enhances its potential to produce innovative and practical solutions.

Contribution to Mission and Purpose: The CARP contributes to Masaryk University's mission of advancing scientific knowledge and addressing pressing global issues. By maintaining the Czech Republic's consultative membership within the **Antarctic Treaty community**, the program allows the country to influence the present and future use of the continent.

Impact: The CARP has led to groundbreaking discoveries in understanding the rapidly changing Antarctic environment and its effects on the global ecosystem. The program has fostered international collaborations, enhancing the visibility and influence of Czech research on the world stage. Through CARP innovative research and international collaborations, the Czech Antarctic Research Programme at Masaryk University plays a crucial role in advancing scientific knowledge and addressing global environmental issues.

List of supporting links and documents for indicator 3.3

- [3.1] <https://www.vyzkumne-infrastruktury.cz/en/roadmap-of-large-research-infrastructures-of-the-czech-republic>
- [3.2] <https://euroveg.org/eva-database>
- [3.3] <https://carp.sci.muni.cz>
- [3.4] <https://muni.cz/go/540c62> - Table documenting 1600 contracted research activities

Table 3.3.1 Projects supported by public funds

Note: The exchange rate used for transfers is the rate valid at the time of publication of the documentation by the provider - 25.35 CZK/EUR

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Horizon ope – ERC	Metabolic regulation of the skeletal stem cell niche (* the project started on 1.1.2024, the money was already received in 2023)					22002,37/ 867,94

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into o.

Horizon 2020	Environmental chemicals as obesogens	725,00/ 28,6				
Horizon 2020	Structural and biochemical studies of an ancestral enzyme with dual dehalogenase and luciferase activity	245,02/ 9,67	1060,59/ 41,84			
Horizon 2020	Finding unknown endocrine disrupting compounds through target pull-down assay filtration, effect direct analysis and ultra-high resolution mass spectrometry for a comprehensive efficient workflow	4026,89/ 158,85		345,69/ 13,64	1940,57/ 76,55	
Horizon 2020	External and Internal Human Exposure in Urban EXposome	14836,94/ 585,28		2011,87/ 79,36		1055,76/ 29,87
Horizon 2020	R-Exposome Chair: Unlocking the potential of RECETOX in Exposome research	30919,09/ 1219,69		3993,77/ 157,55		17132,17/ 675,83
Horizon 2020	CETOEN Excellence	98334,67/ 3879,08		29571,06/ 1166,51	40309,22/ 1590,11	
Horizon 2020	Best chemical risk assessment professionals for maximum Ecosystem Services benefit		82864,33/ 3268,81		9919,57/ 391,3	1078,24/ 42,53
Horizon 2020	EXposome Powered tools for healthy		2874,71/ 113,4	173,70/ 6,85		1158,93/ 45,72

	living in urban Settings					
Horizon 2020	Plastic in Agricultural Production: Impacts, Life-cycles and LONG-term Sustainability			2511,34/ 99,07		1094,31/ 43,17
Horizon 2020	Investigation of the effects of per – and polyfluoroalkyl substances on reproductive health in the fire-fighting environment			2586,65/ 102,04		1148,20/ 45,29
Horizon 2020	Venomics of Prey-Specialised Spiders in the Evolutionary and Ecological Context				4197,31/ 165,57	
Horizon ope	Partnership for the Assessment of Risks from Chemicals				42622,76/ 1681,37	2172,20/ 85,68
Horizon ope	Models with cross-interactions between partial dynamical processes aiming to understand significant or abrupt dynamic changes.				2380,58/ 93,91	
Horizon ope	Environmental Exposure Assessment Research Infrastructure Preparatory Phase Project				53018,04/ 2091,44	44010,37 1736,11
Horizon ope	Assessing long-term trends in the vegetation of open habitats and				2401,60/ 94,74	

	evaluating the effectiveness of protected areas					
Horizon ope	Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central ope				5103,59/ 201,33	
Horizon ope	Advanced biomarker discovery for earlier diagnosis and better prognosis of NAFLD stages using high-resolution mass spectrometry.					2323,38/ 91,65
Horizon ope	Effect of chemical exposure on the development and progression of dementia with Lewy bodies					2294,04/ 90,49
Horizon ope	Adaptor protein Ruk/CIN85 as a potential molecular marker in human osteosarcoma					1788,99/ 70,57
Horizon ope	ANNUAL VEGETATION OF OPEAN WETLANDS: DIVERSITY, HABITATS AND ALIEN PLANT INVASIONS					1974,41/ 77,89
EU LIFE	Complex ecological restoration of degraded and disappearing salt marshes in					28391,82/ 1119,99

	Moravian Pannonia					
Czech Science Foundation (GA ČR)		135230,48/ 5334,54	145588,29/ 5743,13	142854,60 5635,29	148765,77/ 5868,47	170594,57/ 6729,57
Technology Agency of the Czech Rep. (TAČR)		15481,90/ 610,73	16027,74/ 632,26	18140,58/ 715,6	14742,64/ 581,56	12928,37 509,99
Ministry of Education Youth and Sports (MŠMT)	OP Research, Development and Education (OP VVV)	117791,08/ 4646,59	285447,67/ 11260,26	250270,81/ 9872,62	85548,78/ 3374,71	36694,77/ 1447,53
Ministry of Education Youth and Sports (MŠMT)	OP JAC CETOCOEN Excellence phase II					24811,37/ 978,75
Ministry of Education Youth and Sports (MŠMT)	OP JAC MSCA-CZ 5, 6				251,37/ 9,92	10348,63/ 408,23
Ministry of Education Youth and Sports (MŠMT)	Large infrastructures, CEPLANT	13076,00/ 515,82	18394,00/ 725,6	17957,00/ 708,36	17711,00/ 698,66	12955,00/ 511,05
Ministry of Education Youth and Sports (MŠMT)	Large infrastructures, RECETOX-RI	18400,00/ 725,84	58011,00/ 22888,4	57449,00/ 2266,23	52292,00/ 2062,8	67425,00/ 2659,76
Ministry of Education Youth and Sports (MŠMT)	Large infrastructures, CzechPolar2	19094,00/ 753,21				
Ministry of Education Youth and Sports (MŠMT)	INTER-ACTION	2823,86/ 111,39	2513,00/ 99,13	2937,00/ 115,86	1733,00/ 68,36	2150,11/ 96,65
Ministry of Education Youth and Sports (MŠMT)	INTER-COST	2652,20/ 104,62	3980,58/ 157,02	4138,00/ 163,04	2473,00/ 97,55	1109,00/ 43,74
Ministry of Education	Cooperation in the Danube	964,00/38,03	1905,50/ 75,17	901,82/ 35,57	1161,89/ 45,83	701,39/ 27,67

Youth and Sports (MŠMT)	Region/Joint call – mobility					
Ministry of Education Youth and Sports (MŠMT)	National recovery plan, EXCELES, National Institute for Research on the Socioeconomic Impact of Disease and Systemic Risk (SYRI)				1614,24/ 63,68	6960,73/ 274,59
Ministry of Education Youth and Sports (MŠMT)	EEA and Norway Grants	745,69/29,42		841,56/ 33,2		
Czech Health Research Council (AZV ČR)		11873,00/468, 36	19068,07/752, 19	23740,25/936 ,5	21732,07/857, 28	17894,06/705, 88
The Ministry of Environment (MŽP)					80,00/ 3,16	7064,67/ 278,69
Ministry of Agriculture (MZe)		7646,00/ 301,62	8390,00/ 330,97	8390,00/ 330,97	8007,00/ 315,86	6933,49/ 273,51
Ministry of Culture	NAKI					3204,00/ 126,39
Ministry of Interior (MV ČR)	Security Research Program 2015-2022			3988,35/ 157,33	3774,72/ 148,9	
Ministry of Reg. Develop. (MMR)	INTERREG, EÚS	5178,86/ 204,29	6796,30/ 268,1	6698,93/ 264,26	2780,66/ 109,69	1245,83/ 49,15
Municipality of Brno		900,00/ 35,5	900,00/ 35,5	900,00/ 35,5	1000,00/ 39,45	400,00/ 15,78
South Moravian Region	SoMoPro Incoming grants		583,21/ 23,01			
Total		500944,7/ 19761,1	654405,0/ 25814,8	580402,0/ 22895,5	525561,4/ 20732,2	511046,8/ 20159,6

In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK)				
		2019	2020	2021	2022	2023
Horizon 2020	ERA-PLANET – The open network for observing our changing planet		166,41/ 6,56			
Horizon 2020	ICARUS – Integrated Climate forcing and Air pollution Reduction in Urban Systems	1698,21/ 66,99				
Horizon 2020	Natural Toxins and Drinking Water Quality – From Source to Tap	708,14/ 27,93	989,34/ 39,03	846,59/ 33,4		
Horizon 2020	open Human Biomonitoring Initiative	2314,90/ 91,32	13297,49/ 524,56	8806,29/ 347,39	1703,52/ 67,2	4099,04/ 161,7
Horizon 2020	Synergising International Research Studies into the Environmental Fate and Behaviour of Toxic Organic Chemicals in the Waste Stream	256,35/ 10,11	234,23/ 9,24			206,25/ 8,14
Horizon 2020	Synthetic biology-guided engineering of <i>Pseudomonas putida</i> for biofluorination	5353,35/ 211,18		2003,54/ 79,04	1983,32 78,24	1070,10/ 42,21
Horizon 2020	Si-EU-Soil	7645,44/ 301,6		3374,97/ 133,13		
Horizon 2020	oGEOSS Showcases: Applications Powered by open "E-SHAPE"	2468,43/ 97,37	330,69/ 13,04	859,90/ 33,92		328,33/ 12,95

²⁷ Ibid.

Horizon 2020	Ensuring long-term sustainability of chemical biology services within and beyond	1300,57/ 51,3		22,82/ 0,9		1231,46/ 48,58
Horizon 2020	Gut OncoMicrobiome Signatures (GOMS) associated with cancer incidence, prognosis and prediction of treatment response	7936,04/ 313,06		3742,52/ 147,63	4092,59/ 161,44	2298,91/ 90,69
Horizon 2020	Integrating Environment and Health Research: a Vision for the EU	1657,26/ 65,38		727,38/ 28,69	530,62/ 20,93	
Horizon 2020	An integrative strategy of testing systems for the identification of EDs related to metabolic disorders	2941,95/ 116,05	2793,93/ 110,21	2,06/ 0,08	1477,85/ 58,3	270,35/ 10,66
Horizon 2020	Breaking the walls between human health and environmental testing of endocrine disruptors: Endocrine Guideline Optimisation	3739,77/ 147,53		1102,28/ 43,48	2489,89/ 98,22	2277,56/ 89,84
Horizon 2020	Sustainable Plant Protection Transition: A Global Health Approach		4028,11/ 158,9		2724,53/ 107,48	3610,09/ 142,41
Horizon 2020	Securing biodiversity, functional integrity and ecosystem		2933,38/ 115,72	1135,38/ 44,79	146,77/ 5,79	437,75/ 17,27

	services in DRYing rivER networks					
Horizon 2020	Integrated Activities for the High Energy Astrophysics Domain (AHEAD2020)		750,10/ 29,6		522,37/ 20,61	172,83/ 6,82
Horizon 2020	Actionable opean ROadmap for early-life health Risk Assessment of micro- and nanoplastics			2406,56/ 94,93		69,97/ 2,76
Horizon 2020	Solutions for Sustainable Access to Atmospheric Research Facilities			752,20/ 29,67		
Horizon ope	Identification of chemical and biological determinants, their sources, and strategies to promote healthier homes in ope				6728,35/ 265,42	
Horizon ope	A opean-wide foundation to accelerate Data-driven Cancer Research				1184,63/ 46,73	
Horizon ope	Cartan geometry, Lie and representation theory, Integrable Systems, quantum Groups and quantum computing towards the understanding of the geometry of deep Learning					1904,33/ 75,12

	and its Applications					
Horizon ope	Building a opean Network for the Characterisatio n and Harmonisation of Monitoring Approaches for Research and Knowledge on Soils					2548,61/ 100,54
Horizon ope	Discovering the causes of three poorly understood cancers in ope					824,91/ 32,54
Horizon ope	An open access knowledge and data repository to safeguard soils					7160,89/ 282,48
Czech Science Foundation (GA ČR)		29776,00/ 1174,6	31663,00/ 1249,03	25171,00/ 992,94	24592,00/ 970,1	30981,00/ 1222,13
Technology Agency of the Czech Rep. (TAČR)		8495,33/ 335,12	7975,18/ 298,98	15804,98/ 623,47	16500,73/ 650,92	28253,74/ 1114,55
Ministry of Education Youth and Sports (MŠMT)	OP JAC, Call Excellent Research, Quantum materials for applications in sustainable technologies, QM4ST					14869,71/ 586,58
Ministry of Education Youth and Sports (MŠMT)	Large infrastructures	8100,00/ 319,53	14036,00/ 553,69	16000,00/ 631,16	17920,00/ 706,9	29717,00/ 1172,27
Ministry of Education Youth and Sports (MŠMT)	INTER-ACTION	1130,00/ 44,58	1148,00/ 45,29	1148,00/ 45,29	861,00/ 33,96	604,36/ 23,84
Ministry of Education Youth and	INTER-COST		270,00/ 10,65	525,00/ 20,71	475,00/ 18,74	350,00/ 13,81

Sports (MŠMT)						
Ministry of Education Youth and Sports (MŠMT)	National recovery plan, EXCELES, National Institute of Metabolic and Cardiovascular Diseases				1006,15/ 39,69	3937,27/ 155,32
Ministry of Education Youth and Sports (MŠMT)	National recovery plan, EXCELES, National Institute of Virology and Bacteriology				7763,04/ 306,23	13478,11/ 531,68
Ministry of Education Youth and Sports (MŠMT)	National recovery plan, EXCELES, National Cancer Research Institute				4849,27/ 191,29	15498,75/ 611,39
Ministry of Education Youth and Sports (MŠMT)	National recovery plan, EXCELES, National Institute for Nological Research					649,28/ 25,61
Czech Health Research Council (AZV ČR)		1535,00/ 60,55	2010,00/ 79,29	2694,00/ 106,27	2065,00/ 81,46	2412,00/ 95,15
Ministry of Reg. Develop. (MMR)	INTERREG, EÚS	1881,65/ 74,23	1777,28/ 70,11	2076,60/ 81,92		
Ministry of Agriculture (MZem)		1420,00/ 56,02	270,00/ 10,65	3401,83/ 134,19	3085,67/ 121,72	2986,17/ 117,8
Ministry of Industry and Trade	Operational Programme Technologies and Applications for Competitiveness, Entrepreneurship and innovation for	802,51/ 31,66	219,80/ 8,67	4455,63/ 175,76	5048,66/ 199,16	2442,57/ 96,35

	competitiveness (OP TAK, OP PIK)					
Ministry of Industry and Trade	TRIO	5269,18/ 207,86	4612,90/ 181,97	5831,93/ 230,06		
EU/Erasmus+		575,35/ 22,7		211,89/ 8,36	131,64/ 5,19	34,30/ 1,35
Total		97005,4/ 3826,6	89505,8/ 3530,8	103103,4/ 4067,2	107882,6/ 4255,7	174725,6/ 6892,5

Table 3.3.2 - Contract research activities

Note: In the monitored period, the faculty conducted contracted research for **833** contractors, amounting to a total of **10.4 million EUR**. This summary highlights the most significant contractors. The full list of all **1600 contracted research activities** can be found in the annex online file [\[3.4\]](#).

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
ČEZ a.s	Seismological network operation and monitoring, seismological security on nuclear plants	10,280/411	10,264/411	9,932/397	9,932/397	10,817/433
Artios, UK	Basic and applied research for new drug development	13,034/521	12,967/519	4/0.15	0	0
State Office for Nuclear Safety - Státní úřad pro jadernou bezpečnost	Seismological monitoring – nonpublic reports	3356/134	3356/134	3356/134	3356/134	3520/141
CasInvent	Synthesizing chemical inhibitors. Testing kinase activity in vitro. Performing synthesis and separation processes. Producing new CK1 inhibitors. Testing compound cytotoxicity. Producing new compounds.	0	0	2737/109	2921/117	9292/397
Institut Jožef Stefan, Slovenia	Contracted analysis for self-evaluation involves assessing environmental and health impacts of BFRs, PFRs, OPFRs, OH-PAHs, and PFCs to ensure regulatory compliance and risk mitigation.	0	0	2453/109	4803/117	3786/395
Software for Chemistry & Materials BV, NL	Development of Research Software	430/17	1,314/53	1,280/51	1,292/52	1,383/55

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

Eaton Elektrotechnika s.r.o.	Contracted research activities	1089/44	1089/44	1089/44	1089/44	0
Lesy České Republiky s.p. Forests of the Czech Republic, state enterprise	Environmental analyses	0	0	0	1650/66	1200/48
IRSTEA, National Research Institute of Science and Technology for Agriculture and Environment, France	Research and development contract	1784/71	0	0	0	0
VZLU AEROSPACE, a.s.	Contract services for space research	0	0	0	0	1,676/67
...	...	...	...	...	...	...
Total – more than 1600 contracted activities		56597/2264	50269/2011	46987/1879	49494/1980	59427/2377

Note: List and describe contract research activities with revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment

The Faculty of Science in 13 departments and one special institute has achieved 228 outputs with **direct or prospective impacts** on society within the monitored term. Research groups prioritize direct **sustainable collaboration** with application research partners from **private industry, healthcare facilities, and regulatory bodies** rather than focusing solely on patent production. These collaborations span various domains, including national ministries (environment, health, trade), regulatory offices, and international organizations such as the World Health Organization – **WHO**, the United Nations Environment Programme – **UNEP**, and the European Commission Joint Research Centre – **EC JRC**, ensuring that the research conducted has a tangible and meaningful impact on society.

Sustainability and Gender: The evaluated outcomes reflect significant long-term impact and practical application, with **sustainability** as a fundamental pillar of results' enduring value.

²⁹ See Terms definition.

Sustainability dimension is systematically considered and regarded as essential in the planning and implementation of research. No significant **gender** dimension has been identified as relevant for any of the evaluated results, and therefore, no assessment in gender context is provided.

Specific examples of research results already applied or realistically heading towards application during the period of 2019–2023 are listed below.

1. onsemi – ON Semiconductor wafers development for electromobility

Overview: An example of long-term cooperation is a joint research effort of the **Department of Condensed Matter Physics** at the Faculty of Science, MU, with industry partner **onsemi** (ON Semiconductor) Czech Republic. The expert teams on both sides have been collaborating for more than 20 years. Joint research projects aim to develop **SiC wide-bandgap semiconductor wafers** for advanced semiconductor applications of top quality, i.e., better or at least comparable to that of other leading companies in the field and the related production technology.

Impact: SiC-based devices have long-term application potential in reliable **power electronics for electromobility, electronics for power conversion in renewable energy systems, and wireless communication technologies**. Investigations of relevant structural, electronic, and optical properties of 4H SiC (the desirable polytype) single crystals of production quality, and of complicated processes connected with the wafer manufacturing process at **MU superclean facilities** significantly contribute to the success of the projects. The intense collaboration of onsemi with Masaryk University influences the company's decision to expand SiC manufacturing facility in Rožnov pod Radhoštěm with a multi-year brownfield investment. The planned **investment of 2 billion USD** is one of the largest in the private sector in the Czech Republic's history. The development of semiconductors is instrumental in bolstering **Europe's industrial sovereignty and security** and contributes to lasting economic and strategic resilience.

2. Monitoring seismic activity and nuclear safety in the Czech Republic and Central Europe

Institute of Physics of the Earth housed at the Faculty has established **four seismological networks for monitoring** regions [\[4.1\]](#) with increased natural geodynamic activity and **nuclear power plants** Temelín and Dukovany. The institute operates four broadband stations that are part of extensive **international nuclear test monitoring systems**, including the global monitoring system of The Comprehensive Nuclear-Test-Ban Treaty Organization – CTBTO, ensuring compliance with the ban on nuclear tests. The current seismological infrastructure includes a total of 20 stations in the Czech Republic.

Impact: Online catalogs of local to global earthquakes and regional fault databases, together forming the fundamental inputs for **seismic hazard calculations in Central Europe** and beyond, along with confidential specialized studies and models, are used to assess **external hazards at nuclear plants** in the Czech Republic and to defend their resilience – non-public reports for nuclear power plant operators, state regulator and **The International Atomic Energy Agency (IAEA)** – intergovernmental organization that promotes the peaceful use of nuclear energy Expert provision of national Participation of the Czech Republic in the International Monitoring System of CTBTO and non-public reports for the State Office for Nuclear Safety.

3. Data warehouse for policy makers

GENASIS - Global ENvironmental ASsessment Information System

provides comprehensive information on contamination of the environment by chemicals, namely persistent organic pollutants (POPs). GENASIS was created in cooperation of RECETOX with Institute

of Biostatistics and Analyses at the Faculty of Medicine, institutes of the Masaryk University, Brno, Czech Republic. Design and administration of the portal are supported by the VaVpl CETOCOEN project (see 3.3 section) [\[4.2\]](#).

Stockholm Convention Global Monitoring Plan Data Warehouse

The GMP data warehouse developed and operated by RECETOX serves as a data collection and presentation tool for the effective evaluation of the global Stockholm convention. Global Monitoring Plan Data Warehouse of the Stockholm Convention on Persistent Organic Pollutants is applied as a visualisation platform and online tool for the analysis of global levels of POPs in air, water, breast milk, and blood [\[4.3\]](#).

Impact: The **Czech Ministry of the Environment** and **Czech Ministry of Health** and their counterparts in other countries use data warehouses like GENASIS and the Stockholm Convention Data Warehouse to monitor environmental contamination by POPs, shaping national environmental policies in the implementation of UN conventions on protecting human health from chemical risks. Validated methodologies on monitoring carcinogens in healthcare occupational settings influence safety standards and public health policies. **United Nations Environment Programme** (UNEP) oversees global environmental assessments. The data repositories provide actionable insights into chemical contamination that align with UNEP's priorities. **World Health Organization** (WHO) is intensely involved in occupational health and chemical safety. The validated methodologies introduced the best practices and guidance on workplace exposure to carcinogens.

4. Two validated methodologies for monitoring carcinogens in healthcare

Two validated methodologies on monitoring of carcinogens in health care occupational settings developed by Prof. Bláha et al. served as the standard for the preparation of European Commission, the Occupational Safety and Health Administration (2023) **Guidance for the safe management of hazardous medicinal products at work** implementing the certified methodologies (RIV/00216224:14310/23:00131796 RIV/00216224:14310/23:00131797)

The European Commission Guide provides practical examples for **reducing workers' exposure to hazardous medicinal products across all lifecycle stages**: production, transport and storage, preparation, administration to human patients and animal patients, as well as waste management.

Impact: Methodologies were certified by the Czech Ministry of Health and served as the standard for EU OSHA Guidance to reduce workers' exposure to hazardous medicinal substances in all EU states.

5. International Patents - Fuopyridines as inhibitors of therapeutically relevant protein kinases

Several patents connected with protein kinases are excellent examples of impactful results from synergy-based interdisciplinary approaches and an innovative combination of tools for applied research collaboration and development. The new potential drugs have been investigated protein kinase within the EXPRO project of Prof. Bryja (see 3.3. project 6) from the Department of Experimental Biology, who closely collaborates with Assoc. Prof. Paruch from the Department of Chemistry, who designed and synthesized inhibitors for the kinases. Together, they co-founded a spin-off company **CasInvent** Pharma a.s. (see 3.5 for details).

Awarded European patent on CLKs. The first CLK inhibitor, compound SM08502, entered clinical trials very recently. One of the substances described in the patent - the compound MU1210 - was recommended in 2019 as a potent and highly selective state-of-the-art chemical biology probe for

inhibition of CLK kinases. The chemical substance is currently available to the global research community via established vendors, e.g. MU1210 $\geq 98\%$ (HPLC) | 2275601-87-9 [4.4].

Impact: The protein kinase inhibitors are candidates that will increase the treatment efficiency of pediatric high-grade gliomas that account for 10% of pediatric brain tumors.

6. US Patent – Substituted aminothiazoles as inhibitors of nucleases

Patented use of substituted aminothiazoles as inhibitors of nucleases [4.5], particularly nuclease MRE11 and MRE11-containing complexes, have been developed by a joint research effort of the National Centre for Biomolecular Research (NCBR), Department of Chemistry inspired by collaboration with the British biotechnology company Artios Pharma Ltd company. These compounds were found to improve the treatment and prevention of proliferative diseases, neurodegenerative diseases, and other genomic instability-associated diseases.

Impact: Cancer treatment by targeting specific nucleases involved in DNA repair mechanisms will lead to more effective and targeted cancer therapies, improving patient outcomes and reducing side effects.

7. Patent: Thermostable FGF2 Polypeptide

The present patent [4.5] relates to engineered Fibroblast Growth Factor 2 (FGF2, bFGF) with improved thermal stability compared to the wild-type by the collaborative efforts of Department of Experimental Biology and RECETOX. Stabilized FGF2 is used in cell biology research, regenerative medicine, and related medical applications or cosmetics to improve cell growth conditions. The present invention further relates to a culture medium comprising FGF2 suitable for culturing a human pluripotent stem cells involving both human embryonic stem cells and induced pluripotent stem cells.

Impact: The invention of thermally stable FGF2 has implications for enhancing the stable growth of cell cultures in scientific research, medical treatments, and the cosmetics industry, contributing to advancements in health and well-being.

8. Patent: Coelenterazine-Utilizing Luciferases with Stable Glow-Type Light Emission

Renilla-type luciferases allow living organisms, e.g., fireflies, to produce light. Patent is the application outcome of research that succeeded in creating an artificial **enzyme glowing longer and more stable** than the natural one. The patent is the result of collaborative efforts between Department of Experimental Biology and RECETOX.

Impact: The super stable bioluminescent reporter system can significantly improve the **diagnosis and monitoring of diseases** and facilitate further research connected with glowing plants as a night light source.

9. Prototype: Plasma-reduced graphene oxide sheet

The prototype is an applied research result from the Masaryk University **Proof of Concept project** and the research activities of the CEPLANT center (see 3.3). The research team at the Department of Plasma Physics and Technology developed a method for the **automated production of graphene oxide sheets** on a laboratory scale. The prototype, known as an **rGO sheet**, was produced through plasma-initiated reduction and exfoliation of a thin layer of graphene oxide using a proprietary method. Measurements of selected physical, chemical, and electrical properties of the sample demonstrate the uniformity of the produced material across the entire sample area. The plasma-initiated reduction-exfoliation of the rGO sheet was achieved using a simple and scalable low-

temperature atmospheric plasma technology. The result is an electrically conductive material in the form of a thin sheet of pure reduced graphene oxide, free of impurities and binders.

Impact: The functional prototype has spurred subsequent research and development of new materials and applications, particularly in the following areas: water and air filtration, solar cell development, polymer composites, flexible electrically conductive materials, and electromagnetic shielding structures. The prototype's innovations contribute to environmental sustainability, energy efficiency, and technological advancement, enhancing overall societal well-being and progress.

10. Certified Methodology: Impact of technical snowmaking on biological components of the natural environment in the Krkonoše National Park and its protection zone

A comprehensive field study was conducted on meadows and pastures, which serve as downhill skiing tracks during winter. The study aimed to investigate the response of vegetation, invertebrates, soil, and surface fauna to technical snowmaking. Additionally, the impact of pumping water from small watercourses for snow production and its retention in reservoirs on aquatic organisms was examined. The potential use of illegal additives in snowmaking was also addressed. Key outputs of the project include: final research report - documenting the study findings, methodological guideline - providing standardized procedures, opposition of relevant passages - addressing principles of care for the Krkonoše National Park and its protection zone, and seminars – organized for nature protection authorities' staff. The project was recognized with the TAČR prize in 2023 as the best project in the Governance category.

Impact: The methodology was certified by the Czech Ministry of Environment. Methodological Guidelines and seminars for nature protection authorities in the Czech Republic and Poland raise governmental and public awareness and educate stakeholders about the environmental impacts of snowmaking.

List of supporting links and documents for indicator 3.4

[4.1] <https://www.ipe.muni.cz/en/opendata>

[4.2] <https://www.genasis.cz/index-en.php>

[4.3] <https://data.pops-gmp.org/2020/all>

[4.4] <https://www.sigmaaldrich.com/CZ/en/product/sigma/sml2713>

[4.5] <https://muni.cz/go/f7f805>

[4.6] <https://muni.cz/go/6b3395>

[4.7] <https://muni.cz/go/873c13>

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Prototype development (Department of Condensed Matter Physics)	2019-2023	onsemi – ON Semiconductor development of SiC – wide band-gap semiconductor wafers for advanced top purity and quality semiconductor applications. SiC-based devices have long-term application potential in reliable power electronics for electromobility, electronics for power conversion in renewable energy systems, and wireless communication technologies

³⁰ Specify the specific type of result. Add rows as needed

Databases, Research & Technical Reports (Institute of Physics of the Earth)	2019-2023	Publicly available databases of local to global earthquakes and regional fault databases, together forming the fundamental inputs for seismic hazard calculations in Central Europe [4.1] Results of specialized studies and models used to assess external hazards at nuclear sites in the Czech Republic and to defend their resilience within non-public reports for nuclear power plant operators, state regulators and IAEA. Expert provision of national Participation of the Czech Republic in the International Monitoring System of CTBTO (non-public reports for the State Office for Nuclear Safety).
Data warehouse for policy makers (RECETOX)	2020	Global ENVIRONMENTAL ASSESSMENT INFORMATION SYSTEM , GENASIS (Global ENVIRONMENTAL ASSESSMENT INFORMATION System) provides comprehensive information on contamination of the environment by chemicals, namely persistent organic pollutants (POPs). GENASIS was created in cooperation of RECETOX with IBA MU, institutes of the Masaryk University, Brno, Czech Republic. Design and administration of the portal are supported by VaVpI CETOCOEN project. [4.2]
	2020	Stockholm Convention Global Monitoring Plan Data Warehouse , [4.3] GMP DWH, 2020 Hůlek, R., Borůvková, J., Kalina, J., Bednářová, Z., Šebková, K., Hruban, T., Novotný, V., Ismael, M., Klánová J. Global Monitoring Plan Data Warehouse of the Stockholm Convention on Persistent Organic Pollutants: visualisation platform and on-line tool for the analysis of global levels of POPs in air, water, breast milk and blood [online]. Masaryk University, 2020.
Two certified methodologies of carcinogens monitoring (RECETOX)	2023	Two validated methodologies on monitoring of carcinogens in health care occupational settings were certified by the Czech Ministry of Health. The methodologies served as the standard for the preparation of EU OSHA Guidance European Commission, OSHA (2023) Guidance for the safe management of hazardous medicinal products at work (doi:10.2767/361444), implemented both validated and certified methodologies as standards (Bláha et al. 2023a,b: RIV/00216224:14310/23:00131796; RIV/00216224:14310/23:00131797).
Patent (NCBR and Department of Experimental Biology)	2020	Fuopyridines as inhibitors of protein kinases Awarded European patent on new inhibitors of therapeutically relevant protein kinases, especially CLKs (of note, the very first CLK inhibitor, compound SM08502, entered clinical trials very recently). One of the substances described in the patent - the compound MU1210 - was recommended in 2019 as a potent and highly selective state-of-the-art chemical biology probe for inhibition of CLK kinases, see: https://www.thesgc.org/chemical-probes/MU1210 . This compound is also currently available to the global research community via established vendors, e.g. MU1210 ≥98% (HPLC) 2275601-87-9 [4.4] .
Patent (Department of Chemistry and NCBR)	2021	Substituted aminothiazoles as inhibitors of nucleases Substituted aminothiazoles are compounds that act as inhibitors of nucleases, particularly nuclease MRE11 and MRE11-containing complexes. These compounds were found to improve the treatment and prevention of proliferative diseases, neurodegenerative diseases, and other genomic instability-associated diseases [4.5] Paruch, K., Carbain, B., Havel, S., Damborský, J., Brezovský, J., Daniel, L.; Sisáková, A.; Nikulenkov, F., Krejčí, L., 2023: Substituted Aminothiazoles as Inhibitors of Nucleases. Masaryk University. Patent US 11,584,742 B2.
Patent (RECETOX & Department of Experimental Biology)	2023	Thermostable FGF2 Polypeptide The patented invention relates to engineered Fibroblast Growth Factor 2 (FGF2, bFGF) having improved thermal stability compared to the wild-type and the use thereof in cell biology research, regenerative medicine and related medical applications or cosmetics [4.6] . The invention further relates to a culture medium comprising FGF2 suitable for culturing human pluripotent stem cells involving both human embryonic stem cells and induced pluripotent stem cells. Dvorak, P., Krejci, P., Balek, L., Eiselleova, L., Konecna, Z., Dvorak, P., Bednar, D., Brezovsky, J., Sebestova, E., Chaloupkova, R., Stepankova, V.,

		Vanacek, P., Prokop, Z., Damborsky, J., Bosakova, M., 2023: Thermostable FGF2 Polypeptide, Use There of. Masaryk University and Enantis, s.r.o., Brno, Czech Republic. Patent US 11,746,135 B2.
Patent (RECETOX & Department of Experimental Biology)	2023	Coelenterazine-Utilizing Luciferases with Stable Glow-Type Light Emission Patent is the application outcome of research that succeeded in creating an artificial luciferase enzyme that glows much longer and more stably than the natural one [4.7]. Toul, M., Smith, A., Marek, M., Pinto, J. G., Planas-Iglesias, J., Pluskal, D., Vasina, M., Bednar, D., Prokop, Z., Damborsky, J., 2023: Coelenterazine-Utilizing Luciferases with Stable Glow-Type Light Emission, Increased Substrate Affinity, Suppressed Product Inhibition, and Modulated Emission Wavelengths, and Methods of Producing and Using Thereof. Masaryk University, Brno, Czech Republic. Patent WO/2023/021023.
Prototype – Functional sample (Department of Plasma Physics and Technology)	2022	Plasma-reduced graphene oxide sheet The functional sample TP01010039 is an applied result of research carried out within the Masaryk University Proof of Concept project (TP01010039) and research activities of the CEPLANT centre. The research team developed a method for automated production of graphene oxide sheets on a laboratory scale. The functional sample is a so-called rGO sheet, which has been fabricated by plasma-initiated reduction and exfoliation of a thin layer of graphene oxide produced by the in-house method. The measurement results of selected physical, chemical and electrical properties of the sample document the surface uniformity of the fabricated material over the entire sample area. The plasma-initiated reduction-exfoliation of the rGO sheet was realized by a simple and scalable low-temperature atmospheric plasma technology. The result is an electrically conductive material in the form of a thin sheet of pure reduced graphene oxide without impurities and binders. The functional sample has subsequently stimulated further research and development of new materials and applications, in particular materials for water and air filtration, solar cells and polymer composites containing graphene, flexible electrically conductive materials and structures for electromagnetic shielding applications.
Certified Methodology (Department of Botany and Zoology)	2022	Impact of technical snowmaking on biological components of the natural environment in the Krkonoše National Park and its protection zone Certified Methodology for assessing the status of protected areas designated for the protection of habitats and species associated with water TITSMZP707 was supported by extensive field studies carried out on meadows and pastures used in winter as downhill skiing tracks to investigate the response of vegetation, selected groups of invertebrates living on it, as well as soil and surface fauna, to technical snowmaking. Furthermore, the effect of pumping water from small watercourses for producing technical snow and its retention in reservoirs on aquatic organisms was investigated. Attention was also paid to the possible use of illegal additives used in snowmaking. The key deliverables of the project included a certified methodology, comprising the Final Research Report, a comprehensive Methodological Guideline, a formal critique of selected provisions from the Principles of Care for the Krkonoše National Park and its Protection Zone, as well as the organization of a seminar for personnel of the nature protection authorities. In 2023, the project was awarded the TAČR prize as the best project in the Governance category.

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided on the annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment

Since 2005, the **Technology Transfer Office** (TTO MUNI) has been an integral part of Masaryk University. TTO MUNI is perceived as an institutional unit providing support and conditions for the practical application of the university's research results. TTO MUNI **provides services in technology and knowledge transfer** (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralized, ensuring the necessary personnel, methodological and technical frameworks.

TTO MUNI **manages the intellectual property** of MUNI and cooperates in its identification, protection and commercial exploitation (licensing, spinoffs, application consulting, contract research) following MUNI rules and standards.

TTO MUNI supports **cooperation between the scientific community and companies** by building the university's internal environment and defining the internal rules. It initiates opportunities for meeting scientists with company representatives or finding resources for collaborative research. All this contributes to the mutually beneficial development and implementation of commercially interesting results of scientific work into everyday life.

TTO MUNI supports the development of a functional environment for technology transfer through actions targeting the academic community student – **trainings, workshops, round tables, and TT Day**. The professional public is engaged by building long-term partnerships in the field of applied research. The TTO staff, within the framework of their agendas, are involved in areas that facilitate and lead to the delivery of R&D results at MUNI to practical use, including professional competencies in the field of intellectual property protection, licensing, legal support, as well as searching for application partners and negotiating conditions for cooperation.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

As a key player in the South Moravian Region, TTO MUNI collaborates closely with the **South Moravian Innovation Centre** and other institutions to support entrepreneurial initiatives, technology development, start-up growth, business incubation, and training programs in innovative entrepreneurship.

Cooperation with the application partners occurs on several levels:

- Joint grant projects of applied research – for example **Synergy of Lytic Bacteriophages and Antibiotics** – project involving collaboration with pharmaceutical companies to develop effective bacteriophage-antibiotic combinations
- **Contract research** according to the client's requirements – precision measurement services in shared infrastructural and core facilities; expert consultation services based on specialized knowledge – for specific examples see Table 3.3.2.
- Collaborative **research funded from non-public sources** – e.g. onsemi and others in Table 3.3.2.
- Possibilities of **internships and practice** of undergraduate and postgraduate students in companies – e.g. Tescan, Thermo Fisher Scientific and Contipro.
- Close **educational cooperation** with the application partners on the preparation and implementation of Master's degree programs **Microscopy** (TESCAN, Thermo Fisher Scientific) and **Biotechnology** (Contipro).

Identifying collaboration partners

- **Personal contacts with alumni:** For instance, SCI MUNI graduated biochemist Vladimír Velebný, whose company **Contipro** is one of the three most successful hyaluronic acid producers in the world. Contipro offers a **Trainee Program** aimed at graduates from natural sciences and technical universities, including SCI MUNI, providing hands-on experience in research and development fields like tissue engineering, biotechnology, and nanotechnology. Additionally, Contipro has participated in workshops and events organized by Masaryk University, such as the "Poznej Contipro/Get to know Contipro" workshop, which highlights the company's innovative approaches and career opportunities for SCI MUNI graduates.
- **Professional workshops and excursions:** For instance, annually organized visits to **Biovendor**, an international company in the field of in vitro diagnostics based in Brno.
- **University-wide events:** Participation in events **Business Research Forum** and **Proof of Concept** conference interconnect the researchers with the public or private sector, thus supporting the emergence of new collaborations and innovations.
- **Trade fairs and conferences:** Active participation and presentation of SCI MUNI outputs at trade fairs, exhibitions, and conferences such as **BioVaria**, **Nordic Life Science**, **BioFit**, and **PragueBio**. aiming to establish connections between the researchers and the public or private sector, thus supporting the emergence of new collaborations and innovations.
- **Website offered cooperation** of the faculty, institutes, departments, core facilities and infrastructures based on faculty's scientific background – e.g. **Large research infrastructures website** [\[5.1\]](#).
- **Presenting results on portals** designed specifically for interested investors, companies and other institutions to enable their application in practice – **Enterprise Europe Network**, TTO's **INTERFACE Newsletter** in English, and Czech version.

Collaboration on technology transfer:

- **Direct collaboration with researchers:** Collaboration takes place directly with researchers and individual SCI MUNI departments such as **CEPLANT**, **RECETOX**, and the **Czech Collection of Microorganisms**.
- **Testing products in Antarctica:** Together with the Polar Research Team from the Faculty of Science, TTO has been offering companies a unique opportunity to test their products in the extreme conditions of Antarctica since 2017. The consumer test, which takes place as part of an expedition at the Johann Gregor Mendel Czech Research Station, allows companies to subject their products to thorough testing and enables them to examine key product features. Products that prove themselves in **harsh polar conditions** can obtain the trademark "**Tested in Antarctica**," which is held by Masaryk University.

Examples of finding a new user of results and commercialization at Faculty of Science, 2019-2023: **ARTIOS**

In the previous period, the TTO secured and set the legal conditions for long-term cooperation of research teams of the Faculty of Science and Faculty of Medicine with the British biotechnology company Artios Pharma Ltd. In 2019, a second know-how license agreement (Warhead compounds) was signed with the British company Artios Pharma regarding the development of compounds active in the **inhibition of specific nucleases** (see Table 3.4.1 and [4.5]). In 2020, a third license agreement was signed for the patented nuclease inhibitors MUS81. In December 2020, a sublicensing agreement was signed, and a collaboration with the multinational company Merck KGaA was initiated. Currently, the license agreement for the unique know-how of Warhead Compounds remains in force and continues to bring MU annual royalties.

By the end of 2023, the collaboration with MU generated over €1,200,000 in contracted research and €240,000 in royalties.

Casinvent

The establishment of **Casinvent Pharma a.s.** in 2020 was a logical outcome of more than 10 years of ongoing research on the impact of casein kinase 1 (CK1) inhibition on the treatment of chronic lymphocytic leukemia (CLL). Scientists from the Faculty identified CK1 inhibitors. An international patent application for their protection was filed in 2018. In 2021-2023, the patents were granted in the USA, Canada, Japan, Australia, Korea, the European Union and China (see Table 3.4.1 and [4.4]). TTO's original intention to license the patent to a pharmaceutical company did not result in success. In 2019, MU, through TTO, entered negotiations with **i&i Prague s.r.o.** with the intention of establishing a **spin-off company** with a share of Masaryk University. TTO negotiated MU's initial stake in the company and i&i Prague's initial contribution. The main objective of the company was to raise additional funds to push the development towards clinical testing.

In 2022, the company managed to obtain an investment of €1,3M from the German KHAN Technology Transfer Fund I and the Czech i&i Biotech Fund. At the end of 2023, CasInvent Pharma received an additional investment. The existing investors were joined by the Holecek Family Foundation and BIOINVESTIMED a.s. and together they made an investment of EUR 1.6 million. During further research, the application scope was expanded to **acute myeloid leukaemia** (AML) and other oncological diseases.

CasInvent Pharma orders contract research from MU – see Table 3.3.2.

The preliminary development plan is to enter Phase I clinical trials and sell Casinvent Pharma to a major pharma company that will be able to fund further development. In this scenario, MU will

benefit from the sale of its equity stake. CasInvent Pharma represents a completely unique project in the field of technology transfer, which is unprecedented in the Czech environment.

Enantis

Enantis is the **first spin-off company** established at MU (2006). Among other things, it develops and produces stabilized growth factors based on a joint invention with MU (co-ownership of MU x Enantis is 80 % x 20 %). These substances can be used, for example, in research to cultivate stem cells, in medicine in the wound healing process, in the promotion of bone growth, and in the treatment of neurovegetative diseases. Patented stabilized growth factors (see Table 3.4.1) can also be used in the cosmetics industry to increase the elasticity and hydration of the skin and to smooth wrinkles.

Within four years, **6 licensing agreements** were concluded with foreign companies for this joint invention. TTO staff were involved in the preparation of the contracts and negotiation of the terms. In the period under review, **4 licence agreements** were concluded with Enantis for the use of software developed at MU. These SW are used in research for protein structure prediction.

MU received royalties totaling €90k from the concluded license agreements.

Caviplasma

The team from the Faculty of Science together with colleagues from the Faculty of Mechanical Engineering of Brno University of Technology and the Botanical Institute of the CAS developed a unique technology that uses the synergistic effect of **hydrodynamic cavitation and low-temperature plasma discharge**. The Caviplasma device can be used in the field of quaternary treatment of wastewater from organic pollutants such as pharmaceuticals (analgesics, antibiotics, antidepressants, etc.), herbicides, pesticides, estrogens, and volatile organic substances, which are decomposed into simple organic compounds by plasma discharge.

In 2020, this technology won **1st place in the national Transfer Technology Day competition**.

In 2020, an international patent application protecting this technology was filed through TTO and subsequently extended to the US, Canada, EU, and Israel.

In 2022, 2 contracts were signed with companies that were given the opportunity to validate the technology in a wastewater treatment plant environment within 2 years of submitting project documentation. They were also given the opportunity to enter into a proper licensing agreement for the production and sale of this equipment.

MU has so far received license fees totaling €2,640.

Altimapo

A research team from the Geographical Institute of the Faculty of Science in cooperation with Altimapo s.r.o. developed software called **Brno Urban Grid**. Altimapo focuses on the analysis and visualization of spatial information that can serve as a basis for e.g. urban planning concepts and works closely with e.g. the Brno City Council. The Brno Urban Grid software enables easy visualization and analysis of various types of spatial data in the Brno metropolitan area. Altimapo s.r.o. has been a spin-off of Masaryk University since 2018. So far, MU has received over €10,000 in licensing fees.

List of supporting links and documents for indicator 3.5

[5.1] <https://www.muni.cz/en/research/large-research-infrastructure-projects>

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Donations (2513, 2614, 2570, 2670)	7181,10/ 283,28	2119,39/ 83,61	6441,65/ 254,11	366,78/ 14,47	4517,13/ 178,91
Royalties	478,36 / 18,87	1072,50 / 42,31	813,01 / 32,07	1032,70 / 40,74	647,42 / 25,54
Total	7659,46 / 302,15	3191,89 / 125,91	7254,66 / 286,18	1399,48 / 55,21	5164,55 / 203,73

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment

Overview of Science Popularization Activities at SCI MUNI (2019–2023)

Between 2019 and 2023, SCI MUNI significantly expanded its science popularization efforts, **engaging a broad audience** (80,000) ranging from **young children to senior citizens**.

A key aspect of these efforts is participation in nationwide events such as the **European Researchers' Night** (6000 annually) and the **Science Festival** (6000 annually), where visitors interact with faculty researchers through hands-on demonstrations, public lectures, and workshops.

Similarly, the **Children's University Mjuni** introduces younger students to the natural sciences through interactive learning experiences. The program is held biannually, with sessions in spring at the Bohunice campus and in autumn at Kotlářská campus, offering young minds the opportunity to engage with science through activities ranging from chemistry experiments to geology fieldwork.

The faculty strongly supported high school students through initiatives such as **Secondary School Research Projects** (SOČ) and **Natural Science Olympiads**, providing mentorship, training, and access to laboratory facilities. Additionally, specialized high school programs, including **VIBUCH** (Chemistry Correspondence Seminar) and **BRKOS** (Mathematics Correspondence Seminar), help develop students' skills in specific disciplines. Each institute at SCI MUNI contributes to popularization through diverse activities.

The **Botanical Garden** hosts guided tours and educational programs, while the Department of Biology organizes field courses, genetic lectures, and the **Summer School of Protein Engineering**. The Department of Chemistry engages high school students through lectures, lab excursions, and interactive exhibitions. Geographers hold events like **GIS Day**, **Geography Days**, and the **GeoCafé** series, while geologists offer **mineral exhibitions**, **geology Olympiads**, and **summer schools**.

Physicists contribute through activities such as the **Astronomical Workshop** in Brno, experimental physics demonstrations, and interdisciplinary events like **KRTEK** – Creative and Technical Workshop. Public engagement also extends to lifelong learning, with SCI MUNI providing courses such as the **University of the Third Age** (RECETOX environmental lectures) and participating in city-wide events like Days of Health.

Interdisciplinary outreach plays a crucial role, with events like **INTERSOB** (Indoor Terrain Game) and **INTERLOS** (Internet Logic Competition) encouraging collaboration across scientific fields. Competitions such as **MathRace** and **N-Trophy** provide intellectually stimulating challenges. By integrating outreach at all educational levels and across disciplines, SCI MUNI has strengthened its role as a leader in science communication, inspiring curiosity and fostering future scientists.

BIOSKOP is an educational program designed to inspire and **engage** talented **youngest** primary and secondary school **students** in the world of **science**. The program offers a variety of hands-on activities, workshops, and experiments that allow students to explore scientific concepts in a practical and interactive manner. By participating in BIOSKOP, students increase valuable experience in scientific research and experimentation, fostering a deeper understanding and appreciation of science.

The BIOSKOP program covers a wide range of scientific disciplines, including **biology, chemistry, physics, and environmental science**. Students can work with advanced scientific equipment and learn from experienced researchers and educators. BIOSKOP also emphasizes the importance of teamwork and collaboration, encouraging students to work together on projects and share their first scientific findings.

Overall, **BIOSKOP** aims to **nurture the next generation of scientists** by providing them with the tools, knowledge, and inspiration they need to pursue careers in science and technology. The program not only enhances students' scientific literacy but also helps them develop critical thinking, problem-solving, and communication skills that are essential for success in any field.

TV series Behind Nature's Curtain – SCI MUNI at main role

In 2023 was presented **Behind Nature's Curtain** TV series highlighting the research of “green biologists” at SCI MUNI – Department of Botany and Zoology on the Czech TV program ČT2. The series of **five natural history films** showing stories of research into bogs, parasites, Carpathian meadows, bats, and the secrets of insect mimicry in popular way [6.1].

2023: Preparation of Starmus 2024

The **Starmus** (Stars&Music) **Festival** is a unique and globally recognized event that celebrates the intersection of science, music, and art. Founded by astronomer Garik Israelian and musician-astrophysicist Brian May from music group QUEEN, the festival aims to popularize science and inspire a broader audience by combining scientific discussions with artistic performance.

In 2023, the Faculty of Science, as a partner institution, intensively prepared for hosting lectures and designing workshops on Czech polar research and our Antarctic station, space research (Astrophysics), and climate protection for the global science festival that was planned in Bratislava, Slovakia. The faculty proudly participated as a representative of Czech scientists at the renowned international and interdisciplinary festival Starmus by highlighting the state-of-the-art research and technologies employed at Masaryk University.

List of supporting links and documents for indicator 3.6

[6.1] <https://www.ceskatelevize.cz/porady/13608570834-za-oponou-prirody>

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment

The 2014-2018 assessment report included **a set of recommendations related to for main topics and issues,**

1. **Transfer of practices from flagships to other departments,**
2. **Better collaboration with TTO,**
3. **International recognition,**
4. **Online outreach and communication.**

Following the recommendations from the previous evaluation, **SCI MUNI has made significant efforts and progress** to implement corresponding measures to strengthen the interconnections with the public and private sectors, thereby enhancing its societal relevance through both basic and applied research.

1. SCI MUNI succeeded **with the expansion of applied research efforts to multiple departments and research groups** during 2019-2023, where the good practice achieved previously by the two main flagships - RECETOX and CEPLANT – were transferred and utilized. The progress at different Faculty units (including RECETOX and CEPLANT) is described above in detail (section 3.4). The successful applied research outcomes at other Faculty departments are highlighted below, supplemented with additional examples that could not be commented above due to word limitations:

- **onsemi** (ON Semiconductor wafers development for electromobility) developed and executed as a part of larger consortium at the **Department of Condensed Matter Physics** at the Faculty of Science, MU.
- generating data for nuclear safety in the Czech Republic and Central Europe through a monitoring of seismic activity established at the **Institute of Physics of the Earth** at the Faculty of Science, MU.
- international patents of furopyridines as inhibitors of therapeutically relevant protein kinases developed through collaborations between the **Department of Experimental Biology** and **Department of Chemistry** that are being exploited by a spin-off company CasInvent Pharma a.s.
- development of patented biologically active elements (thermostable FGF2 polypeptide, renilla-type luciferase) and their marketing through collaborations between **Department of Experimental Biology, RECETOX**, and the spin off Enantis, s.r.o.
- certified methodology assessing the Impact of technical snowmaking on biological components of the natural environment resulting from the Technology Agency awarded project of the **Department of Botany and Zoology (ÚBZ)**. The other scientists of the ÚBZ department also authored other certified applied methodologies (reference for protecting natural fungi species - 2020; methodology for assessing the impact of stream drying on the biodiversity of flowing waters for targeted design of interventions and measures – 2021)
- patents of nuclease inhibitors (substituted aminothiazoles) with potential applications in future treatment of chronic diseases developed at the **Department of Chemistry**

- open-source software packages and software libraries developed e.g. at **Department of Mathematics and Statistics** allowing for efficient computing and utilization in industry (Technology Agency supported projects, e.g. OEFPIIL - innovative regression method Optimum Estimate of Function Parameters by Iterated Linearization).
- 2. Faculty of Science also benefited from continuous improvements and extended collaboration with the MUNI TTO,** addressing comments received during previous evaluation. This is documented by following premier examples (see section 3.5).
- licencing to Artios Pharma Ltd – €1,2M in contracted research and €240k in royalties.
 - the establishment CasInvent Pharma a.s. – orders contract research from SCI MUNI in about €200k per year.
 - marketing of patented thermostable peptides through Enantis company – royalties over €90k.
 - the initial steps in marketing of Caviplasma technology co-authored by SCI MUNI scientists – licence fees €2640.
 - licencing fees over €10k for software developed at the Geographical Institute through Altimapo company
- 3. In 2019-2023, Faculty of Science demonstrated major progress in international recognition.** The notable SCI MUNI's recognition improvements include:
- **international awards** - while during previously assessed period, no major international awards could be identified/reported, during 2019-2023, several esteemed academic members of the Faculty of Science received highly respected European awards (Prof. Jiří Fajkus was honored as an EMBO Member in 2021; Prof. Jana Klánová received the Doctor Honoris Causa award in 2023 from Örebro University, Sweden; Prof. Norbert Werner was awarded the Ignaz L. Lieben Award in 2021 by the Austrian Academy of Sciences).
 - **international projects and grants at multiple departments**– during the previous period 2014-2019, the international grants were dominantly awarded to the RECETOX centre at SCI MUNI. This has shifted in the current period 2019-2023 during which project office at SCI MUNI was strategically supported by the faculty management. This investment already returns as documented by international grants (H2020, HEU, EU LIFE) awarded to multiple Faculty departments (main beneficiary in the CZ - 22 grants, other contributions – 24 grants) – Department of Experimental Biology, Dept of Theoretical Physics and Astrophysics, Department of Mathematics and Statistics, Department of Botany and Zoology, Department of Geography.
- 4. Major progress** has been made in **communication and popularization of science** by the SCI MUNI staff and students at multiple platforms and levels. The faculty experienced a more than two-fold increase in the number of visitors to popularizing events. More engaging advertising of the Science Festival contributed to attracting more visitors with interest to SCI MUNI. The faculty's PR department also worked on increasing the faculty's visibility through online media. Contributing as Starmus' partner is expected to increase the popularity and recognition of the faculty even more in the following years.

A LIST OF SUPPORTING DOCUMENTS AND LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
2.1 Mendel Lectures website	3.2	https://mendellectures.muni.cz
2.2 Seminar Series website	3.2	https://seminarseries.muni.cz
2.3 Innovative Lectures website	3.2	https://innolec.sci.muni.cz
2.4 Conference website	3.2	https://www.mendel22.cz/conference
3.1 Large infrastructures website	3.3	https://www.vyzkumne-infrastruktury.cz/en/roadmap-of-large-research-infrastructures-of-the-czech-republic
3.2 European Vegetation Archive website	3.3	https://euroveg.org/eva-database
3.3 Antarctic research website	3.3	https://carp.sci.muni.cz
3.4 Contracted research table	3.3	https://muni.cz/go/540c62
4.1 Seismological monitoring – open data website	3.4	https://www.ipe.muni.cz/en/opendata
4.2 Environmental data warehouse repository website	3.4	https://www.genasis.cz/index-en.php
4.3 Global Monitoring POP Data Warehouse website	3.4	https://data.pops-gmp.org/2020/all/#/gmp3/spatial-distribution
4.4 Chemical – potential drug available via vendor website	3.4	https://www.sigmaaldrich.com/CZ/en/product/sigma/sml2713
4.5 Patent - potential drug	3.4	https://muni.cz/go/f7f805
4.6 Patent – biotechnology invention	3.4	https://muni.cz/go/6b3395
4.7 Patent – biotechnology invention	3.4	https://muni.cz/go/873c13
5.1 Open technologies for collaboration	3.5	https://www.muni.cz/en/research/large-research-infrastructure-projects
6.1 Popularization series Czech TV	3.6	https://www.ceskatelevize.cz/porady/13608570834-za-oponou-prirody

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Arts

FORD: 6 - Humanities and the arts

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The Faculty of Arts is an institution with more than a 100-year history. The number of R&D&I staff in 2023 (the last year of the evaluated period) was 412 (329,75 FTE).

The faculty covers all the traditional areas of humanities. It also contains the following 3 departments from Social Sciences:

- the Department of Educational Sciences (FORD 5.3),
- the Department of Information and Library Studies (FORD 5.8) and
- the Department of Psychology (FORD 5.1).

Within FORD 6 (Arts and Humanities), there are 20 departments. Their areas of expertise align with the traditional subdivisions within Arts and Humanities.

Within FORD 6.1 (History and Archeology), there are 3 departments

- Dept. of Archeology and Museology,
- Dept. of History, and
- the Dept. of Auxiliary Historical Sciences and Archive Studies.

Within FORD 6.2 (Languages and Literatures), there are 9 departments

- Asia Studies Centre,
- Department of Classical Studies,
- Department of Czech Language,
- Department of Czech Literature,
- Department of English and American Studies,

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

- Department of German, Scandinavian and Netherland Studies,
- Department of Linguistics and Baltic Languages,
- Department of Romance Languages and Literatures,
- Department of Slavonic Studies.

FORD 6.3 (Philosophy, Ethics and Religion) contains 3 additional departments.

- Department for the Study of Religions,
- Department of Aesthetics,
- Department of Philosophy.

The remaining 5 departments fall into FORD 6.4 (Arts). These are

- Department of Art History,
- Department of European Ethnology,
- Department of Film Studies and Audiovisual Culture,
- Department of Musicology and
- Department of Theatre Studies.

The societal function of the faculty falls into two broad areas, education and research. As for **education**, the 23 departments jointly implement 61 undergraduate study programs, 75 Master's programs, 58 Doctoral programs and 38 Life-Long Learning Courses. The total number of students in these programs was 17.473 over the evaluated period (2019-2023).

Our **research** responds to societal challenges and contributes to their solutions. The research addresses complex issues like communication, religion, education, cultural heritage and identity. The results are findings that help societies navigate complex problems and make informed decisions.

To fulfill this ambition of our research, we aim at attracting and retaining top researchers, while motivating all departments to develop in their research capacity. We want to deepen international collaboration, be involved in European-level projects and involve doctoral students in research, thereby contributing to the education of next-generation scientists.

Regarding the dichotomy between basic and applied research, basic research prevails. However, Table 3.3.1 shows a growing amount of funding within the NAKI program (a Ministry of Culture program to support applied research in the field of national and cultural identity) and there is a fluctuating but relatively stable funding from the Technology Agency of the Czech Republic, the main agency supporting applied research in the Czech Republic (Table 3.3.1). The faculty also has a relatively small but raising income from contract research (447 thousand EUR in 2023), coming mostly from geological surveys by the Department of Archeology.

Research at the faculty aligns with current trends in the humanities, which allows us to unify research strands across departments and create meaningful research clusters capable of applying for larger funding. A part of the research at the faculty is aimed at **the investigation, interpretation and protection of cultural heritage**. Some of the strongest players in this type of research at the faculty are the Department of Art History, which has, among others, held an [ERC grant](#) (Matthew Rampley), and an [MSCA RISE](#) grant (Ivan Foletti). Another strong player in this domain is the Department of Archeology, which has, in the relevant period, held a prestigious domestic grant "EXPRO" (Jiří Macháček). The two departments are now both involved in [a large domestic grant](#) investigating the long-term resilience of human culture (a 5-year grant worth approx. 17 mil. EUR). The faculty supports this type of research at the central level by operating three field stations for archeological research.

The second strand of research belongs to **Digital Humanities**. Through its participation in a national-infrastructure project LINDAT/CLARIAH, the faculty offers a [digital repository](#) for a long-term storage, protection and investigation of unique data sets created at the faculty, contributing to a more general goal of data FAIRification (one of the tenets of Open Science). This repository is supported centrally, and all departments may use the infrastructure. At the departmental level, one of the leaders in this type of research is the Department for the Study of Religions, whose [Center for the Digital Research on Religion](#) is currently implementing an ERC project (David Zbiral). Another type of research in Digital Humanities pertains to natural language processing. One example is the ongoing project "[Opravidlo](#)" [a corrector], aiming to provide an AI-powered version of an online spell-checker (Hana Žižková). The project has been supported by OSCARS, a four-year Horizon Europe scheme that aims to foster the uptake of Open Science in Europe.

The third broad domain of research is **Experimental research in the humanities**. The faculty supports this type of research centrally through [HumeLab](#), a laboratory for experimental research within humanities. This facility is frequently used by two major research groups. One of them is the [Laboratory for Information and Cognitive Sciences](#), hosted by the Department of Information and Library Studies. The second one is the [Laboratory for the Experimental Research on Religion](#), hosted by the Department for the Study of Religions.

The fourth and final strand of research focuses on the **identification and investigation of societal risks, as well as developing techniques for their mitigation and elimination**, leading to a more resilient society. The major player in this area is the Department of Educational Sciences. This department (Klára Šedová) is deeply integrated into a research cluster called The National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (abbreviated as [SYRI](#)). We include in this area also some of the research that is done within the linguistic departments at the faculty, six of which currently collaborate on a Ministry of Education [grant](#) worth approx. 6 mil. EUR (Pavel Caha).

 Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	33,5/7,1	33,6/7,0	34,8/7,9	36,9/9,3	39,5/9,7	35,7/8,2
Associate Professor	77,5/29,8	80,2/31,9	81,1/29,9	81,7/29,4	82,3/27,8	80,6/29,8
Assistant Professor	132,2/61,5	136,0/62,9	134,7/65,1	131,0/60,1	131,3/62,2	133,1/62,4
Assistant	17,9/8,8	18,0/9,5	17,4/9,7	18,3/12,4	17,9/11,2	17,9/10,3

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

R&D Personnel ³	-	-	-	-	-	-
Researchers in other categories ⁴	40,6/19,3	40,7/18,9	41,5/18,4	44,4/20,8	53,1/27,1	44,1/20,9
Technical and economic staff ⁵	20,7/13,0	18,1/10,7	17,9/10,9	18,2/11,3	18,7/12,7	18,5/11,5
Scientific, research and development staff involved in teaching activities	296,5/133,9	306,2/140,6	305,5/141,3	306,0/140,7	311,5/141,4	305,1/139,6
Early career researchers ⁶	89,7/45,2	97,4/51,3	94,5/50,0	91,4/48,5	100,3/56,4	106,8/56,3
Total ⁷	322,3/ 139,6	326,7/ 141,0	327,6/ 142,0	330,5/ 143,2	342,8/ 150,8	329,8/ 143,1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	1	0	6	0	13	1	11	3	10	4
Associate Professor	0	0	3	0	44	13	13	6	21	12	4	2
Assistant Professor	1	0	51	31	70	31	17	8	11	2	0	0
Assistant	5	3	10	3	7	3	1	1	1	1	1	0
R&D Personnel ⁹	-	-	-	-	-	-	-	-	-	-	-	-

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

Researchers in other categories ¹⁰	14	4	42	19	14	8	2	0	1	0	2	0
Technical and economic staff ¹¹	20	9	11	7	1	0	2	2	1	0	0	0
Scientific, research and development staff involved in teaching activities	11	6	79	43	145	64	49	20	46	20	17	7
Early career researcher ¹²	16	5	83	42	22	13	1	0	2	1	0	0
Total ¹³	40	16	118	60	142	55	48	18	46	18	17	6

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	8	2	15	2	13	6	8	0
Associate Professor	0	0	1	0	46	13	21	7	20	10	3	1
Assistant Professor	0	0	36	15	71	40	30	14	11	4	0	0
Assistant	1	1	15	8	6	2	3	2	0	0	0	0
R&D Personnel ¹⁵	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁶	23	17	38	20	20	6	2	0	1	1	1	0
Technical and economic staff ¹⁷	7	5	9	2	5	5	3	3	1	1	0	0
Scientific, research and development staff involved in teaching activities	8	6	61	29	148	76	76	31	52	25	11	1

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

Early career researcher ¹⁸	27	20	74	38	33	19	2	2	2	1	0	0
Total ¹⁹	31	23	99	45	156	68	74	28	46	22	12	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	3861	2839	4003	2895	3938	2843	3941	2823	4100	2915	10055	7130
Master's ²⁰	1743	1376	1785	1389	1832	1435	1780	1339	1800	1371	4736	3678
Doctoral	612	357	599	361	597	361	568	345	493	294	1045	648
Lifelong Learning Courses	271	209	209	146	196	153	262	189	568	429	1637	1150
Total	6487	4781	6596	4791	6563	4792	6551	4696	6961	5009	17473	12606

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	55/1		58/1	1	58/1	1	61/2	2	61/2	2	61/2	2
Master's	58/2		62/3		71/3	2	71/3	2	72/3	2	75/3	2
Doctoral	21/1		36/2		46/3		58/3		57/4		58/4	
Lifelong Learning courses	13		13		13		14		30		38	
Total	147/4		169/6	1	188/7	3	204/8	4	220/9	4		

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	1,7
	1.2 Computer and information sciences	0,4	Basic Research	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences	0,8	Basic Research	
	1.6 Biological sciences		Zvolte položku.	
	1.7 Other natural sciences	0,5	Balanced basic and applied research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	0,4
	2.2 Electrical engineering, Electronic engineering, Information engineering	0,4	Balanced basic and applied research	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	0,3	Basic Research	0,7
	3.2 Clinical medicine	0,2	Basic Research	
	3.3 Health sciences	0,2	Balanced basic and applied research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	0,2	Applied Research	0,2
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	6,4	Basic Research	21,2
	5.2 Economics and Business	0,2	Basic Research	
	5.3 Education	9,1	Basic Research	
	5.4 Sociology	1,3	Basic Research	
	5.5 Law	0,4	Basic Research	
	5.6 Political science	0,2	Basic Research	
	5.7 Social and economic geography	0,9	Balanced basic and applied research	

	5.8 Media and communications	2,4	Balanced basic and applied research	
	5.9 Other social sciences	0,3	Balanced basic and applied research	
6. Humanities and the Arts	6.1 History and Archaeology	20,4	Basic Research	75,8
	6.2 Languages and Literature	32	Basic Research	
	6.3 Philosophy, Ethics and Religion	7,1	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)	15	Basic Research	
	6.5 Other Humanities and the Arts	1,3	Basic Research	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

This section provides the faculty with the opportunity to list a maximum of 40 entries exemplifying the recognition of our researchers within the scientific community (10 achievements per category, four categories in total). While the faculty has several strong individuals that could have easily been mentioned many times in these lists, our goal was to demonstrate not only the recognition of the top scientists at our institution, but also the breadth and the depth of the institution. Therefore, we didn't list any single individual researcher more than two times across all categories (even if that meant including less prestigious results). In effect, the tables below list the individual successes of 36 different academics representing almost three quarters of our departments (17/23).

Within the individual categories, we chose the following criteria of quality for listing.

- For prizes (3.1.1), we list them according to the perceived prestige.
- For editorial boards (3.2.2), we only provide journals listed in WOS and or/Scopus, giving preference to journals with higher quartiles over lower quartiles.
- For invited lectures by our academics (3.2.3), we list lectures delivered at the institutions with the highest rank in the "QS World University Ranking"
- For invited lectures from other universities (3.2.4), we again ranked speakers by the highest QS rank
- For participation in the evaluation of grant programs (3.2.5), we gave preference to listing panel membership over single-grant reviews. Within categories (panel membership/single review), we give preference to international over national providers.

In the remainder of this section, we comment in more detail on the R&D&I Awards in 3.2.1. The first three awards have been chosen for their high prestige within the Czech Republic. They are awarded to senior academic figures, who have achieved major success in their careers.

The Czech Science Foundation President's award is awarded by the President of the Czech Science Foundation since 2003 as an appreciation of outstanding results achieved within projects funded by the agency. For a given year, a single prize is awarded within Social Sciences and Humanities. **Klára Šedřová** has received the prize for her project on how student's participation in the class correlates with their school performance. The prize has been one of the steppingstones that has propelled her into her current role of the scientific director of The

National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI), which we further describe in 3.3.3.

The Czech Head is originally a private enterprise project that was created in 2002 with the aim of popularizing science and increasing the social prestige of Czech scientists as the main creators of the country's economic prosperity. The presentation of the prizes is broadcast by Czech Television. In the course of time, some state organizations have also joined this project (Ministry of Industry and Trade, Academy of Sciences, Ministry of Education, Youth and Sports, etc.), which further boosted the prestige of this project, which has become popularly nicknamed the "Czech Nobel Prize" in the media. **Jiří Macháček** has been awarded this prize for his discoveries related to the first writing system of the Slavic peoples on the territory of today's Czechia, as well as for the methodological contributions to Czech archeology in general. Jiří Macháček is currently heading a large 5-year project worth 17 mil. EUR, focused on elucidating the basic principles of the resilience of human society in a historical perspective. We describe one of Jiří Macháček's projects in Section 3.3.

Silver Commemorative Medal of the Charles University. Prof. PhDr. Jiří Kroupa, CSc. received the medal for significant work in the field of art history and long-term scientific cooperation with Charles University. Prof. **Jiří Kroupa** (currently in his 70s) has contributed greatly to the current successful era of the Department of Art History, which hosts one of the ERC grants at the faculty as well as an MSCA RISE grant, both discussed in 3.3.

The two subsequent awards represent achievements of our young academics. **Martin Lang** -- who received the 2019 Early Career Award by the International Association for the Psychology of Religion -- is one of our most promising young-generation scientists, a head of the [LEVYNA](#) laboratory, and currently the PI on the prestigious "JUNIOR Star" grant from the Czech Science Foundation. **Marcin Wągiel** has received the E. W. Beth Dissertation Prize from the Association for Logic, Language and Information (FoLLI) for his outstanding 2020 dissertation (completed at the faculty). After a brief period abroad, Marcin Wągiel has returned to Brno and went on to receive two consecutive standard grants from the Czech Science Foundation, and he is currently involved as one of the key researchers in a large project (worth cca 6 mil. EUR) studying languages and language learning through the individual's life span, including the challenges that multilingual settings bring into the picture.

The awards listed on lines 5-9 represent the appreciation of the work our foreign-language departments are doing in the area of specific languages, maintaining relations with the respective cultural centers, and contributing to a scientific communication and exchange at the highest level. The last distinction mentioned is an honorary doctorate for prof. **Milan Pol**. We did not consider fellowships (e.g., von Humboldt fellowships, Fulbright fellowships, etc., in this category).

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution

prof. Mgr. Klára Šedová, Ph.D. (Dept. of Education Sciences)	THE CZECH SCIENCE FOUNDATION PRESIDENT'S AWARD FOR OUTSTANDING RESEARCH, 2021	Czech Science Foundation
prof. Mgr. Jiří Macháček, Ph.D. (Dept. of Archeology and Museology)	Česká hlava. Cena Invence. (The Czech head. The Invention Award.)	Česká hlava PROJEKT z.ú.
prof. PhDr. Jiří Kroupa, CSc. (Dept. of Art History)	Silver Commemorative Medal for significant work in the field of art history and long-standing scientific cooperation with Charles University	Charles University
doc. Mgr. Martin Lang, Ph.D. (Dept. of Religion Studies)	2019 Early Career Award by the International Association for the Psychology of Religion	International Association for the Psychology of Religion
Mgr. Marcin Wągiel, Ph.D. (Dept. of Czech Language)	E. W. Beth Dissertation Prize, 2020	Association for Logic, Language and Information (FoLLI)
prof. Petr Křloušek (Dept. of Romance Languages & Literatures)	ICCS Honorary Award	The International Council for Canadian Studies
Mgr. Roman Madecki, Ph.D. (Dept. of Slavonic Studies)	The Bene Merito Honorary Badge	Ministry of Foreign Affairs, Republic of Poland
doc. Mag. Vaidas Šeferis, Dr. Phil. (Dept. of Linguistics and Baltic Studies)	The Martynas Mažvydas Prize	Ministry of Culture of the Republic of Lithuania
Mgr. Renáta Buchtová, Ph.D. (Dept. of Slavonic Studies)	The National Education Commission Medal	Ministry of National Education, Republic of Poland
prof. PhDr. Milan Pol, CSc. (Dept. of Education Sciences)	Honorary Doctorate	University of Latvia

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Mgr. Roman Švaříček, Ph.D. (Dept. of Education Sciences)	European Journal of Teacher Education, ISSN 0261-9768
Zuzana Hofmannová, Dr. rer. nat. (Dept. of Archeology and Museology)	Communications Biology, ISSN 2399-3642, Nature
Prof. Mgr. Jan Chovanec, PhD. (Dept. of English and American Studies)	Journal of Pragmatics, ISSN: 0378-2166
doc. Wei-lun Lu, Ph.D. (Asia Studies Center)	Asian-Pacific Journal of Second and Foreign Language Education, ISSN 2363-5169
doc. Mgr. Rostislav Niederle, Ph.D. (Dept. of Aesthetics)	ORGANON F, ISSN 1335-0668
doc. Mgr. Markéta Ziková, Ph.D. (Dept. of Czech Language)	Journal of Slavic Linguistics, ISSN 1068-2090
prof. Ivan Foletti, MA, Docteur es Lettres, Docent in Church History (Dept. of Art History)	Eikón Imago, ISSN-e: 2254-8718
prof. Radek Čech, Ph. D. (Dept. of Czech Language)	Glottometrics, eISSN 2625-8226.
doc. Mgr. Petra Mutlová, M. A., Ph.D. (Dept. of Classical Studies)	Keria: Studia Latina et Graeca, Print ISSN: 1580-0261, Online ISSN: 2350-4234

Julia Secklehner, M.Phil., Ph.D. (Dept. of Art History)	Journal of Austrian-American History , ISSN 2475-0905

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Mgr. Bc. Magdaléna Rychetská, M.A., Ph.D. (Asia Studies Center)	A New Catholic Prime Minister in Taiwan: Domestic and International Implication	National University of Singapore, the Asia Research Institute , Initiative for the Study of Asian Catholics: Round Table	2023
prof. Ivan Foletti, Ph.D. (Dept. of Art History)	Decolonizing the Late Antique South Caucasus. Images, Performances and Experiences	Columbia University, New York, Bettmann lecture series	2023
doc. Mgr. Pavel Caha, Ph.D. (Dept. of Czech Language)	Syncretism as a tool for probing syntactic structure: the case of gen.sg = nom.pl	University of California Los Angeles	2022
doc. Dr. phil. Peter Milo (Dept. of Archeology)	Byzantine Influences on the Urban Development of the Early Medieval Bulgarian Capitals Pliska and Preslav: A Comparative Study Based on Geophysical, Archaeological, and Historical Sources	Dumbarton Oaks – Trustees for Harvard University	2022
Mgr. Marie Hanzelková, Ph.D. (Dept. of Czech Literature)	Tiny Treasures: Czech Broadside Ballads, Content, Forms and Interdisciplinary Research	University of California Santa Barbara	2022
doc. Mgr. Elena Krejčová, Ph.D. (Dept. of Slavic)	Political Correctness and Language of the Media – Before 1989 and Nowadays	University of Toronto, Canada	2020
doc. Mgr. David Kalhous, Ph.D. (Dept. of Auxiliary Historical Sciences and Archival Science)	Building monarchy, building ecclesiastical organization: the early Přemyslid monarchy (X-XII c.)	Université Paris-Sorbonne	2019
Prof. Matthew Rampley, PhD. (Dept of Art History)	The Architecture of Reaction	University of Durham Centre for Visual Arts and Criticism	2019
Mgr. Marta Filipová, PhD. (Dept. of Art History)	“Global, post-imperial, or national? Austrian, Hungarian and Czechoslovak pavilions at interwar world's fairs”	University of Alberta, Edmonton	2019
prof. Martin Wihoda (Dept. of History)	Die Anfänge der modernen Geschichtsschreibung in den böhmischen Ländern	Humboldt Universität zu Berlin (Carl-Erdmann-Colloquium)	2019

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year

Prof. Bryan Ward-Perkins	University of Oxford	Two Different Ways of Viewing the End of Roman Civilization	2019
Prof. Jonathan Bobaljik	Harvard University	Allomorphy in Chukotko-Kamchatkan Revisited	2019
Prof. Cameron Tonkinwise	Carnegie Mellon University	From Craft through Service to Transition: The nature of the Designers' powers	2021
dr. Christopher Kavanagh	University of Oxford	Ritualized trauma & social bonding: Examining the role of dysphoric ritual experience in generating social bonds, identity transformations and extreme pro-group behavior	2021
prof. Brian R. Jacobson	California Institute of Technology	The Studio: Environment, Aesthetic, Fantasy	2022
Prof. Whitney Davis	University of California, Berkeley	Art History and the Tyranny of Humanism	2022
dr. Erhao Ge	University College London	From Piety to Altruism: Exploring Religious Signalling and Prosociality in Evolutionary Anthropology	2022
Prof. Dame Marilyn Strathern DBE, FBA	University of Cambridge	Uncertain relations: Limits and possibilities	2023
prof. Yasutada Sudo	University College London	Relative atomicity	2023
Prof. Jason Gaiger	University of Oxford	Sculpture and the Haptic Imagination	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Prof. Matthew Rampley, PhD (Dept. of Art History)	Denmark's Independent Research Fund. Humanities and Social Sciences Panel, member	Denmark's Independent Research Fund	2021-2022
doc. Mgr. David Kalhous, Ph.D. (Dept. of Auxiliary Historical Sciences)	Marie Skłodowska-Curie Actions, panel member (since 2016), vice-chair (since 2021)	ERC	2019-2023
prof. Dr. phil. Jakub Mácha, Ph.D. (Dept. of philosophy)	HORIZON-MSCA-PF, project evaluator, 2019-2023	European Research Executive Agency, Dimitris Kaganis, project officer	2019-2023
doc. Mgr. Pavel Skopal, Ph.D. (Dept. of Film Studies)	reviewer	ERC Advanced Grant	2019
doc. Mgr. Denisa Nečasová, Ph. D. (Dept. of History)	reviewer	ERC grant	2022

prof. Mgr. Jiří Macháček, Ph.D. (Dept. of Archeology)	Government of Ireland Scholarship Programmes, Outer Board Assessment	Irish Research Council, Taighde Éireann – Research Ireland	2021-2023
prof. PhDr. Milan Pol, CSc. (Dept. of Education Sciences)	Evaluation of projects within EurioTechPostdoc2 programme	Marie Skłodowska-Curie program of EuroTech Universities Alliance	2021-2022
doc. Mgr. Čeněk Šašinka, PhD. (Dept. of Information & Library Studies)	SONATA BIS-14. Panel: HS6 (Human nature and human society)	National Science Centre (Poland)	2019
doc. PhDr. Luboš Bělka, CSc. (Dept. of Religion)	Head of the panel P401 Philosophy, Theology, Religious Studies	Czech Science Foundation	2019-2020
prof. PhDr. Daniela Urbanová, Ph.D. (Dept. of Classics)	Evaluation Panel P406 Linguistics and Literature, member	Czech Science Foundation	2020-2022

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

*As highlighted in 3.1, research at the faculty has the ambition to respond to societal challenges and contribute to their solutions. We strive for research excellence, internationalization and Open Science. The research strands fall into four broad areas. 1) Digital humanities, 2) Experimental research, 3) Interpretation and preservation of cultural heritage, 4) Societal resilience. This section highlights 10 research projects in these areas. We begin with 3 projects in **Digital Humanities**.*

DISSINET

(ERC, Consolidator grant, 09/2021-08/2026, PI: David Zbiral)

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

The project “Networks of Dissent: Computational Modelling of Dissident and Inquisitorial Cultures in Medieval Europe” ([DISSINET](#)), funded for 2021–2026 by an ERC Consolidator Grant and hosted at the [Centre for the Digital Research of Religion](#), is a flagship project of Masaryk University’s Faculty of Arts, impersonating its focus on the trending field of Digital Humanities. Within a team of 10 researchers, this international and deeply interdisciplinary project aims to:

1. raise the bar in the application of quantitative approaches in historical research by using state-of-the-art methods in close connection with the transformation of original sources into structured data;
2. remodel our knowledge of medieval religious dissidence, inquisition, and inquisition records by providing transparent answers informed by computational approaches;
3. theorize more general aspects of human social behavior in the premodern world based on relational data from inquisition records (e.g., exchange, mobility, gendered patterns in human agency and interaction, the formation and functioning of religious networks, etc.);
4. reach a new level of interdisciplinary cross-fertilization between history, social sciences, and computational methods of cultural data analysis.

The project helps to place the Faculty of Arts on the global map of computational humanities. It is devoted to boosting up the practical hands-on competence in digital methods of the broader community around the project, including main collaborations at the University of Turku (Finland), University of Bologna (Italy), and others.

Web-based orthographic, grammatical and typographic corrector for Czech
(Technology Agency of the Czech Republic, 02/2019-05/2022, PI: Dana Hlaváčková)

The project aimed to create a complex automatic proofreader for texts written in Czech, which corrects not only typos but also spelling, grammatical and typographical errors. The proofreader, called **Opravidlo**, is available in the form of a publicly accessible web interface, where users type the text as in a standard editor or upload a finished text file and submit it for correction. If desired, the user can see a more detailed explanation of why a given text sequence has been marked as erroneous.

The project was carried out in cooperation among Masaryk University, the Institute for Czech Language of the Czech Academy of Sciences and Charles University. The team also included business partners, Seznam.cz and Wikimedia ČR. Since the project's end, the proofreader has an average of 6,000 accesses (IP addresses) per month.

The team is currently working on a project called **Opravidlo 2.0** - within the Horizon Europe project OSCARS (2024–2026). The project is implemented in cooperation with the Natural Language Processing Centre of the Faculty of Informatics MU. The interdisciplinary team is working on integrating deep neural networks into the proofreader, significantly increasing its ability to correct language errors.

LINDAT/CLARIAH-CZ - Digital research infrastructure for language technology, arts and humanities

(01/2019-12/2022, Ministry of Education, PI: Michal Lorenz)

Within the Lindat/Clariah-CZ project, the Faculty implements the [Digitalia MUNI ARTS trusted repository](#) to ensure a long-term preservation and accessibility of research data, supporting

innovative digital research methods and education in Digital Humanities. The project led to the creation of a team with expertise in repository technology, research data management, data stewardship, and digital curation. This team assists research groups with grant proposals including Data Management Plans and projects implementation.

Between 2019–2023, the project developed a digital repository for humanities research, covering theatre studies, archaeology, film studies, literary studies, Romance studies, art history, and classics. Key achievements include the FAIRification of research data, metadata enrichment, enhanced search tools, and improved public access to Czech cultural and historical collections. The project also advanced Digital Humanities by developing linguistic tools, digital libraries, and text analysis methods. Major innovations include enriched historical text databases, 3D models and enhanced language processing tools, fostering interdisciplinary collaboration between humanities and computational sciences.

The project enhances research by providing FAIR-compliant humanities datasets, ensuring long-term accessibility and interoperability. Its digital platforms support scholars by offering structured, reusable research data. Beyond academia, the repository benefits memory and heritage institutions, educators, the private sector, and the public, fostering open access to Czech cultural heritage and promoting digital preservation efforts. Its international impact is reflected in collaborations with DARIAH, CLARIN ERIC and EOSC. The project is a joint effort of the Faculty of Arts, Faculty of Informatics, and Institute of Computer Science at Masaryk University and involves significant partnerships with LINDAT/CLARIAH [consortium](#) institutions, demonstrating the importance of interdisciplinary collaboration in advancing digital research.

*We now highlight two projects from the area of **experimental research**. Each of them is implemented by a particular research group at the faculty. The descriptions focus on one specific project and provide a narrative of how the project fits into the overall research of the respective groups.*

Augmented Social Play (ASP): smartphone-enabled group psychotherapeutic interventions that boost adolescent mental health by supporting real-world connection and a sense of belonging

(09/2023-08/2027, Horizon Europe, PI: Alžběta Šašinková)

Serving as the main financial coordinator, the Faculty of Arts helped secure funding for a €7.1M project under the Horizon Europe topic *Staying healthy in a rapidly changing society*. This success was driven by the ability to adapt to rapid developments in research. Years of groundwork by the [Laboratory for Information and Cognitive Sciences](#) (LICS), an informal transdisciplinary research group, laid the foundation for coordinating an international consortium of 10 partners from 6 countries and overseeing all consortium communication with the European Commission. During the reporting period, LICS broadened its expertise in XR (extended reality) through projects like teaching hypsography and English in VR, culminating in the ASP-belong project.

The ASP-belong team involves approximately 45 members from universities (including the University of Birmingham, with whom we share the management responsibilities, and Queen Mary University London, both in the global top 100), NPOs, and commercial partners. Its

ambitious aim is to develop a smartphone-based augmented reality intervention to enhance young people's sense of belonging and test its effectiveness in a clinical trial with 2,500 participants across the Czech Republic, the UK, and Portugal.

Since 2021, we have focused on building partnerships with experts from education, healthcare, government, and schools to ensure the project's impact. For example, collaboration with the Czech government ambassador for human rights and the NGO *Society for All* has helped align the intervention with Czech school system needs. And students at Husova Elementary School in Brno have co-designed the game through international workshops we conducted at home as well as abroad.

The evolution of ritual behavior as communication technology

(Grant Agency of the Czech Republic, 01/2018-12/2019, PI: Martin Lang)

Laboratory for the Experimental Study of Religion ([LEVYNA](#)) implemented in the evaluated period a project focusing on why people participate in extreme rituals that are often time-consuming, effortful, and even self-harming. Funded by the Czech Science Foundation, the project provided a methodological tool to integrate interdisciplinary evidence needed to answer the question at hand (see, [Lang & Kundt, 2020](#)), leading to an evolutionary model of human ritual behavior that synthesizes insights from evolutionary biology, human behavioral ecology, archaeology, economics, psychology, and religious studies and show that rituals evolved as signals of commitment to collective action ([Lang & Kundt, 2024](#)). This evolutionary model was published as a target article in WoS #1 journal in the category "Religion" (1/343), and prominent scholars provided commentaries on this evolutionary model (published in the same issue).

The theoretical work was followed by an experimental [project](#) funded by the Czech Ministry of Education, where we co-operated with Aarhus University to show that costly signals assort individuals to collective action ([Lang et al., 2022](#)), that this mechanism is even more powerful during inter-group conflict ([Lang et al., 2024](#)), and that religious signals work better compared to secular signals ([Chvaja et al., 2023](#)). Currently, this work is followed by a psychological [project](#) funded by GAČR where we investigate cognitive mechanisms underlying the decision to signal commitment, collaborating with an economist from Charles University and a religious scholar from Otago University. We found committed individuals perceive additional benefits from signaling (e.g., salvation in the case of religious rituals). Furthermore, this research endeavor is now continued in a prestigious [Junior Star project](#), where we use mathematical modeling to further understand the cognitive processes of cooperative decision-making.

*Next, we turn to the area of research labeled as **the preservation and interpretation of cultural heritage**. We include four projects in this category.*

Continuity / Rupture in Art and Architecture in Central Europe, 1918–1939

(4/2019 - 2/2024, ERC Advanced grant, PI: Matthew Rampley)

The CRAACE project, funded by an ERC Advanced Grant, was an investigation of social memory and redefinitions of religious and national identity in central Europe after 1918, as they were expressed in architecture and the visual arts. It examined the role of Catholicism as a cultural agent and as a bearer of the memory of the (defunct) Habsburg Empire, the formation of regional identities as counterweights to metropolitan modernity, and interwar exhibition cultures as vehicles of national self-(re)definition.

The project involved collaboration with a range of international partners, including: ETH (Zürich), the Institut national d'histoire de l'art (Paris), Belvedere Gallery (Vienna), ELTE (Budapest), EUI (Florence), the Museum of Decorative Arts (Prague) and the East Slovak Gallery (Košice). Major published outputs of the projects included: (1) English-language monographs with Cornell University Press (Veszprémi), Penn State University Press (Rampley), Routledge (Secklehner) and Central European University Press (Filipová); (2) articles in, amongst others, *Art History*, *Nationalities Papers*, *Architectural History*, *Visual Resources*, *Oxford Art Journal* and *The Journal of the History of Collections* (3) chapters in books with, amongst others, Bloomsbury, transcript, Böhlau and Routledge.

Research undertaken within the CRAACE project provided a platform for subsequent funded research projects on related topics, specifically, Czechs and the Colonial World (GAČR EXPRO, PI: Rampley, 2025–2030), *Beyond the Village: Folk Cultures as Agents of Modernity* (GAČR, PI: Filipová, 2024–2026), an Alexander Humboldt Fellowship (PI: Secklehner, 2024–2025) and a research fellowship with the Paul Mellon Centre for the Study of British Art (PI: Veszprémi, 2024–2025).

The Formation of Multi-ethnic Complex Societies in Early Medieval Moravia. Collective Action Theory and Interdisciplinary Approach

(Grant Agency of the Czech Republic, EXPRO, 01/2021-12/2025, PI: Jiří Macháček)

The EXPRO project FORMORE (2021–2025) is focused on social and ethnic group building, social structure and behavior, variation in the nature of leadership and the collective–autocratic variability of governance in Early Mediaeval Central Europe. The paradigm shift to collective action theory allows us to explain diversity and changes in early medieval society and integrate the data from Central Europe into the new stream of global comparative research into premodern state formations. Such research has the greatest potential to be part of a breakthrough in Early Medieval archaeology, which focuses on the period of the formation of the European nations and states. The key variable for understanding such social processes will be the scale and the nature of socioeconomic networks–e.g. kinship or the interplay between the powerful and the disempowered. The basis of the project is the comprehensive analysis of early medieval settlements and burial grounds in Moravia (Czech Republic). Archaeological and anthropological research will be enriched with new interdisciplinary approaches, such as archaeogenetics as well as digital morphometry. Ongoing results have been published in the top journals in the field and in the world's leading journals in general (*Nature*, *Journal of Archaeological Science*, *Journal of World Prehistory*, *Antiquity* etc.). Subsequently, these results sparked interest and were covered by some of the world's most important newspapers, such as *The New York Times*, *Newsweek*, *Süddeutsche Zeitung*.

The Department of Archaeology and Museology is the leading institution of the project, cooperating with its partner the Department of Anthropology and Human Genetics (UK, Prague). The archaeogenetics group is closely linked to the Max Planck Institute for Evolutionary Anthropology in Leipzig.

Observance Reconsidered: Uses and Abuses of the Reform (Individuals, Institutions, Society)
(Grant Agency of the Czech Republic, EXPRO, 01/2020-06/2025, PI: Petra Mutlová)

The project stems from the long-term key research area of the Department of Classical Studies. The team prepares critical editions of medieval Latin sources – mainly of Jan Hus, a seminal figure of the Czech Reformation, which paved way to the Reformation of the 16th century. This large project follows up on a series of previous editing projects of the team.

In the EXPRO project, the team led by P. Mutlová cooperates with Palacký University and an international team. The project uncovers social developments in Italy and Central Europe that advanced religious and spiritual innovations in the 15th century, which has hitherto been viewed as a period of decline. The project adopts two complementary strategies: a) editing primary sources which illustrate the tendencies of the reform (letters of John of Capestrano, treatises of Jan Hus, chronicles of the Franciscan order), and b) broader generalizations with respect to the development of the reform and its acceptance by society.

Significant outcomes of the project include 1. top-quality critical editions of Latin sources published by prestigious publishers (e.g. Brepols, Corpus Christianorum series); 2. a database of the Latin works of Jan Hus including data pertinent to the medieval transmission of these texts (list of texts and surviving manuscripts, digitized manuscripts, codicological data).

By tackling a variety of questions (construction of medieval dissenting communities, agencies behind negotiating religious and political tolerance in the late Middle Ages, or more specifically medieval preaching and university disputations as a vehicle of the reform), the project facilitates a better understanding of social changes in times of crises and offers a complex picture of a local phenomenon contextualized within the shared European cultural tradition.

Conques in the Global World. Transferring Knowledge: From Material to Immaterial Heritage (European Union's Horizon 2020 - Marie Skłodowska-Curie Actions, 2021–2024, PI: Ivan Foletti)

The “Conques” project, implemented by the Center of Early Medieval Studies (CEMS), centered on the richly layered historical site of Conques, France. It addressed two fundamental themes central to the research group: premodern material culture and historiography. These areas, refined through earlier interdisciplinary projects (*Migrating Art Historians; The potential of migration; Cultural Interactions in the Medieval Subcaucasian Region*), converge in Conques, a site where European medieval art and identity were constructed and redefined across centuries.

Designed by the CEMS team, which coordinated a consortium of European and US institutions (e.g. Max-Planck-Institute for Art History, Rome; CUNY Graduate Center, NY; CNRS, Poitiers), the project pioneered a multidisciplinary framework for investigating historical sites. Conques, with its continuous history of reinvention from the ninth to the twenty-first century, provided a prime case study. Combining epistemology of art history, technical art history, and digital humanities, the project critically examined how a site's material reality interacts with reinterpretations — through narratives, restorations, and myths. This methodology challenges the notion of an objective historical vacuum, recognizing that layers of historical storytelling and modern projections are, together with material reality, intrinsic to understanding the past.

This approach, adaptable to other historical sites, offers a transferable model for identifying, deconstructing, and communicating historical myths to scholarly and public audiences. Since

many historical landmarks also function as spaces of touristic reinvention, the “*Conques*” project emphasized outreach through diverse media, including documentaries, illustrated guides, and public events aimed at both local communities and global audiences.

“*Conques*” methodology and results have drawn significant scholarly attention and public engagement. Its core principle — that premodern studies must constantly integrate the impact of modern reinterpretations — continues in the Ministry of Education-funded project “*Ready for the Future*” (2024–2028), where the CEMS team explores how modern reinventions of historical narratives shape contemporary society and cultural memory.

*The last area of research has been labelled **Social resilience**. We list one project in this category but note that three additional large projects are currently investigated at the faculty (one represents a joint effort by the language departments, one is a joint effort between the departments of archeology and art history.)*

The National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI).

(NPO EXCELLES, Ministry of Education, 06/2022-12/2025, PI: Klára Šedřová)

Research activities within the National Institute SYRI project are conducted at the Faculty of Arts by the Department of Educational Sciences (hereinafter DES). As part of the SYRI project, researchers from DES are mapping factors contributing to educational inequalities and exploring ways to mitigate them. They are also examining the impacts of various crises on education and promoting social resilience through education. Thematically, these efforts align with previous projects:

Within the National Institute SYRI project, researchers at DES engage in a variety of research activities:

1. **Panel 150:** A panel survey involving a sample of students from 150 primary schools, aimed at identifying predictors of students’ cognitive outcomes, well-being, and teachers’ occupational health.
2. **Support for Disadvantaged Students:** The impact of post-COVID support measures on schools with a high proportion of socioeconomically disadvantaged students.
3. **Ukrainian Refugees:** The adaptation of Ukrainian refugees in Czech schools and its effects on the health of both students and teachers.
4. **Early-Career Teachers:** A survey of competencies and attitudes among beginning teachers.
5. **Youth Research:** Young people's perceptions of current societal challenges.

These activities are carried out in collaboration with the Faculty of Education at Masaryk University, the Faculty of Education at Charles University, the Institute of Psychology, and the Institute of Sociology of the Czech Academy of Sciences. The research is interdisciplinary and inter-institutional in nature.

During the project’s implementation, Faculty of Arts researchers involved in the SYRI project have published numerous outputs, including 12 articles in Q1/Q2 journals according to WoS/Scopus.

An essential component of the project is the communication of results to decision-makers and stakeholders at both regional and national levels.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
TAČR Technology Agency of the Czech Republic	-	10 120/ 399	14 459/ 570	21 701/ 856	17 912/ 707	13 652/ 539
GAČR Czech Science Foundation	-	48 233/ 1 903	45 246/ 1 785	50 443/ 1 990	43 720/ 1 725	44 812/ 1 768
Ministry of Culture	NAKI	4 055/ 160	7 059/ 278	7 469/ 295	7 272/ 287	8 021/ 316
Ministry Of Education, Youth And Sports	OP VVV	8 609/ 340	14 927/ 589	26 847/ 1 059	22 174/ 875	4 452/ 176
Ministry Of Education, Youth And Sports	NPO EXCELES – National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI)	0	0	0	3 065/ 121	6 002/ 238
EU	H2020 ERC-2017-ADG – CRAACE - Continuity and Rupture in Central European Art and Architecture, 1918- 1939 — CRAACE (CRAACE)	22 144/ 874	16 146/ 637	0	10 509/ 415	0
EU	H2020_MSCA-RISE-2020 - Conques in the Global World. Transferring Knowledge: from Material to Immaterial Heritage	0	13 430/ 530	0	0	5 014/ 198
EU	H2020- ERC Consolidator Grant- Networks of Dissent: Computational Modelling of Dissident and Inquisitorial Cultures in Medieval Europe (DISSINET)	0	0	17 687/ 698	0	11 710/ 462
EU	MSCA-IF-2020 - Demarginalizing Medieval	0	0	2 551/ 101	0	0

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

	Georgia: History of Art History between Colonial Perspective and Nationalist Appropriation (1921–1991)					
EU	HORIZON-HLTH-2022-STAYHLTH-01-01-two-stage-Augmented Social Play (ASP): smartphone-enabled group psychotherapeutic interventions that boost adolescent mental health by supporting real-world connection and sense of belonging (101080665)	0	0	0	0	25 893/ 1 021
Total		93 161/ 3 675	111 267 / 4 389	126 698 / 4 998	104 652 / 4 128	119 556/ 4 716
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
TAČR Technology Agency of the Czech Republic	-	3 137/ 124	2 482/ 98	2 693/ 106	2 552/ 101	1 487/ 59
GAČR Czech Science Foundation	-	5 420/ 214	7 770/ 307	7 431/ 293	6 989/ 276	10 049/ 396
MŠMT_OP-JAK Ministry Of Education, Youth And Sports - Programme Johannes Amos Comenius	Beyond Security: Role of Conflict in Resilience- Building (CoRe)					1 012/ 40
Ministry of Culture	NAKI	2 336/ 92	3 473/ 137	3 826/ 151	2 680/ 106	1 563/ 62
Ministry Of Education, Youth And Sports	LM2018101 LINDAT/CLARIAH-CZ - Digital research infrastructure for language technologies, arts and humanities Digitální výzkumná infrastruktura pro jazykové technologie, umění a humanitní vědy	1 447/ 57	1 798/ 71	1 820/ 72	1 987/ 78	0

²⁷ Ibid.

Ministry Of Education, Youth And Sports	LM2023062-LINDAT/CLARIAH-CZ - Digital research infrastructure for language technologies, arts and humanities Digitální výzkumná infrastruktura pro jazykové technologie, umění a humanitní vědy	0	0	0	0	2 309/91
Total		12 340/487	15 523/612	15 770/622	14 208/560	16 420/648

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
	Geofyz. průzkum/prospekce (UAM) Geophysical survey/prospecting	3 086/122	3 071/121	4 767/188	6 855/270	11 987/473
UNI of Kentucky	Brno Longitudinal Study of Roma and non-Roma Youth	141/6	242/10	161/6		
Magistrát m. Jihlavy City Council of Jihlava	Výzkum klientských cest pro inovace služeb Magistrátu města Jihlavy Research of client paths for innovation of services of the City Council of Jihlava			240/9		
MŠP ČR Ministry of Justice (Czech Republic)	Redesign of web tlumocnici.justice.cz				133/5	
Total		3 227/127	3 313/130	5 168/204	6 988/276	11 987/473

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

²⁹ See Terms definition.

Self-assessment:

*The first two results described here are related to the area of **natural language processing** and to a team at the Department of Czech Language that develops these applications often through collaboration with the Faculty of Informatics. The gender dimension and sustainability is not relevant for these projects.*

1) Opravidlo (Software) [The project leading to the tool has been mentioned in 3.3.]

HLAVÁČKOVÁ, Dana, Hana ŽIŽKOVÁ, Vojtěch KOVÁŘ, Jakub MACHURA, Ludmila ŠIKULOVÁ et. al. 2022.

Opravidlo, accessible (in Czech only) at www.opravidlo.cz, is an advanced, rule-based online proofreader designed to enhance the accuracy and accessibility of Czech language proofreading. The tool corrects and explains errors in spelling, grammar, punctuation, typesetting, and diacritics restoration. This makes it particularly beneficial for students and non-native speakers, supporting their integration into Czech society. However, the Opravidlo is used across all age and education groups, and it has over 200 000 correction requests per month. Opravidlo contributes to human capital development in the Czech Republic by promoting language proficiency and supporting education. Its deployment at Masaryk University (MUNI) and its connection to the Internet Language Reference Book at the Academy of Sciences reinforce its credibility and long-term viability. From a research point of view, a unique concept of natural language algorithmization has been validated, which is currently being followed up by another MUNI research project that explores the connection between rule-based systems and machine learning. By combining high precision, user-friendly explanations, and institutional support, Opravidlo sets a new standard for Czech language proofreading, ensuring greater accuracy and accessibility for all.

2) CzechME (a language learning app)

HOLAJ, Richard, Dana HLAVÁČKOVÁ, et al. CzechME. 2021.

CzechME is a mobile application that helps foreign language learners master Czech (levels A0, A1, A2) using a form of m-learning. It was developed at the Department of Czech Language within the project TL01000342 Adaptable mobile application for teaching Czech to foreigners, within the framework of the ÉTA program of the Czech Technology Agency. The application was developed with a business partner EVE Technologies.

It provides users with over 200 lessons focused on spelling, grammar and vocabulary, strengthening their competence in listening, reading and writing. Compared to other applications of this kind, it also contains a module for practicing the correct pronunciation and it adapts to the individual user according to his or her successes and failures. In each lesson, the user encounters not only text, but also recordings of native speakers, photographs, images and the so-called visual grammar.

The application is primarily intended for complete beginners (levels A0–A2). A large part of the target group of users are applicants for permanent residence and Czech citizenship. In 2022, the group expanded to include refugees from Ukraine, for whom a translation of accompanying texts, vocabulary and instructions into Ukrainian has been prepared. The distribution of the application is ensured in cooperation with the Center for Foreigners JMK. Additional language variants can be implemented thanks to a new system that is now available.

The application is ready to be downloaded for free (demo version) and in full version for 290 CZK

(cca 12 EUR) from the website <http://czech-me.cz>. The application is also published on Google Play and the App Store in a free demo version (CzechME) and a full version for a fee (CzechME PRO).

*The following four applications belong in the **experimental humanities**. The DYSLEX platform has been developed by the Department of Education Sciences in close collaboration with the HumeLab facility. Two of the other results come from the Department of Information Science and Library Science. The final result has been produced by the Department of Psychology.*

3) The DYSLEX Platform (software)

Švaříček, R., Dostálová, N., Sedmidubský, J., Šašík, Č., Zezula, P., Culemann, W., & Dostál, A. (2023).

The DYSLEX platform is a software system developed for diagnosing dyslexia through the classification of eye movement data using modern machine learning techniques. In its development, six specific diagnostic tasks were devised during which the subject's eye movements are recorded. The captured data are then automatically processed to extract characteristic eye movement features, which are subsequently analyzed with various classification algorithms, including neural networks (MLP, Resnet18, ResNet50) and a nearest neighbor search method. The system outputs a detailed report with classification results and comprehensive information for each task. The algorithms were trained using eye-tracking data from 70 primary school students, achieving a classification success rate of up to 90 percent.

The entire system can be operated on a standard computer equipped with a monitor (resolution 1680×1050) and an SMI eye-tracker with a 250 Hz frequency. Primarily intended for use in educational-psychological counseling centers, the platform assists in diagnosing dyslexia in children aged 9 to 10 years. This result is the main outcome of the project funded by the Technology Agency of the Czech Republic, titled Diagnosing Dyslexia Using Eye-Tracking and Artificial Intelligence (DYSLEX).

The platform has been well received in practice, with its experimental use at PPP Brno demonstrating that the system simplifies diagnostic procedures and reduces their duration, an important benefit given the increasing number of dyslexic children. Published articles in the journal Dyslexia (Q1) further confirm the method's uniqueness and effectiveness (Švaříček et al. 2025, <https://dx.doi.org/10.1002/dys.1801>).

Research outcomes yield positive societal impacts by streamlining diagnosis, reducing costs, and broadening applications; gender considerations and prospects for mass deployment further support sustainability.

4) Information system to support the removal of barriers in the city (software)

MARTINEK, Jan, Ladislava ZBIEJCZUK SUCHÁ and Stanislav ŠKOP. 2021.

The information system for supporting the reduction of barriers in the city is a solution based on process analysis, qualitative research and user testing, which allows municipalities to collect suggestions on barriers in the city from citizens and effectively address them with the participation of all stakeholders. The benefit for IS users is the streamlining of the whole process

of addressing barriers in the city and its continuous documentation and evaluation. The system emphasizes robustness - components are interlinked and can be modified or replaced as needed and are relatively easy to move between technology infrastructure providers. The system is composed of two parts (public and non-public): the public part allows city residents to obtain information about the accessibility of the city, key routes and activities for citizens with specific needs and to input their suggestions on barriers experienced in the city. The non-public part allows stakeholders within municipalities to document and advance solutions to these barriers. A strong emphasis was placed on accessibility, gender sensitivity and inclusiveness of the system for users with different types of experiences and disadvantages (parents with strollers, mobility, hearing and visual impaired users), as input on barriers often comes from citizens with specific needs and representatives of these groups of citizens are often invited to participate in the process of addressing barrier routes. The result is currently being used by the Brno City Council Advisory Board for Barrier-Free Brno, the Health Department of the Brno City Council and the public. At the time of this description (February 2025) there were 51 active barrier issues in the IS that the Advisory Board is currently processing, while other issues were already closed. This output thus contributes to improving the accessibility of urban space in Brno from 2021 onwards.

5) The eDIVE platform - System for Collaborative Education in Virtual Environment (software)

ŠAŠINKA, Čeněk, Alžběta ŠAŠINKOVÁ, Zdeněk STACHOŇ, Vojtěch BRŮŽA and Jiří CHMELÍK. 2023.

The eDIVE platform is an application intended primarily for use in the field of education using immersive virtual reality, although it is also specifically designed for other domains, e.g. experimental research. The application was created within the framework of the applied research project "Education in Collaborative Immersive Virtual Reality".

For broad usability and sustainability, the toolbox includes educational scenarios and methodologies primarily designed for foreign language and geography education using collaborative immersive virtual reality (IVR). The entire system is deliberately designed for additional domains, such as experimental psychological research (e.g., wayfinding). In eDIVE, the visual representation of all participants was designed to eliminate stereotypes based on race, gender, physical appearance, and disabilities, while the limits to its inclusiveness were evaluated.

In the past, the system was used for instruction in courses such as *"Experimental Teaching Methods – English for Non-English Majors in Virtual Reality"* and tested at secondary schools' geography courses. The primary objective was to develop teaching methodologies that maximize the potential of collaborative learning in IVR and critically evaluate the limits of the technology.

The platform's architecture allows for the creation of thematically diverse scenarios. Currently, the upgraded eDIVE+ system is now used in a project involving performative arts (Chinese theatre) or in a distance-learning university program at MU as a tool for enhancing students' social cohesion, aiming to reduce the drop-out rate.

The eDIVE platform is made available as open source under the GNU LGPL-3.0 license at the following address: <https://gitlab.fi.muni.cz/grp-edive/edive-platform>. A related article has been published in [Computer Graphics](#).

6) Cognitive psychology and spatial syntax in a virtual environment for agent models.

APELTAUER, Jiří, Vojtěch JUŘÍK, Ondřej UHLÍK a Tomáš APELTAUER. Certification by Ministry of Transportation of the Czech Republic. 2022.

The method was created in cooperation between the Institute of Psychology and Brno University of Technology (Institute of Automation of Engineering Tasks) and is certified for application in the construction sector, especially in the design of buildings with an emphasis on the safety of people and property in buildings. The problem addressed is at the interface of machine learning (agent simulation) and human factors.

The methodology describes the procedure for creating a behavioral model within the framework of agent-based modeling of evacuation of people from buildings, using behavioral experiments conducted in virtual reality. The entire process includes several interconnected or parallel phases that represent assumptions about the future person in a building that is being designed, and for which the necessary safety aspects of evacuation must be considered. Based on the model prepared in this way, it is possible to simulate various evacuation scenarios, validate them and possibly iterate, which allows for a more accurate prediction of the evacuation process of a specific object.

The method is available to public and commercial entities involved in building design. Its application is aimed at reducing the risks associated with staying in public buildings in crisis situations, increasing the safety standards of protection of people and property and minimizing the costs associated with the construction of public buildings.

From a methodological point of view, the demographic composition of people in the agent simulation is key. Based on the observed differences in evacuation behavior between men and women, gender aspects are also considered, with the aim to optimize the evacuation process.

*The faculty, through its involvement in **the preservation of cultural heritage**, produces methodical guidelines (referred to as methods henceforth) for state institutions suggesting best practices for the preservation of cultural heritage. We list two examples below, both linked to the Department of Archeology. The gender aspect is irrelevant for both outputs.*

7) A method for pre-analytic sample selection

HRUBÝ, Petr, Karel MALÝ, Jarmila BÍŠKOVÁ, et al. 2021.

This certified method is an output of a Ministry of Culture grant within the "National cultural identity" NAKI II program scheme. Its purpose is to present approaches to pre-laboratory sample selection allowing a fast and feasible execution of analytical evaluation and examination of large sets of findings. Large collections are understood as collections numbering hundreds or thousands of findings, which are often not given enough attention due to their abundance and often (wrongly) assumed low information benefits. The aim of pre-laboratory selection is to enable the evaluation of the potential of large collections, while minimizing the financial, temporal and/or instrumental investment.

The target group of users of the submitted method are mainly workers of archaeological institutions conducting field archaeological research and scientific research based on the study

of archaeological material. Other users are workers of collecting institutions such as museums or universities working with archaeological findings in teaching, science and research. Potential users are also workers ranging from laboratories processing primary material to scientists working with relevant analysts and processing and interpreting the acquired data (on which the selection has a considerable influence).

The method is used in all relevant excavations conducted by the Department of Archeology. A potential wider use of the method is unclear since the document has been deposited with the Ministry of Culture, which does not report on its further use.

8) Prediction of suitable places for water retention dams based on historical abandoned dams

MAZÁČKOVÁ, Jana, Petr ŽAŽA and Andrej PÚČAŤ. 2021.

<https://dx.doi.org/10.5817/CZ.MUNI.M210-9911-2021>.

The certified method provides a procedure for builders of small water reservoirs that preserve elements of the cultural-historical landscape. The method concerns the use of defunct dams or water reservoirs that have been preserved in the cultural-historic landscape and their inclusion in new water management structures. The document describes a method of searching for these relics in the landscape and their possible reuse in newly built water management structures (retention reservoirs). The approach considers all the necessary actions, such as the identification of such structures in the terrain, their inclusion in the project documentation, and their treatment during the construction itself. The method also reviews the state legislation that is involved in the protection of the cultural-historic landscape.

The method is an output of the project TAČR ÉTA TL02000111 "Sustainable development of cultural landscapes and protection of historical monuments in forested environments" undertaken at the Department of Archaeology and Museology of the Faculty of Arts Masaryk University and was created based on the needs of Ministry of Environment of the Czech Republic and is accessible online. The method has been discussed with builders and subsequently used in practice during the project. The actual current use of the method is unclear since the document has been deposited with the Ministry of Environment, which does not report on its further use.

The faculty, through its involvement in Digital humanities, also produces digital collections of unique content, making the cultural heritage linked to our region accessible for research (and other uses) around the world. We present two such databases in the following paragraphs.

9) Beauty patterns (a database)

Vácha, J. – Svoboda, F. 2023.

This is [a database of historic fabric patterns](#) from the 16th to 19th centuries.

European weaving was exceptional in terms of quality and richness of designs. However, not many fabrics have survived. The fabrics were usually expensive and worn until destroyed. Fortunately for today's research, fabrics were not only used for profane purposes, but also for sacred purposes. Liturgical clothing was used more sparingly and less frequently, which is why the surviving pieces of liturgical clothing today represent one of the best sources of knowledge about the history of the weaving industry and the history of visual imagination associated with designing patterns.

The research focused on the area of the Brno diocese, whose historical fabrics have not yet been comprehensively researched. It is one of the most interesting collections in the Czech Republic, although previously undescribed and scattered in individual parishes. Many of the patterns studied seem to have survived only in this corpus.

Research and catalogues of historical textiles have so far been produced only sporadically in Czechia. One of the exceptions in this area is the catalogue of Jiří Vácha, who used the technological description promoted by the Lyon-based organization [CIETA](#) and the Swiss [Abegg-Stiftung](#). The Patterns of Beauty database builds on these outputs in terms of methodology, structure and authorship.

The database potentially reaches different interested parties. Historians and researchers gain a source of information on the history of the textile industry. Designers and art students get a new field of inspiration for their work, fabric manufacturers can expand their current production portfolio with both exact replicas and new designs, inspired by older patterns. Parish administrators can better identify the period of surviving historic fabrics in their parishes. Conservation officers can use the database for their restoration recommendations.

10) Projectiles. A database presenting Late Eneolithic and Early Bronze Age projectiles from selected Czech and Slovak sites

Kaňáková, L - Nosek, V 2021

The [Projectiles](#) database enables access to the collection of arrowheads, mainly from the Early Bronze Age. Later, a set of wrist guards was incorporated.

The basis of the database consists of records of projectiles (arrowheads) & wrist guards together with their [respective metadata](#) and visualizations (photographs and 3D models as accompanying image files).

This online database was created to present in full the research data of the project “Archer’s role in vertical stratification processes of Central European societies at the onset of the Bronze Age. Use wear, ballistics, operations.” These results are based on the financial support of The Czech Science Foundation (GAČR) under [Grant No. 17-11425S](#). Each lithic projectile included in the analyses and papers is presented in the form of macrophotos, microphotos of use wear traces and 3D models. The goal of this online database is to open our data for further lithic projectile research across the world.

In the course of a few years, the collection of more than 400 projectiles and their preforms was completed, analyzed and published. The first version of the database was published in 2020 on the DSpace platform. 3D models of individual projectiles were created by Mgr. Vojtěch Nosek. In 2021, under the LINDAT/CLARIAH-CZ project, the content of the digital library was transferred from the original application to the Islandora system and enriched with [new functionalities](#). The Projectiles database is now part of the Digitalia MUNI ARTS digital library infrastructure. The Projectiles database documentation is freely available [here](#).

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Legally protected outcomes	2021	Plate for taking a microsample from an object of cultural value
Legally protected outcomes	2022	Progressive equipment for processing larger quantities of archaeological samples
Specialized database	2019	Film-Shot-Counter
Specialized database	2020	Lithic Projectiles [dataset]
Specialized database	2021	Peer social networks in Czech lower-secondary classrooms
Specialized database	2021	Hermína Týrlová's Digital Archive
Specialized database	2022	Historical database of equines in Crete
Specialized database	2022	Pig measurements dataset
Specialized database	2022	Database of medieval copyists
Specialized database	2022	Synecdemus Novus.
Specialized database	2023	Beauty patterns
Specialized database	2023	Equine Biometry from Medieval and Modern sites in the Czech Republic
Specialized database	2023	Zlinet
Specialized database	2023	Cinematic Brno. Documentation of the history of film screenings and audience preferences in Brno in the years 1918-1945
Specialized database	2023	Smetana-Dvořák discography
Software	2023	CzechME
Software	2021	InkVisitor 1.2
Software	2021	Information system to support the removal of barriers in the city
Software	2021	Interactive web application Media Art Live Archive
Software	2021	Opravidlo
Software	2022	InkVisitor 1.3
Software	2022	Software for content-based search in audio works
Software	2021	ANOPHONE - speech data annotation tool
Software	2021	Interactive web application Zlínský film
Software	2021	DYSLEX platform
Software	2023	MemoVision software
Certified, accredited, approved methodology	2021	Prediction of locations for the construction of retention reservoirs in the landscape based on the use of relics of extinct water management structures
Certified, accredited, approved methodology	2020	Historical water management facilities in the Svitava river basin
Certified, accredited, approved methodology	2021	Methodology for pre-laboratory sample selection for analyses from large sets
Certified, accredited, approved methodology	2021	Production and technical operations of the Rožnov estate in historical perspective

³⁰ Specify the specific type of result. Add rows as needed.

Certified, accredited, approved methodology	2021	Principles of creating descriptive systems for medieval ceramics and their database applications
Certified, accredited, approved methodology	2021	Principles of drawing and photographic documentation of medieval ceramics
Certified, accredited, approved methodology	2020	Principles of laboratory processing, conservation and restoration of ceramics with a focus on high and late medieval ceramics
Certified, accredited, approved methodology	2021	Three-dimensional documentation of medieval ceramics using the image correlation method (Structure from motion)
Certified, accredited, approved methodology	2022	Kulturgüterschutz in der Schweiz
Certified, accredited, approved methodology	2022	Anthropogenic monuments in a forested environment
Certified, accredited, approved methodology	2022	Irrigation in the Czech Republic – their current status, cultural-historical value and possibilities for further use
Certified, accredited, approved methodology	2022	Pre-industrial technical facilities of the Rožnov estate
Certified, accredited, approved methodology	2023	Principles of a new methodology for researching artifacts using advanced methods
Certified, accredited, approved methodology	2023	Monument procedure: appearance-unchanging sampling method from high-value objects
Certified, accredited, approved methodology	2023	Early heresy: heresy cases in the West, c.1000–c.1150 (v. 0.5.0)
Certified, accredited, approved methodology	2020	Premonstratensian monasteries in France: interactive map (v. 1.0.3)
Certified, accredited, approved methodology	2019	Houses of heretics: Cathar religious houses in Languedoc, 1175–1244 (v. 1.0.5)
Certified, accredited, approved methodology	2023	Graduates of the Secondary School of Applied Arts in Uherské Hradiště in the period 1939–1989
Certified, accredited, approved methodology	2023	Housing situation of FA Kudlov employees in 1946, 1954 and 1969
Certified, accredited, approved methodology	2023	Methodology for analyzing musical performance with the support of The Memo Vision Software

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

Since 2005, the Technology Transfer Office (TTO MUNI) has been an integral part of Masaryk University. TTO MUNI is perceived as an institutional unit providing support and conditions for the practical application of university's research results. It provides services in technology/knowledge transfer (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralized, ensuring the necessary personnel, methodological and technical frameworks.

However, the commercialization of results is not considered relevant for the Faculty of Arts. The faculty's core area of research is in the humanities, where typically, the "transfer of results into practice" is carried out by a set of activities that bring the results of research to the general public through education, public lectures, books, articles, exhibitions, etc., thereby informing their opinions, cultivating their values, and shaping their sense of identity. We provide an overview of such activities in 3.6.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Total					

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

Humanities scholars often engage with the public through lectures, writings and media, aiming to stimulate critical thinking, provide historical or cultural context, and influence societal norms. Such activities help shape our understanding of current social or political issues, influence social movements or contribute to debates about human rights, justice, or identity. Below we describe a range of events through which such interactions take place at our faculty.

1) The humanities' week

The Faculty of Arts of Masaryk University traditionally joins the celebrations of UNESCO World Philosophy Day by organizing the [Humanities Week](#), consisting of public lectures by the faculty's staff. The faculty has been organizing this event since 2014. Since 2018, the Faculty of Arts of Palacký University in Olomouc and the Faculty of Arts of Charles University have also joined the event. From 2023, the Humanities Week became a country-wide event, organized under the auspices of the Association of Deans of Philosophical Faculties of the Czech Republic. The program is freely accessible to the public, the admission is free.

Every year, a topic is set (in collaboration with partners) for the whole event.

[2023](#) Close to Baroque

[2022](#) Genetics, environment, education

[2021](#) A hundred years past, a hundred years to come

[2020](#) Humanities, crises, pandemic

[2019](#) 1989–2019: 30 years of transformation of Czech humanities higher education

A similar event is the annual [Scientist's night](#).

2) Media appearances [All links lead to Czech websites because automatic translation, which we use elsewhere, disrupts the possibility to watch the linked videos.]

The members of the faculty often appear in the traditional media. This way, the faculty fulfills its societal role of providing accurate and timely information on current topics that may shape the views, opinions and values of the whole society.

[This webpage](#) lists more than 200 media appearances over the relevant period (radio, TV, newspapers). Below, we include an overview of some of the appearances in the Czech Television (the national broadcasting service) because of their relatively large impact.

A traditional topic of interest is history, with topics including the origins of the [Morava relations with the Pope](#), the [legends](#) on the origin of the Czech state, the history of [Teutonic Order](#), the

[role of kings](#) in the history or the [archeological discoveries](#) made by the Department of Archeology.

The faculty members further appeared in TV discussing [the consequences of the Ukraine war for schools](#), including [the need for language learning](#) (1:50:40), [its practical aspects](#), and the [integration of Ukrainian scientist in the Czech Republic](#) (2:08). The Czech TV has also aired a reportage on [Andrej Zubov](#), a Russian dissident historian currently at the faculty.

Another frequently discussed topic is education. Faculty members have been asked to voice their opinion on topics such as [the motivations for future teachers](#) to remain within their profession or the adoption of [new methods in teaching](#). Two segments addressed [the adoption of modern technologies in education](#) including the role of [Wikipedia](#) as the source of knowledge.

3) Activities aimed at teachers and teaching

One of the societal roles of the Faculty of Arts is to educate teachers. The faculty supports teachers through a range of activities. Every spring, it organizes the [Teacher's Week](#), an event that contains many lectures and workshops aimed both at current and future teachers. The event also serves as an important point of contact between the faculty and the teachers who accept our students into their classes to satisfy the obligatory practical part of teacher-education programs.

The Department of Education Sciences has created a website "[The vital teacher](#)" for practicing teachers that contains information on three interrelated topics: **Psychological self-defense**, **Work-life balance**, **Teachers' lifestyle**. In addition to articles, teachers share here their experience, tips, and links to institutional websites that deal with these topics.

The faculty also actively participates in the creation of content for classes in their fields of expertise. As one example, we mention the [teacher's guide](#) edited by Lukáš Fasora, serving the development of activation teaching of history in secondary schools. The publication consists of prepared lessons (topics) from different historical epochs, always with an emphasis on working with the source and the development of historical thinking.

4) Literary translations

Through translations into Czech, the public gains access to literary works, often of great value, that may have not been accessible to them otherwise. We mention several examples below.

RAMBOUSEK, Jiří. [Alenka pro nejmenší](#) [Nursery Alice], by Lewis Carroll

OLIVOVÁ, Lucie et al. [Jin Ping Mei](#). The translation of a Chinese novel composed in vernacular Chinese during the late Ming dynasty (16th century).

ČIŽMÍKOVÁ, Danuša. [Prorok](#) [The Prophet] A book by the Lebanese-American poet and writer Kahlil Gibran. The Prophet has been translated into over 100 languages.

STEHLÍKOVÁ, Karolína. [Sněhová sestřička](#). [The Snow Sister], a Norwegian bestselling novel by Maja Lunde.

JANACOPOULOS Véra, et al. [Láska ke třem pomerančům](#) [Love for three oranges] - translation of an opera libretto

NECHUTOVÁ, Jana, et al. [Mistr Jan Hus v polemice a v žaláři](#) [Master Jan Hus in controversy and in prison]. The translation into Czech of Jan Hus' Tractates of Constance.

KULHÁNKOVÁ, Markéta. [Smaltová medúza](#) [Enamel jellyfish]. A Greek crime novel by Panagiotis Agapitos.

KRAJNÍK, Filip. [Hamlet](#). Staged in České Budějovice, awarded the [Rector's prize](#).

5) Popularization texts (magazines, books)

In this category we mention prof. Zbíral and dr. Shaw's article "[Behind Closed Doors: Women and the Inquisition](#)" in [History Today](#) (one of the top ranking journals for the popularization in Historical Sciences). The article shows that inquisitors went quite a distance to avoid sexual misconducts towards women.

Another example is the TIME Magazine article "[Americans Are Obsessed With Tidying Up. But There's a Downside to Being Organized](#)", which makes use of insights from the LEVYNA research about anxiolytic effect of ritualized behavior (utilizing interview with dr. Lang) when discussing influential pop-cultural decluttering movement.

As a final example, we mention a book by David Havelka and Kateřina Bartošová: [Speciální sourozenci](#) [**Special siblings**]. **Description:** Although research shows that healthy siblings of children with disabilities are a very large group, these children are often overlooked by professionals and adults. Good quality care for siblings of children with disabilities help prevent psychological difficulties for the healthy child, enhance the effects of intervention for the child with disabilities and improve family quality of life. The book is intended for both professionals (psychologists, educators, social workers) and parents of healthy siblings of children with disabilities.

6) Educational events for children and youth

An annual [children camp](#) with games and activities related to the ancient mythology has been a tradition at the Institute of Classical Studies since 2018.

The faculty also regularly participates in [Mjuni](#), an educational program of Masaryk University designed for children and youth aged 9–18. The goal of the program is to introduce young students to the academic environment and encourage their interest in various scientific and humanities fields. It offers lectures, workshops, and practical activities led by experts from Masaryk University. Participants have the opportunity to explore university life and develop their knowledge in various areas. Concrete topics include [The secret of Eldorado](#), [Divine India? Religious Traditions in Modern Indian Society](#), [Archaeology not only in the third dimension, Czech, how can you not know it?](#), [How the Romans Conquered the World](#) and others.

The faculty also takes part in Night with Andersen, [an international event](#) in which libraries, schools, clubs and children's homes all over the world open their doors once a year, always at the same time, so that children, equipped with pillows and sleeping bags, can listen to the reading of fairy tales.

7) Podcasts & youtube [Artefakt](#) is a podcast run and organized by the faculty, providing a space where researchers from the Faculty of Arts discuss the topics of their studies.

[Středověk \(Jinak\) trvá](#) (literally "Middle Ages (differently) lasts") is a podcast by two prominent researchers at the faculty, Ivan Foletti (Department of Art History) and Jiří Macháček (Department of Archeology).

Individual researchers are often invited as speakers in various podcast series. For instance, two of our researchers from the Department of Slavonic studies discussed current events in Russia and Ukraine, namely: [The issues of contemporary Russia](#) (Mgr. Josef Šaur, Ph.D., 80,000 views) and [Ukraine today is the most divided in history](#) (PhDr. Petr Kalina, Ph.D. 170,000 views).

The Department of Psychology collaborated with dr. Schechner (Harvard University) and Prof. Nicolas (Université de Paris) on videos ([1](#), [2](#), [3](#)) demonstrating the use of experimental equipment in the first psychological laboratories. The videos are currently posted on the official YouTube channel of the Harvard University's "Collection of Historical Scientific Instruments".

8) Exhibitions

In the period 2019–2023, more than 100 exhibitions (co-)organized by the faculty took place, see the attachment for an overview ([exhibitions](#)). We mention a few below.

[From Treviso to Brtnice: Stories of the Noble Collalto Family Hidden in Czech Archives](#). 2019, the Moravian Provincial Archives in Brno.

Images from the Balkan Battlefield. War photo album of Czech officer Hynek Doležal. The exhibition was held in the gallery of the town of Čačak in Serbia (9 June 2022 - 30 November 2023).

An exhibition of photographs from colonial and contemporary Vietnam: [Vietnam yesterday and today](#) in the Technical Museum in Brno (November-December 2021):

In 2021 Norwegian-Czech diplomatic relations reached a tradition lasting for a century. On this occasion, the exhibition [100 Years - 100 Books](#) was organized, in collaboration with the Moravian Library,

[Black Box](#), an online exhibition at the Ars Electronica festival, Linz, 2020. The online exhibition responded to the COVID 19 pandemic. It presents the works of artists created under general quarantine. It presents two curatorial approaches, one human and the other using an artificial neural network. Artificial intelligence serves as a means of developing the motif of the black box towards post-apocalyptic fiction.

9) Lecture series for public

The Department of philosophy co-organizes (and contributes to) the annual [European Festival of Philosophy](#), held since 2007. In 2019-2023, the themes were: 2019 Man and the Environment, 2020 Threats and Opportunities, 2021 Science and Art, 2022 Private and Public, 2023 Local and Global.

The Department of Classics regularly participates in the [Festival Européen Latin Grec](#), organized by the Lyon University, a major international public event, in which several academic institutions take part and which consists of shared public readings from the texts of ancient authors which is streamed to general public worldwide.

Středověk JinaX lecture series, organized by the Center for Early Medieval Studies, Department of Art History.

The Department of Information and Library Studies runs a Youtube channel with public recordings of selected departmental lectures, contains more than 800 videos that have a total of almost 500,000 views.

R'n'B (Renaissance and Baroque) lecture series, The Centre for Early Modern Studies, Department of Art History.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

The recommendations we obtained are reproduced in an abbreviated form in ***bold italics***. The implementation is described below each recommendation.

For the category "APPLIED RESEARCH PROJECTS", we received three recommendations. We group the response to the first two together.

R1. Encourage faculty members to apply for competitive research grants.

R2. Encourage faculty members to apply for research grants from foundations outside the Czech Republic.

The faculty has introduced measures to increase the motivation and potential of both departments and individuals to apply for competitive/foreign grants. For instance, departments with ERC funding get an extra financial bonus from the faculty, we cover a part of the expenses related to the writing of projects and provide a financial bonus for applications that reach a certain threshold. We focus on working with individual researchers -- getting them involved in relevant workshops, while simultaneously improving our own grant office.

This work resulted in 2 ERC grants in the evaluated period. Moreover, the faculty won an ERC-CZ funding (declined) for an additional project. (ERC-CZ supports projects evaluated as A in ERC but which nevertheless fail to reach funding.) We have witnessed an increase in MSCA applications and successful projects in this scheme. We have 2 successful applications within the Horizon Europe (Pillar 2) scheme, we got an MSCA RISE project (see 3.3).

R3. Initiate activity to increase the potential of possible revenues from contract researches.

The income from contract research has been steadily growing throughout the evaluated period, see the volume of contract research in thousands EUR from 2019-2023: 127-130-204-276-473 (Table 3.3.2).

The faculty supports applied research projects funded by the Technological Agency of the Czech Republic by contributing half of the co-financing required on these projects. The rationale is that applied research projects allow the development of the capabilities that are required for contract research.

In the category "APPLIED RESEARCH RESULTS", we got the following recommendation:

R4: Deepen and extend the scope of society-oriented researches and projects

In the evaluated period, the faculty became an integral part of the SYRI institute (see 3.3). In 2024, the faculty obtained 2 large projects focused on societal resilience (as PI: [RES-HUM](#), as co-applicant: [CoRe](#)). In 2025, an additional project was obtained, focusing on language in the life of an individual.

In the category RECOGNITION BY THE SCIENTIFIC COMMUNITY, we got the following recommendation.

R5: Expand the areas of interest and research in a global orientation, [...] it is strongly recommended that research students also be encouraged to create research collaborations with young researchers in other countries. This is conditional on a significant increase in knowledge of English among the faculty's students, already in undergraduate studies.

The faculty has followed a trend towards internationalization. It rewards publications in prestigious journals and publishing houses. It supports the integration of foreign researchers by translating key documents and communications into English.

The faculty introduced the requirement of English at the level of C1 for PhD students, with accompanying courses that allow students to improve. The faculty also introduced the compulsory course "Freshers" for first year PhDs taught in English. Since 2017, students are required to spend one month abroad, and the faculty is currently introducing a requirement of a minimum 6 months abroad for new assistant professors. Students traveling abroad can choose a variety of stipends (Erasmus, etc.) and may receive up to 120.000 CZK (4.8 thousand EUR) stipend from the faculty for international stays.

In the general evaluation, we have received four additional recommendations.

C6: Reduce percentage of dropout of Ph.D. students, shorten the period of Ph.D. studies; re-examine the overall policy with regard to the doctoral programs, and especially with regard to the admission requirements

In the evaluation period, the faculty has initiated steps towards a reform of its PhD studies, which is currently reaching the implementation phase.

In 2025, the faculty will implement the "minimum income requirement" for all PhD students. This will lead to a sharp increase in the minimum income of the PhD students (from 16.000 to 25.000 CZK), thereby allowing students to fully focus on their PhD studies. This is expected to lead to an increase in the success rate. At the same time, departments are encouraged to better monitor the progress of each student and pay close attention to the quality of the candidates during recruitment. The quality of recruitment is currently monitored by an additional committee established at the faculty level, which, along with the quality of the candidate, monitors the capabilities of the departments to effectively support the accepted students.

C7. One of the prominent problems in the structure of this faculty is the large number of departments, some of which are very small.

The faculty continues to seek possibilities for potential (meaningful) mergers. The first step is the establishment of interdepartmental collaborations. When it comes to research funding, the faculty has demonstrated the ability to create interdepartmental clusters to attract large funding (e.g., the collaboration of [6 language departments within a single large project](#) starting 2025).

At the level of PhD programs, the faculty has been preparing analogous changes throughout the relevant period. In 2025, these efforts reach culmination when 17 different PhD programs within specific languages & specific literatures will be merged into two programs, one in Literature and another one in Linguistics.

C8. Another problem, which is not unique to this faculty, is the overlap in the areas of academic knowledge, activity, research and teaching, with parallel activities in other faculties [Education, etc.].

Mandating such changes is beyond the scope of the faculty. Rather than compete with faculties where overlaps exist, we collaborate in terms of research, including with the Faculty of Education, the Faculty of Social Sciences and the Faculty of Informatics.

C9. Another aspect, which many of the panel members addressed, and which is also not unique to this faculty, is the gender imbalance between the number of men and women among faculty members.

In 2021, an internal gender equality audit was carried out at the Faculty of Arts, including proposals for improvement measures. In December 2021, the University's [Gender Equality Plan 2022–2024](#) was approved by the university management. A number of steps were subsequently implemented.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
Project website (CRAACE)	3.1	https://www.facebook.com/CRAACE.1918.1939/

Project website (CONQUES)	3.1	https://conques.eu/project/summary
Project website (RES-HUM MUNI PHIL)	3.1, 3.7	https://reshum.muni.cz/en
Repository website (Digitalia MUNI ARTS)	3.1, 3.3	https://digitalia.phil.muni.cz/en
Centre website (Centre for the Digital Research of Religion)	3.1, 3.3	https://religionistika.phil.muni.cz/cedrr
Opravidlo website	3.1, 3.4	https://oscars-project.eu/projects/opravidlo-20-public-online-proofreading-service
HumeLab Website	3.1	https://humelab.cz/en
Research group website (Laboratory for Information and Cognitive Science)	3.1, 3.3	https://lics.phil.muni.cz/
Research group website (LEVYNA)	3.1, 3.2,	https://www.levyna.cz/en
Project website (SYRI)	3.1, 3.3	https://www.syri.institute/
Article about a grant (translated by Google translate)	3.1, 3.7	https://www-em-muni-cz.translate.goog/veda-a-vyzkum/17900-promeny-jazyka-v-prubehu-lidskeho-zivota? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Article about the award (Chairman's Award of the Czech Science Foundation)	3.2.1	https://www.phil.muni.cz/en/news/prof-sedova-received-the-prestigious-award-of-the-czech-science-foundation
Article about the award (Czech Head)	3.2.1	https://www.em.muni.cz/en/news/17090-jiri-machacek-is-proud-to-receive-the-czech-nobel-prize
Article about the award (Silver medal, Charles University) (translated by Google translate)	3.2.1	https://cuni-cz.translate.goog/UK-6311.html?news=14586&locale=en& x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Article about the award (Psychology of Religion Award)	3.2.1	https://www.levyna.cz/en/news-and-events/news/martin-lang-is-this-year-s-recipient-of-the-iapr-s-early-career-award

Website about the award (E.W.Beth dissertation prize)	3.2.1	https://folli.info/?page_id=74
Article about the award (ICCS Honorary award) (translated by Google translate)	3.2.1	https://www-phil-muni-cz.translate.google/aktuality/profesor-kylousek-prevzal-oceneni-od-kanadske-velvyslankyne? x tr sl=cs& x tr tl=en& x tr hl=cs
Article about the award (Buchtová) (translated by Google translate)	3.2.1	https://www-phil-muni-cz.translate.google/aktuality/poloniste-z-ustavu-slavistiky-ziskali-vyznamenani? x tr sl=cs& x tr tl=en& x tr hl=cs
Journal Website (Editorial board)	3.2.2	https://www.tandfonline.com/journals/cete20/about-this-journal#editorial-board
Journal Website (Editorial board)	3.2.2	https://www.nature.com/commsbio/editorial-board
Journal Website (Editorial board)	3.2.2	https://www.sciencedirect.com/journal/journal-of-pragmatics/about/editorial-board
Journal Website (Editorial board)	3.2.2	https://sfleducation.springeropen.com/about/editorial-board
Journal Website (Editorial board)	3.2.2	https://www.organonf.com/journal/editorial-board/
Journal Website	3.2.2	https://muse.jhu.edu/issue/52317/information/editorial.pdf
Journal Website (Editorial board)	3.2.2	https://revistas.ucm.es/index.php/EIKO/about/editorialTeam
Journal Website (Editorial board)	3.2.2	https://glottometrics.iqla.org/about/
Journal Website (Editorial board)	3.2.2	https://journals.uni-lj.si/keria/about/editorialTeam
Journal Website (Editorial board)	3.2.2	https://www.psypress.org/journals/jnls_JAAH.html?srsId=AfmBOoondVV5Fyabrt9OtimATlbnyvYNqj6CKBdOZ8O6QDnsQ3ICcjH4
Event webpage	3.2.4.	https://www.phil.muni.cz/en/all-events/u/bryan-ward-perkins-two-different-ways-of-viewing-the-end-of-roman-civilization
Event webpage	3.2.4	https://sites.google.com/view/craff-2019/home

Event website	3.2.4	https://www.levyna.cz/en/speaker-series
Event webpage	3.2.4	https://www.facebook.com/story.php?story_fbid=151850337448918&id=103297048970914&__entstream_source=permalink&__rdr
Event webpage	3.2.4	https://www.levyna.cz/en/speaker-series
Event webpage (translated by Google translate)	3.2.4.	https://www-phil-muni-cz.translate.goog/aktuality/cervnovy-kongres-etnologu-byl-nejvetsi-za-posledni-dve-dekady-ohlasy-jsou-pozitivni?_x_tr_sl=cs&_x_tr_tl=en&_x_tr_hl=cs
Event webpage	3.2.4	https://www.ucl.ac.uk/~ucjtudo/pdf/RelativeAtomicity.pdf
Event webpage	3.2.4	https://arthistory.phil.muni.cz/news/smart-talks-sculpture-and-the-haptic-imagination
Project website (DISSINET)	3.3	https://dissinet.cz/
Consortium LINDAT website	3.3	https://lindat.cz/partners
Article fulltext (Lang, Kundt 2020)	3.3	https://brill.com/view/journals/mtsr/32/1/article-p1_1.xml
Article fulltext (Lang, Kundt 2023)	3.3	https://www.tandfonline.com/doi/full/10.1080/2153599X.2023.2197977#abstract
Project information (MSCAfellow3@MU NI)	3.3	https://www.muni.cz/en/research/projects/49647
Article fulltext (Lang et al. 2022)	3.3	https://royalsocietypublishing.org/doi/10.1098/rsos.202202
Article fulltext (Lang, Chvaja, Purzycki 2024)	3.3	https://www.sciencedirect.com/science/article/pii/S1090513824000035?via%3Dihub
Article fulltext (Chvaja, Chinchilla, Goméz, Lang 2023)	3.3	https://onlinelibrary.wiley.com/doi/10.1002/ejsp.2975
Project information (Signaler psychology: Investigating computations)	3.3	https://www.muni.cz/en/research/projects/69324

underlying human cooperative communication)		
Project information (Computing Religious Devotion: How Reinforcing Supernatural Beliefs Affects Normative Models in the Mind (CREDO))	3.3	https://www.muni.cz/vyzkum/projekty/71305
Project website (RES-HUM)	3.3	https://reshum.muni.cz/en
Application website (CzechMe)	3.4	https://czech-me.cz/
Article fulltext (Svaricek et al. 2025)	3.4	https://onlinelibrary.wiley.com/doi/10.1002/dys.1801
Platform eDIVE	3.4	https://gitlab.fi.muni.cz/grp-edive/edive-platform
Article fulltext (Brůža et al. 2025)	3.4	https://onlinelibrary.wiley.com/doi/10.1111/cgf.70001
Methodology webpage (translated by Google translate)	3.4	https://md-gov-cz.translate.goog/Dokumenty/Veda-a-vyzkum/Certifikovane-metodiky/Ostatni-metodiky/Vyuziti-virtualni-reality-pri-analyze-objektu-dopr?returl=/Dokumenty/Veda-a-vyzkum/Certifikovane-metodiky/Ostatni-metodiky&x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs
Methodology webpage (Methodic of pre-analytic sample selection)	3.4	https://invenio.nusl.cz/record/455139?ln=en
Monography webpage (Prediction of potential locations for water-retention dams in landscape based on re-utilisation of defunct relics of water-management buildings)	3.4.	https://munispace.muni.cz/library/catalog/book/2092
Project webpage	3.4	https://www.beauty-patterns.org/en/about

CEUTA organization Website	3.4	https://cieta.fr/
Abegg-Stiftung organization Website	3.4	https://abegg-stiftung.ch/
Database webpage (A factographic database presenting Late Eneolithic and Early Bronze Age projectiles from selected Czech and Slovak sites)	3.4	https://projectiles.phil.muni.cz/
Metadata information webpage (A factographic database presenting Late Eneolithic and Early Bronze Age projectiles from selected Czech and Slovak sites)	3.4	https://projectiles.phil.muni.cz/help#metadata
Project website (Archer's role in vertical stratification processes of Central European societies at the onset of the Bronze Age. Use wear, ballistics, operations)	3.4	https://starfos.tacr.cz/en/projekty/GA17-114255
Database webpage (A factographic database presenting Late Eneolithic and Early Bronze Age projectiles from selected Czech and Slovak sites)	3.4	https://projectiles.phil.muni.cz/help
Projectiles Database Documentation	3.4	https://github.com/ArtsFacultyMU/digitalia/wiki/Projectiles-Database-Documentation
Event webpage	3.6	https://www-phil-muni-cz.translate.google.com/uchazece/otevrena-fakulta/tyden-humanitnich-

(The humanities' week 2024)		ved/? x tr hist=true& x tr sl=cs& x tr tl=en& x tr hl=cs
Event webpage (The humanities' week 2023)	3.6	https://tydenhumanitnichved-cz.translate.google/archiv/2023? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Event webpage (The humanities' week 2022)	3.6	https://tydenhumanitnichved-cz.translate.google/archiv/2022? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Event webpage (The humanities' week 2021)	3.6	https://tydenhumanitnichved-cz.translate.google/archiv/2021? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Event webpage (The humanities' week 2020)	3.6	https://tydenhumanitnichved-cz.translate.google/archiv/2020? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Event webpage (The humanities' week 2019)	3.6.	https://tydenhumanitnichved-cz.translate.google/archiv/2019? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Event webpage (Scientist's night)	3.6	https://www-phil-muni-cz.translate.google/pro-uchazece/otevrena-fakulta/noc-vedcu/? x tr hist=true& x tr sl=cs& x tr tl=en& x tr hl=cs
Webpage with an overview of events 2019-2023	3.6	https://www.phil.muni.cz/napsali-o-nas?page=53
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/1098528273-krestansky-magazin/321298380040016/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/10150778447-historie-cs/223411058220008/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/10150778447-historie-cs/420236100051001/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/11054978064-fokus-vaclava-moravce/223411030530002/cast/962582/

Czech TV segment involving a faculty member (in Czech only)	3.6	https://ct24.ceskatelevize.cz/clanek/regiony/vyzkumnici-nasli-pod-podlahou-baziliky-na-starem-brne-dosud-neznamy-hrob-8120
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/10150778447-historie-cs/223411058220003/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/10101491767-studio-ct24/222411058060309/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/1181680258-tyden-v-regionech-brno/322281381890716/cast/924135/?fbclid=IwAR2BKuWlHR63skCwGhiuck-rn5owPdrQ3VaNI8pVeaZfO-1DmEFJJUYFciU
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/10117034229-168-hodin/222452801100403/cast/904044/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/1142743803-reporteri-ct/222452801240035/cast/946424/
DV TV segment involving a faculty member (in Czech only)	3.6	https://video-aktualne-cz.translate.goog/dvtv/jak-byt-uspesny-ve-skole-deti-musi-vic-mluvit-ucitele-casto/r~6423ab32522a11ea81060cc47ab5f122/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/1096902795-studio-6/222411010110920/cast/935180/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/10435049455-dobre-rano/323291310020025/cast/967189/
Czech TV segment involving a faculty member (in Czech only)	3.6	https://www.ceskatelevize.cz/porady/10122427178-udalosti-v-regionech-brno/323281381990613/cast/985161/

Event webpage (Teacher's Weak) (translated by Google translate)	3.6	https://tydenucitelstvi-phil-muni-cz.translate.google/archiv/2023? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Webpage for teachers	3.6	https://www-vitalniucitel-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Guide for teachers of history	3.6	https://munispace.muni.cz/library/catalog/book/2269
Book webpage (translated by Google translate)	3.6	https://www-ctuctesc teme-cz.translate.google/alenska-pro-nejmensi/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Book webpage (translated by Google translate)	3.6	https://www-databazeknih-cz.translate.google/knihy/jin-ping-mei-aneb-slivon-ve-zlate-vaze-jin-ping-mei-aneb-slivon-ve-zlate-vaze-svazek-devaty-526689? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Book webpage (translated by Google translate)	3.6	https://www-kosmas-cz.translate.google/knihy/512951/prorok/?srsltid=AfmBOorPC5svVRjIV6vHvFossO5O_qaG9QONMAYLXNXu2WrS2nXt-KbD& x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Book webpage (translated by Google translate)	3.6	https://www-databazeknih-cz.translate.google/knihy/snehova-sestricka-414703? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Theatre performance (translated by Google translate)	3.6	https://www-narodni-divadlo-cz.translate.google/cs/predstaveni/laska-ke-trem-pomerancum-opera-1520292? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp& x tr hist=true
Book webpage (translated by Google translate)	3.6	https://munishop-muni-cz.translate.google/mistr-jan-hus-v-polemice-a-v-zalari-c2370? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Book webpage (translated by Google translate)	3.6	https://www.ivysehrad.cz/tituly/51416191/smaltova-meduza/
Book webpage (translated by Google translate)	3.6	https://munishop-muni-cz.translate.google/hamlet-c3747? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Article about the award (Hamlet translation)	3.6	https://www.em.muni.cz/en/news/17423-rector-s-award-for-action-packed-hamlet-translation

Podcast website (translated by Google translate)	3.6	https://www-phil-muni-cz.translate.goog/artefakt? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Youtube Middle ages (differently) last (translated by Google translate)	3.6	https://www-youtube-com.translate.goog/playlist?list=PLRfeyjVJZQnrCDNXDQ6PgiirOuCzl2q_w&cbrd=1&ucbcb=1& x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Youtube Issues of contemporary Russia (translated by Google translate)	3.6	https://www-youtube-com.translate.goog/watch?v=2dEeM0XJ3Nk& x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Youtube Ukraine today is the most divided in history (translated by Google translate)	3.6	https://www-youtube-com.translate.goog/watch?v=7CO4wx6MmiU&t=2s& x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Videos prepared in cooperation with Harvard University and University of Paris	3.6	https://www.youtube.com/watch?v=7qV4ERXCVYg https://www.youtube.com/watch?v=ZgQZ2iA9raQ&t=38s https://www.youtube.com/watch?v=tpfZgEz4_ZM
A list of 125 exhibitions between 2019 and 2023	3.6	https://ucnmuni-my.sharepoint.com/:x/g/personal/415267_muni_cz/Ee_7qFuWk8VLs2zEpxOUeUEBH_JcNy1h9BXqiKjKG8wgVw?e=3ryAfx&wdLOR=c115C1304-99CC-43C5-9678-102887139F74
Publication webpage (From Treviso to Brtnice)	3.6	https://munishop.muni.cz/en/z-trevisa-do-brtnice-da-treviso-a-brtnice-c2046
Exhibition webpage (Vietnam yesterday and today) (translated by Google translate)	3.6	https://www-tmbrno-cz.translate.goog/akce/vietnam-vcera-a-dnes/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Exhibition 100 years – 100 Books - Webpage	3.6	https://ugnn.phil.muni.cz/studium/nordistika/aktuality
Exhibition Black Box - website	3.6	https://cerna-skrinka.cz/
European Festival of Philosophy - website (translated by Google translate)	3.6	https://www-festivalfilozofie-cz.translate.goog/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp#historie

Youtube – Středověk JinaX (translated by Google translate)	3.6	https://www.youtube-com.translate.goog/playlist?list=PLRfeyjVJZQnqrwSDfcaF6SNEW8HIA8RTc&cbrd=1&ucbcb=1&x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp
Youtube - Department of Information and Library Studies (translated by Google translate)	3.6	https://www.youtube-com.translate.goog/@KISKFFMU/videos?cbrd=1&ucbcb=1&x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp
Youtube - R'n'B (Renaissance and Baroque) (translated by Google translate)	3.6	https://www.youtube-com.translate.goog/@rnbrenesancebaroko5774/videos?cbrd=1&ucbcb=1&x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp
Article webpage - Behind Closed Doors: Women and the Inquisition	3.6	https://dissinet.cz/news/articles/did-medieval-inquisitors-fear-accusations-of-sexual-misconduct
History today – Journal website	3.6	https://www.historytoday.com/archive/history-matters/behind-closed-doors-women-and-inquisition
Article webpage - Americans Are Obsessed With Tidying Up. But There's a Downside to Being Organized (TIME Magazine)	3.6	https://time.com/5559039/organization-tidying-up-benefits/?fbclid=IwAR0LEbVZDDZy-8bQzWbOSymohh3giS3Ci35B4SPcGOgQAzph2AMkwp0d8Dc
Book webpage (Speciální sourozenci) (translated by Google translate)	3.6	https://obchod-portal-cz.translate.goog/pedagogika/specialni-sourozenci?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp
Article about the project CoRe (translated by Google translate)	3.6	https://www-phil-muni-cz.translate.goog/aktuality/jakub-cigan-zvladani-konfliktu-a-krizovych-situaci-zvysuje-odolnost-spolecnosti?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs
Children camp website (translated by Google translate)	3.6	https://classics-phil-muni-cz.translate.goog/studium/celozivotni-vzdelavani/tabor/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp&x_tr_hist=true
Mjuni website (translated by Google translate)	3.6	https://mjuni-cz.translate.goog/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp

Mjuni topic website (translated by Google translate)	3.6	https://mjuni-cz.translate.google.com/tema/eldorado? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Mjuni topic website (translated by Google translate)	3.6	https://mjuni-cz.translate.google.com/tema/indie? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Mjuni topic website (translated by Google translate)	3.6	https://mjuni-cz.translate.google.com/tema/archeologie? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Mjuni topic website (translated by Google translate)	3.6	https://mjuni-cz.translate.google.com/tema/cestina? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Mjuni topic website (translated by Google translate)	3.6	https://mjuni-cz.translate.google.com/tema/rimane? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp
Website, The Night with Andersen	3.6	https://www.nocsandersenem.cz/en/
Gender equality plan of Masaryk University 2022- 2024	3.7	https://www.muni.cz/media/3371580/gender_equality_plan_mu_gep_mu_en.pdf

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: The Faculty of Education

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The mission of the Faculty of Education (PED) is to **prepare high-quality future teachers, educators, and special and social pedagogues** in a rapidly changing society while developing relevant research and creative activities to fulfill social responsibility and promote the values the university has long upheld. PED also supports the **work-life balance** and **well-being of students and staff**, recognizing the importance of a **healthy academic environment** that fosters professional growth without compromising personal well-being. PED shares democratic values. It is committed to respect, mutual appreciation, solidarity, partnership, and freedom, which serves as a fundamental pillar of teaching and research and a principle of university autonomy and independence. PED recognizes its responsibility for co-participation in **addressing societal issues** (such as sustainable development, social inequality, and inclusive education) and seeks to contribute to their resolution. As part of its commitment to sustainability, PED incorporates environmentally and **socially responsible approaches** into its education and research activities.

PED focuses on the development of **educational sciences** and the promotion of **innovation in education**. Its mission is to provide high-quality education based on the latest scientific knowledge and support educators' lifelong learning. PED addresses current challenges in education policy, supports innovative teaching methods, and works to improve education quality at all levels. Its research activities focus on inclusive education, digital technologies in teaching, educational psychology, social aspects of education, and other key areas. Research results are applied not only in academia but also in practice through collaboration with schools, non-profit organizations, and public administration.

PED acknowledges recommendations for its development stemming from past evaluations (such as the National Evaluation in Module 3 in 2020 and the Internal Research and Doctoral Studies Evaluation at Masaryk University in 2022). These recommendations emphasize the development of research topics with an international dimension, the encouragement of interdisciplinary research, the focus on **socially relevant research topics** and **applied research**, the **dissemination of research findings into practice**, the **support of innovative teaching methods**, responsiveness to the demands of a changing environment, and increased collaboration with non-academic sectors. A common theme in these recommendations is the need to strengthen PED's orientation toward **socially relevant research**, which is embedded in its long-term goals. Specific examples of the implementation of the recommendations are provided in 3.7.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

PED's research focuses on socially relevant topics, including applied research on education systems, curricula, and subject teaching, as well as inclusive education and social integration (see part 3.3). It contributes to improving education quality and focuses on research topics with practical applicability, bridging research with pedagogical practice and disseminating research outcomes to a broader audience. PED is also engaged in research related to the arts and its mediation.

PED's research program is implemented through a wide range of research projects – they can be summarised in four areas:

1. **Basic research projects** (e.g., Czech Science Foundation - GAČR, SYRI) focus on current educational issues in changing social and cultural contexts. These projects explore topics such as social and school inclusion, education quality, and teaching innovations. Research findings provide evidence-based responses to social inequalities and crises such as the COVID-19 pandemic, the integration of Ukrainian students into Czech schools, and challenges related to digitalization. Faculty researchers are actively involved in the SYRI research infrastructure, where, under the leadership of Prof. Šedřová, they conduct studies on the impacts of the pandemic and the adaptation of Ukrainian students, with results that are valuable for decision-making authorities.
2. **Applied research and development projects** (e.g., Technology Agency of Czech Republic – TAČR) focus on creating applied research outputs, such as educational programs, textbooks, methodological guides, teaching materials, instructional experiments, and digital learning applications. These projects follow an iterative process of design, testing, revision, and implementation into practice. Many of these initiatives function as "contract research" for public administration in the education and social sectors, where grant schemes such as TAČR are used to develop solutions for policy challenges.
3. **Practice-oriented research** supports professionals in the field by anchoring them in research and theoretical reflection. This research type aims to improve or innovate specific practices through action research, experimentation, and reflection, directly impacting the educational process. This type of research is viable for preparation of teachers and other helping professionals. Various faculty projects incorporate this approach.
4. **Artistic research** is also part of PED's portfolio, combining artistic practice with academic research. This approach not only generates new knowledge but also contributes to artistic creation and reflection. Alongside the study of art pedagogy theory and practice, PED has long specialized in art mediation, collaborating with galleries and engaging in the operation of visual arts. Artistic research is primarily conducted in disciplines such as visual, gallery, and music pedagogy.

Beyond producing research outcomes, PED is committed to ensuring their **dissemination and practical application**. A key challenge in terms of social relevance is **research outreach**, which aims to enhance the visibility and impact of research findings and strengthen the connection between academia and society.

Research is conducted across **two research institutes** and **twenty departments**. Basic research projects are followed by applied research and development projects, whose results are transferred into practice. As shown in the tables below, PED employs 389 staff members (of whom 257 are women), including 270 academic staff and 119 non-academic staff. PED has 4,906 students (of whom 4,025 are women). It offers 27 bachelor's programs, one five-year master's program, 25 follow-up master's programs, and eight doctoral programs. The structure of the academic staff covers the full spectrum of academic positions, ranging from lecturers to full professors. This diverse composition ensures a balanced mix of teaching and research experience. PED recognizes the need to support academic staff at various career stages. Early-career researchers are supported through the activities of the Postdoctoral School. PED strives to provide junior researchers at the beginning of their academic careers with appropriate support as they transition to independent scientific work. PED also supports senior researchers in their qualification growth and annually announces a competition for a foreign internship for the preparation of habilitation and professor appointment procedures.

Table 3.1.1 - Staffing per FTE²

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	9,6/2	9,9/2	9,7/2	10,2/3	8,8/3	9,6/2,4
Associate Professor	46,7/21,4	45,5/22,3	46,8/22,5	46,9/20,5	45,3/20,9	46,2/21,5
Assistant Professor	118,6/70,6	118,7/70,6	116,9/72,1	121,8/77,7	125,7/82,5	120,3/74,7
Assistant	19,8/12,2	19,8/13,9	18,9/14,1	22,5/17,4	23,2/16,9	20,9/14,9
R&D Personnel ³	23,4/17,1	23,4/16,7	23,2/16,6	20,5/14,9	19,9/14,4	22,1/15,9
Researchers in other categories ⁴	0	0	0	0	0	0
Technical and economic staff ⁵	79,5/58,3	78,9/57,3	79,8/56,1	78,4/56,1	78,6/56,9	79/56,9
Scientific, research and development staff involved in teaching activities	211,3/117,3	212,1/120,8	210,5/124,2	217,8/130,3	219/134,6	214,2/125,5
Early career researchers ⁶	59,5/27,6	52,5/31,7	42,5/25,7	43/26,4	32,1/20,3	45,9/26,3
Total ⁷	297,7/181,6	296,2/182,9	295,3/183,4	300,4/189,6	301,4/194,5	298,2/186,3

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	2	0	1	0	4	1	5	1

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Associate Professor	0	0	1	0	11	4	17	12	18	6	5	1
Assistant Professor	3	0	51	32	57	34	18	13	10	6	3	2
Assistant	2	2	13	6	8	7	1	1	0	0	0	0
R&D Personnel ⁹	3	2	10	9	10	6	5	5	2	2	3	0
Researchers in other categories ¹⁰	0	0	0	0	0	0	0	0	0	0	0	0
Technical and economic staff ¹¹	7	6	28	16	25	19	19	17	8	5	0	0
Scientific, research, and development staff involved in teaching activities	7	3	68	41	86	49	42	31	34	15	16	4
Early career researcher ¹²	8	4	54	30	0	0	0	0	0	0	0	0
Total ¹³	15	10	103	63	113	70	61	48	42	20	16	4

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	2	0	0	0	5	2	5	1
Associate Professor	0	0	0	0	7	4	16	5	20	11	8	3
Assistant Professor	0	0	20	14	74	51	37	19	13	11	1	0
Assistant	1	1	20	14	10	7	2	1	0	0	0	0
R&D Personnel ¹⁵	2	1	8	6	10	7	9	7	3	2	0	0
Researchers in other categories ¹⁶	0	0	0	0	0	0	0	0	0	0	0	0

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

Technical and economic staff ¹⁷	3	1	15	8	35	27	25	19	11	10	1	1
Scientific, research and development staff involved in teaching activities	1	1	45	32	99	67	63	31	40	26	15	5
Early career researcher ¹⁸	3	2	41	20	0	0	0	0	0	0	0	0
Total ¹⁹	6	3	63	42	138	96	89	51	52	36	15	5

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	2839	2188	2901	2230	2891	2247	2950	2281	2842	2393	7368	5663
Master's ²⁰	1759	1537	1767	1533	1883	1600	1894	1643	1881	1640	4898	4214
Doctoral	142	106	136	100	132	94	122	91	130	99	340	259
Lifelong Learning Courses	821	752	919	797	670	577	750	651	877	727	3102	2673
Total	5561	4583	5723	4660	5576	4518	5716	4666	5730	4859	15708	12809

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	34/2	-	34/2	-	33/2	-	33/2	-	33/3	0/1	34/3	0/1
Master's	36/2	-	40/2	-	42/2	-	40/2	-	39/2	-	40/2	-
Doctoral	16/14	-	16/14	-	16/14	-	16/14	-	16/14	-	16/14	-
Lifelong Learning courses	76	-	81	-	74	-	78	-	73	-	81	-
Total	162/18	-	171/18	-	165/18	-	167/18	-	161/19	-	171/19	0/1

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics	0,9	Basic Research	5,2
	1.2 Computer and information sciences	0,7	Balanced basic and applied research	
	1.3 Physical sciences	0,6	Balanced basic and applied research	
	1.4 Chemical sciences	0,5	Basic Research	
	1.5 Earth and related environmental sciences	0,9	Basic Research	
	1.6 Biological sciences	1,6	Basic Research	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	0,1
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering	0,1	Basic Research	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	0,1	Basic Research	0,6
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences	0,5	Basic Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	3	Basic Research	69,2
	5.2 Economics and Business	0,3	Basic Research	
	5.3 Education	61,6	Basic Research	
	5.4 Sociology	1,2	Basic Research	
	5.5 Law	0,8	Basic Research	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography	1,5	Basic Research	

	5.8 Media and communications	0,2	Balanced basic and applied research	
	5.9 Other social sciences	0,6	Balanced basic and applied research	
6. Humanities and the Arts	6.1 History and Archaeology	4,1	Balanced basic and applied research	24,9
	6.2 Languages and Literature	15,8	Basic Research	
	6.3 Philosophy, Ethics and Religion	1,4	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)	3	Basic Research	
	6.5 Other Humanities and the Arts	0,6	Basic Research	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

PED actively participates in shaping the scientific community in the fields of pedagogy, didactics, and other related disciplines.

During the evaluated period from 2019 to 2023, several academic staff members received significant **awards** for their **research and pedagogical work**. Among the most outstanding awards are those from the Ministry of Education, Youth, and Sports, as well as from the Czech Association for Educational Research. Eight academics were honored with MUNI Scientist Awards for Outstanding Research Results and significant contributions to research at Masaryk University. Faculty members received the MUNI Innovation Awards, recognizing individual students and staff whose outcomes have been successfully implemented in practice, improving products or services, or contributing to the practical application of knowledge at the university. During the evaluation period, many Faculty members were also awarded the Rector's Award for the Development of Society, for Research Artistic Achievement, for volunteering, and for their active contributions to societal development.

The academic staff of PED are regularly invited to serve on **editorial boards** of professional and scientific journals in their fields of expertise, both nationally and internationally. Examples of such editorial boards are included in the tables below, featuring foreign international journals, most of which are indexed in Scopus and/or WoS. Faculty members regularly publish in these journals, actively engaging in the international scientific community.

The Faculty members are also involved in **professional associations**, holding positions in various Czech professional organizations (e.g., Czech Association for Educational Research, Czech Pedagogical Society), as well as international ones, including Assoc. Prof. O. Sládek (European Narratology Network), Prof. Jemelka (Member of the Bioethics Commission RVVI), Assoc. Prof. Dontcheva-Navratilova, Assoc. Prof. Povolná (Member of ESSE - The European Society for the Study of English), Assoc. Prof. Vojtová (National Coordinator for Czech in European Agency for Special Needs and Inclusive Education), Assoc. Prof. Sedláček (National Coordinator in the European Association for Music in Schools for the Czech Republic), Assoc. Prof. Vlčková (Member of the European Educational Research Association (EERA), European Association for Research on Learning and Instruction (EARLI)), Dr. Poučová, Assoc. Prof. Bakešová (Member of the Société Internationale des Études Mauriaciennes, 2016–2019), Dr. Gulová (Member of the Council for Mediation and Probation, Ministry of Justice of the Czech Republic, 2017–2020).

PED also **invites guest experts** to give lectures abroad, primarily in European countries (in pedagogy, special education, linguistics, musicology, literature, philosophy, etc.). Invited experts and conference participants from across Europe and overseas also visit PED for lectures; their presentations are highly valued for introducing enriching new ideas and knowledge, as well as for facilitating discussions on various topics.

PED members regularly participate in **international scientific conferences**, and its academic staff members were invited to give **lectures at renowned institutions** during 2019–2023, such as the National Autism Conference at Penn State University, USA, and the University of Minnesota, USA, as well as the VII. Internationale Tagung der Deutschlehrerinnen und Deutschlehrer in Vienna, Austria.

PED members have actively contributed to the **evaluation of national projects in grant panels** for the Czech Science Foundation (GAČR) and the Czech Technology Agency (TAČR). They also serve as **evaluators for international projects** for

the Scientific Grant Agency of the Ministry of Education, Science, Research, and Youth of the Slovak Republic, as well as for European research projects and programs, including the European Science Foundation (ESF).

The academics at PED play a visible role in the scientific communities, with their expertise and results widely recognized. Their professional activities include membership in prestigious international and national professional societies, participation in editorial boards of significant scientific journals, and involvement in research project evaluations. The results of their research are applied not only in academia but also in practice, thereby strengthening PED's reputation within the international scientific community.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname, and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
PhDr. Mgr. et Mgr. Jitka Reissmanová, Ph.D.	Award for excellence in Lung Cancer Journalism. Global LUnG Cancer Coalition, Onkomaják, 2019	Journalism Awards 2019 Global Lung Cancer Coalition
RNDr. Hana Svobodová, Ph.D. a Mgr. Radek Durna	Commemorative Certificate of the Minister of Education, Youth, and Sports for representing the Czech Republic in international knowledge competitions held in 2019.	Ministry of Education, Youth and Sports, 2019
doc. Mgr. Jana Kratochvílová, Ph.D.	Medal of the Ministry of Education, Youth and Sports (2nd degree) for long-term research on formative assessment in pre-service teacher education and efforts to implement changes in school report cards in the Czech Republic.	Ministry of Education, Youth and Sports, 2023
Mgr. et Mgr. Markéta Košatková, Ph.D.	Award of the Minister of Education, Youth, and Sports for Outstanding Educational Activity at a University – This award is given to university staff for outstanding educational activity or significant innovation in educational practices over the past three years. Dr. Košatková has long been committed to transforming the educational environment by supporting students at Masaryk University not only in academic excellence but also in their personal and social development.	Ministry of Education, Youth and Sports, 2023
Mgr. et Mgr. Markéta Košatková, Ph.D.	Award of Česká spořitelna Foundation for Merit in the Approach to Educating Future Teachers	The Foundation of Česká spořitelna, 2022
doc. PhDr. Jiří Poláček, CSc.	South Moravian Region Award - for contribution to the fame and	South Moravian Region

SELF-EVALUATION REPORT FOR MODULE 3

<u>Mgr. Jana Obrovská, Ph.D.</u> <u>doc. Mgr. Lucie Jarkovská, Ph.D.</u> <u>Mgr. Bc. Jan Nehyba, Ph.D.</u> <u>doc. PhDr. Věra Vojtová, Ph.D.</u>	creative principle not only in visual arts but also in pedagogy. MUNI Scientist (2023). Awarded for publication Obrovská, J., Svojanovský, P., Kratochvílová, J., Lojdová, K., Tůma, F., & Vlčková, K. (2023). Promises and challenges of differentiated instruction as pre-service teachers learn to address pupil diversity. <i>Journal of Education for Teaching</i>, 1-18. MUNI Scientist (2023). Awarded for the popularization of social sciences. TEDxPragueED Feminism Made Easy: A Handbook of Arguments for Debates with Family and Friends. MUNI Scientist (2022). Awarded for publication Nehyba, J., Juhaňák, L., & Cigán, J. (2021). Effects of Seating Arrangement on Students' Interaction in Group Reflective Practice. <i>The Journal of Experimental Education</i>, 91(2), 249-277. MUNI Scientist (2022). Awarded for co-authoring the publication <i>Dyslexia and Accessibility in the Modern Era: Emerging Research and Opportunities</i>	
<u>doc. RNDr. Alena Žákovská, Ph.D.</u> <u>Mgr. Miroslav Jurčík, Ph.D.</u>	MUNI Innovation Award (2021) for long-term research into Lyme disease and its impact on society, as well as the related media coverage and edification towards the general public and professionals, including direct cooperation with patients, especially in the case of chronic and hard-to-treat forms. MUNI Innovation Award (2021) for the BEZRÁKOSKY teaching cards created as a teaching aid for students of the eponymous field of study at the Faculty of Education. Today they are actively used by teachers. The insufficient support of students and young teachers in the	Masaryk University

	area of ensuring discipline is among the key problems teachers have to face. The purpose of this aid is to provide a specific tool that can be effective in handling conflicting situations.	
Mgr. Pavel Sochor, Ph.D. Prof. PhDr. Karel Pančocha, Ph.D., M.Sc. a PhDr. Helena Vaňurová, Ph.D., M.Sc. doc. Mgr. Jana Kratochvílová, Ph.D. Mgr. Marek Olbrzymek, Ph.D. Prof. PaedDr. Radek Horáček, Ph.D. doc. Mgr. Petr Hala, Ph.D. et Ph.D. Mgr. Petr Kamenický, Ph.D. Mgr. Lenka Ďulíková, Ph.D. Mgr. Irena Hůlková, Ph.D.	The Masaryk University Rector's Awards Award for the Active Development of Civil Society Award for Innovations in Teaching Award for Outstanding Artistic Activity, Award for Volunteering Award for outstanding teachers in the field of social sciences and humanities	Masaryk University

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
doc. Mgr. Olga Dontcheva-Navrátilová, Ph.D.	Co-editor-in-chief of the scientific journal "Discourse and Interaction". 2014 - 2026. ISSN 1802-9930
doc. Mgr. Světlana Hanušová, Ph.D.	Member of editorial Board The European Journal of Applied Linguistics and TEFL, 2018 - 2021, ISSN 2192-1032
doc. Mgr. Olga Dontcheva-Navrátilová, Ph.D., Mgr. Renata Jančaříková, Ph.D.	Members of Editorial Board Topics in Linguistics. 2015-2025. ISSN 1337-7590
PhDr. Zdeňka Schejbalová, Ph.D.	Member of Editorial Board of XLinguae European Scientific Language Journal – 2019. ISSN 1337-8384

prof. PhDr. Judita Kučerová, Ph.D. doc. PhDr. Marek Sedláček, Ph.D. doc. Mgr. Petr Hala, Ph.D. et Ph.D.	Members of the Advisory Board for the international scientific journal ARS INTER CULTURAS. 2017-2022. ISSN 2083-1226
doc. PhDr. Mgr. Simona Koryčánková, Ph.D.	Member of Editorial Board WEST-EAST. Scientific Journal, 2019. ISSN 2587-5434
prof. PhDr. Petr Jemelka, Dr.	Member of Editorial Board Ethics and Bioethics. 2017-2024. ISSN 2453-7829
prof. PhDr. Věra Janíková, Ph.D.	Member of Editorial Board KONTEXTE, 2022. ISSN 2941-1408.
doc. PhDr. Jiří Němec, Ph.D. Mgr. Petr Svojanovský, Ph.D. doc. Mgr. et Mgr. Kateřina Vlčková, Ph.D.	Members of Editorial Boards Studia Paedagogica. ISSN 2336-4521.
prof. PhDr. Tomáš Janík, Ph.D. M.Ed. doc. PhDr. Jiří Němec, Ph.D. doc. Mgr. Petr Najvar, Ph.D. prof. PhDr. Karel Pančocha, Ph.D., M.Sc.	Members of Editorial Board Orbis Scholae. ISSN 1802-4637

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
doc. Mgr. Olga Dontcheva-Navrátilová, Ph.D.	Writer-reader interaction in academic discourse across genres, cultures, and modalities	ESSE Conference 2022 Mainz Johannes Gutenberg University Mainz, Germany	2020
doc. RNDr. Alena Žáková, Ph.D.	Vectors and hosts of the pathogenic microorganisms causing zoonosis, pathogenic organisms	University of Greifswald, Germany	2023
doc. PhDr. Ondřej Sládek, Ph.D.	Addressing the Addressee and the Games of Narrative and Fiction: From Modernism to Postmodernism. (Requested lectures)	The University of Heidelberg, DFG Network Diachronic Metalepsis, Workshop 2 Narrators and narratees intervening in the diegetic world Microsoft Word - Schedule print.docx	2022
doc. Mgr. Václava Bakešová, Ph.D.	La préparation des enseignants en République tchèque	Institut catholique de Toulouse, France.	2020
doc. Mgr. Tomáš Káňa, Ph.D.	Plenarvortrag an der Internationalen Tagung der Deutschlehrerinnen und	VII. Internationale Tagung der Deutschlehrerinnen und Deutschlehrer, Wien	2022

	Deutschlehrer: Instrumente für ein demokratisches Sprachenlernen		
Mgr. Slavomír Lesňák, Ph.D.	Environmental Ethics in Central Europe,	Cardinal Stefan Wyszyński University, Warsaw, Workshop: Presentation of Research Results for Researchers of Center for Ecology and Ecophilosophy.	2022
Mgr. Jana Obrovská, Ph.D.	Biographies of Roma Mothering in Contemporary Czechia	Qualitative methods in studies of identities and attachment: mothers and children's perspectives. Book launch and seminar organized by University of Oxford, Department of Education.	2023
doc. PhDr. Mgr. Barbora Bazalová, Ph.D.	Education of pupils with autism spectrum disorder	The invited lecture for Rotary Club Yerevan and the teacher for the Spitak School, Armenia.	2021
PhDr. Lucie Procházková, Ph.D.	Vocational education and support of pupils with SEN in Czech Republic	JAMK – University of Applied Sciences, Finland	2022
PhDr. Helena Vaňurová, Ph.D., M.Sc.	International Applications Derived from PATTAN's Autism Initiative	National Autism Conference. Penn State University, USA, National Autism Conference 2019: Directory	2019

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Prof. Dr. Matthias Hardt (Dep. of Czech Language)	Leibniz Institute for the History and Culture of Easter Europe, Germany	Der hochmittelalterliche Landesausbau und seine ökologischen Folgen	2023
Prof. dr. hab. Wojciech Waleczek (Dep. of Music)	University of Silesia in Katowice, Poland	Selected piano transcriptions and paraphrases of Liszt and their archetypes. The transfer of emotions contained in the original works by means of piano techniques	2019
Natalia Robak (Dep. of German Language)	Faculty of Human Sciences, University of Potsdam, Germany	Einführung in die qualitative Forschung	2023
Katelhön Peggy (Dep. of German Language)	Centro linguistico d'Ateneo e Facoltà di Lingue e Letterature straniere dell'Università degli Studi di Bergamo, Bergamo, Italy	Mediation	2019
Elisabeth Washington. (Dep. of Civics)	University of Florida, USA	Fulbright scholarship holder at the Department of Civics: semester teaching of Critical Issues in Democratic Citizenship Education	2022

Prof. Dr. Ilja Seržant (Dep. of Russian Language)	Institute for Linguistic Studies, University of Potsdam, Germany	Argument flagging across Slavic: areal and diachronic trends	2023
Dr. Maria Ovsjannikova (Dep. of Russian Language)	University of Potsdam, Institute for Linguistic Studies, Germany	The history of transitive impersonal verbs in Russian: znobit', oženit' and others	2023
Assar Hörnell (Dep. of Special and Inclusive Education)	Faculty of Human Sciences, Department of Education, Mid Sweden University, Sweden	Special and Inclusive Education in the Swedish context	2019
Maija Mäkinen (Dep. of Special and Inclusive Education)	JAMK- University of Applied Sciences, Jyväskylä, Finland	Workshop on Inclusive Education Practical aspects of inclusion in Schools and Classrooms"	2023
Miriam Sarid (Dep. of Special and Inclusive Education)	Western Galilee College, Israel	Students with Learning Disabilities in Higher Education –	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Ing. Radovan Smolinský, Ph.D., Ph.D.	Grant Evaluator	The Scientific Grant Agency of the Ministry of Education, Research, Development and Youth of the Slovak Republic and the Slovak Academy of Sciences	2019
doc. PhDr. Milena Šubrtová, Ph.D.	A member of the jury for the State Prize for Literature MK	Ministry of Culture of Czech Republic	2022, 2023
Mgr. Hana Svobodová, Dr. phil.	Expert guarantor	APIV: Teaching Czech as a Second Language	2021
PhDr. Denisa Denglerová, Ph.D.	Expert of the ÉTA panel	Technology Agency of Czech Republic	2020 - 2022
doc. PhDr. Mgr. Barbora Bazalová, Ph.D.	Evaluator of Science and Research Projects	ESF: European Science Foundation	2022 - 2023.
doc. PhDr. Ilona Bytešníková, Ph.D.	Project Proposal Evaluator, Member of Subject-Specific Panels, and Expert.	Technology Agency of Czech Republic	2019 - 2023

doc. PhDr. Mgr. Barbora Bazalová, Ph.D.	Project Proposal Evaluator, Member of Subject-Specific Panels, and Expert.	Technology Agency of Czech Republic	2019 - 2023
doc. Mgr. Petr Knecht, Ph.D.	Member of panel Pedagogy, Psychology	Czech Science Foundation	2021- 2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

The Faculty of Education focuses its research primarily on areas with significant social impact, although their commercial potential is limited. Therefore, it is natural that research at the Faculty of Education is not primarily oriented toward direct commercial applications or collaboration with industrial partners, who usually fund contract research at technical or natural science faculties. Instead, the research outputs are utilized by state institutions, schools, and non-profit organizations.

The research activities of the Faculty of Education are primarily carried out through grant projects funded by public sources, such as the Czech Science Foundation (GAČR) – supporting basic research, and the Czech Technology Agency (TAČR) – supporting applied research projects.

Between 2019 and 2023, the Faculty of Education participated in several key research projects that had a significant impact on educational practice, educational policy, and the development of scientific disciplines. Below, we list the ten most significant projects based on their scientific contribution, application potential, and interdisciplinarity.

The social relevance is further contributed by the resolution of several projects addressing its selected aspects. Social relevance, in terms of research addressing issues that are seen as societal challenges (inclusion, social disadvantage, inequality, disparities, migration, multilingualism, etc.), is captured in projects of the national research infrastructure SYRI, in which the Faculty participates with its expertise. Examples of such projects include:

1. National Institute for the Research of Socioeconomic Impacts of Diseases and Systemic Risks (2022/99/LX22NPO5101, NPI)

The SYRI project aimed to enhance the ability of research capacities to respond to current trends and needs in R&D in relation to the occurrence of serious diseases and the risks associated with them by creating and establishing a national scientific authority in a selected priority area of R&D, focusing on specific social science disciplines aimed at the social and economic impacts of systemic health risks, including risks similar to pandemics like COVID-19. As part of SYRI, a strong consortium of three institutions was formed, where cutting-edge social science research is carried out in various disciplines (economics, pedagogy, sociology, psychology, law, political

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

science, media studies, social geography, public health), and their integration allowed for the creation of new knowledge that will be both of excellent scientific quality and practically applicable in areas such as the functioning of public administration, communication between public authorities and the public, and societal behavior in situations of health threats, healthcare efficiency, lifestyle, and other socio-economic determinants of health risks, as well as the recovery of the economy after health or security crises, considering economic policy, the labor market and unemployment, human capital, and education, or addressing the increase in poverty.

[Project | Masaryk University](#)

2. School as a Multilingual Space. Exploring Linguistic Reality in Czech Urban Schools - MultiSpace (GA19-12624S, The Czech Science Foundation)

Due to social circumstances and political development, society is increasingly more diverse and multilingualism is becoming a reality. This development has an impact on educational context: schools are becoming spaces, where students with various linguistic repertoires meet. The main aim of this project was to explore how the multilingual social spaces in schools are perceived, produced, realized, and lived. For the operationalization of multilingual realities, we use Lefebvre's concept of space, conceptions of language regime, and language users (language identity). This project is based on a multimodal methodological approach including linguistic landscaping, language identity research using language portraits and language situations, focus groups, and interviews (with school headmasters, students, teachers, and parents). For data analysis, qualitative methods (critical discourse analysis, qualitative content analysis, qualitative document analysis) will be used. The findings contribute to our better understanding of multilingual reality and will be presented in research papers.

[School as a multilingual space? Exploring linguistic realities at Czech urban schools \(MultiSpace\) | Masaryk University](#)

3. Research and Teaching of Academic Writing from an Intercultural Perspective (LTC18015, COST)

The aim of this project was threefold: (1) to carry out a corpus-based research and genre analysis of expert and learner's academic discourse from a cross-cultural perspective to identify realizations and examine the linguistic manifestation of cross-cultural variation in English-medium academic discourse by Czech writers, (2) to carry out a needs analysis aiming at identifying the aspects of academic writing that need to be strengthened in higher education academic writing courses, (3) to implement the findings of the corpus-based and genre research and the need-analysis in the teaching of academic writing in university academic writing courses under the form of recommendations for academic writing courses design and to evaluate the progress of the students involved in these courses.

[Researching and teaching academic writing from a cross-cultural perspective | Masaryk University](#)

Another aspect of socially relevant research is research that leads to the creation of sectoral policies, where research studies aim to design legislation and its implementation in the public sphere. Examples of such projects are two projects funded by the Czech Technology Agency.

4. Early Childhood Education in DayCare Institutions in the Czech Republic (TL02000306, Technology Agency of Czech Republic)

The project was focused on innovative research aimed at contributing to the expansion of early childhood research in the Czech pedagogical discourse: It mapped the experiences of key actors in various types of daycare facilities for children under 3 and analyzed them together with current discussions on early care and education in wider sociological, pedagogical and historical contexts. Using the results of the research, it intends to implement the theme of early care and education into the professional training of pedagogical capacities, both at the level of higher education and at the level of lifelong learning at the Faculty of Education of Masaryk University, and to actively support the involvement of the given topic in the curricula of pedagogical vocational and secondary schools

[Early Childhood Education and Care in Day Care Facilities in the Czech Republic | Masaryk University](#)

5. Development and Implementation of a Pilot Design for School Reports: Innovation of Final Assessment of Primary School Students in Connection with Comprehensive Developmental Assessment (TL05000360, Technology Agency of Czech Republic)

The aim was to create and pilot a comprehensive concept of assessment of the processes and results of pupils' learning in basic education, which meets the current challenges related to the interconnection of formative and summative assessment. The outcomes are a) a pilot design of end-term certificates for primary and lower secondary schools; b) a summary research report with the introduction of the interconnection of both formative and summative assessment in practice; c) a workshop focused on the possibilities and regularities of using a pilot

design of end-term certificates; and e) a popularization text. We combine knowledge and experience from the educational process, knowledge from the fields of pedagogy and psychology, and sociology knowledge about the transfer of innovations into ed.

[Development and implementation of a pilot design end-semester /school certificate: Innovation of final pupils' assessment in the elementary schools based on comprehensive concept of assessment. | Masaryk University](#)

In addition to the above, social relevance is realized in research that leads to applications in the form of practically usable tools. Such research is typically based on design-based research methods, where research plays a role in providing feedback during the development of a tool, which undergoes modifications through research and practical testing, leading to its optimization. An example of this is:

6. Development of an Online Platform for Supporting Professional Growth of Pre-Service and In-Service Geography Teachers: A Diagnostic Tool for Identifying Teaching Conceptions (TL05000033, Technology Agency of Czech Republic)

The project aim was to develop a diagnostic instrument based on a responsive website platform that will enable pre-service and in-service geography teachers to identify their conceptions of geography teaching and that subsequently will provide them with feedback and recommendations for improving their geography teaching. The instrument uses a validated typology of geography teaching. The instrument responds to the low and unsatisfying quality of geography education in Czechia, and the low image of geography perceived by Czech pupils (CSI, 2019). The main outcomes of the project were (a) the responsive website enabling online self-diagnosis of conceptions and providing recommendations for improvement, (b) a research report, (c) a series of workshops aimed at geography teachers.

[Development of an online platform supporting pre-service and in-service geography teachers' professional development: A diagnostic tool for identifying conceptions of geography teaching | Masaryk University](#)

7. Hyperspace for Formative Assessment and Inquiry-Based Teaching in Science Subjects and Mathematics (TL02000368, Technology Agency of Czech Republic)

The aim was to create a hyperspace for (student) teachers focused on implementing inquiry-based teaching and formative assessment in primary and lower secondary instruction. Users are provided with opportunities to develop knowledge and skills through working with video recordings of instruction or pre-designed learning tasks. They learn to elaborate learning progression maps. Moreover, teaching materials, worksheets, diagnostic instruments for monitoring formative learning climate, etc., and other resources will be available. The level of "WHAT" and "HOW" in inquiry-based science teaching and formative assessment is complemented by the information necessary for understanding the educational and psychological background of "WHY" and "WHEN" the work through these methods is effective.

[Learning Hyperspace for Formative Assessment and Inquiry Based Science Teaching | Masaryk University](#)

8. Telepractice – Support for Parents and Children with Neurodevelopmental Disorders in the Home Environment (TL04000069, Technology Agency of Czech Republic)

The aim of the project was: a) to create a Telepractice methodology for the support of children with neurodevelopmental disorders through behavioral interventions, which will be culturally sensitive to the needs of Czech families and caregivers; b) to develop and empirically verify an e-learning system for parents and caregivers focused on telepractice and behavioral methods and procedures; c) to pilot the possibilities of using Telepractice in selected families caring for children with neurodevelopmental disorders, specifically autism spectrum disorders; d) based on the results of the pilot, develop a comprehensive model for the implementation of Telepractice of behavioral interventions in the Czech environment and create an online platform for sharing and dissemination of treatment resources.

[Telepractice – Support of Parents and Children with Neurodevelopmental Disabilities in Home-based Settings | Masaryk University](#)

9. Word Formation Analyzer for Teaching Czech as a Foreign Language – SLAN (TL03000293, Technology Agency of Czech Republic)

The SLAN project aimed to process Czech and Russian word formation to teach Czech as a foreign language. Migration and integration processes typical for today's society are associated with the development of communicative competence and foreign languages, and in SLAN, it is Czech for foreigners. The outcomes of SLAN (online exercises, worksheets, methodological recommendations) were missing in teaching materials currently available in the market. They are, therefore, beneficial for teaching such subjects as Czech as a foreign language/Czech for students with a different mother tongue, and also as methodological help for teachers. The SLAN project also creates corpora of current vocabulary according to language levels (A2–B2), which can be used by both teachers and students.

[Word-formation Analysis Software Tool for Teaching Czech for Foreigners \(SLAN\) | Masaryk University](#)

10. Use of Artificial Intelligence and Virtual Reality in the Development of Competencies for Managing Challenging Behavior in the Classroom (TQ01000030, Technology Agency of Czech Republic)

The goal of the project is to support teacher education students in acquiring competencies to manage and cope with challenging student behavior in the classroom. This support will be realized through two main approaches: the first involves a gamified interactive database of written case studies where students can search for solutions to various challenging behaviors that occur in the classroom and practice resolving these situations by writing responses on how they would handle the situation. These solutions will then be automatically assessed using machine learning (artificial intelligence) to determine how similar they are to solutions used by teachers. For students who need a different type of support in acquiring competencies, they will be able to try managing and dealing with challenging student behavior through virtual reality, which will simulate challenging student behavior in the classroom.

[Using artificial intelligence and virtual reality in developing competencies to solve challenging behavior in the classroom | Masaryk University](#)

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Ministry of Education, Youth and Sports - National Recovery Plan	2022/99/LX22NPO5101 - National Institute for the Research of Socioeconomic Impacts of Diseases and Systemic Risks				1199/46,1	2269/87,3
Technology Agency of Czech Republic	2019/41/TL02000306 - Early Childhood Education in Day Care Institutions in the Czech Republic	1187/45,7	1143/44	1179/45,3		
Technology Agency of Czech Republic	2021/41/TL05000033 - Development of an Online Platform for Supporting Professional Growth of Pre-Service and In-Service Geography Teachers: A Diagnostic Tool for Identifying Teaching Conceptions			570/21,9	1217/46,8	454/17,5
COST	2018/41/LTC18015 - Research and Teaching of Academic Writing from an Intercultural Perspective	947/36,4	762/29,3			
The Czech Science Foundation	2019/41/GA19-12624S - School as a Multilingual Space. Exploring Linguistic Reality in	925/35,6	995/38,3	961/37		

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

	Czech Urban Schools (MultiSpace)					
Technology Agency of Czech Republic	2020/41/TL03000293 - Word Formation Analyzer for Teaching Czech as a Foreign Language (SLAN)		392/15,1	651/25	439/16,9	181/7
Technology Agency of Czech Republic	2020/41/TL04000069 - Telepractice – Support for Parents and Children with Neurodevelopmental Disorders in the Home Environment		385/14,8	1689/65	1165/44,8	
Technology Agency of Czech Republic	2021/41/TL05000360 - Development and Implementation of a Pilot Design for School Reports: Innovation of Final Assessment of Primary School Students in Connection with Comprehensive Developmental Assessment			712/27,4	953/36,7	975/37,5
Technology Agency of Czech Republic	2023/41/TQ01000030 - Use of Artificial Intelligence and Virtual Reality in the Development of Competencies for Managing Challenging Behavior in the Classroom					1016/39,1
Total		3086	3059/117,7	3677/141,5	5762/221,6	4973/191,3
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Technology Agency of Czech Republic	2019/41/TL02000368 - Hyperspace for Formative Assessment and Inquiry-Based Teaching in Science Subjects and Mathematics (Leading partner: University of South Bohemia České Budějovice)	301/11,6	301/11,6	301/11,6	160/6,2	
Total		301	301/11,6	301/11,6	301/11,6	160/6,2

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Total						

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

²⁷ Ibid.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

Research conducted at the Faculty of Education significantly contributes to the development of education, inclusion, and educational policies, which impacts various social groups (teachers, students, the public sector, families, and schools). Another area of focus is didactic research aimed at developing educational concepts, curricula, teaching, and learning, as well as producing results with practical applications to support pedagogical practice. Between 2019 and 2023, PED carried out several important research projects with practical applications whose outcomes are or will have a real impact on society.

The societal impact of these projects primarily relates to improving the quality and accessibility of education, supporting inclusion and equal opportunities, developing new methods and teaching tools, applying digital tools and technologies, innovating assessment approaches, and creating new strategies in educational policies.

Below are ten of the most significant applied outcomes:

1. **The Hyperspace web portal** was created as a result of the project TL02000368 Hyperspace for Formative Assessment and Inquiry-Based Teaching in Science and Mathematics. It is a virtual training environment aimed at the development of teachers' professional competencies. The work in Hyperspace is based on video recordings of lessons. By watching these videos, or more precisely by analyzing them in detail, teachers improve their ability to identify key aspects of teaching – they develop their professional vision. To sharpen their professional vision, Hyperspace utilizes theoretical frameworks (inquiry-based teaching, principles of formative assessment, theory of content transformation), methodological tools (3A Methodology), and activation tasks. An online manual has been created and modified according to user feedback to guide users in navigating the environment and utilizing various features in Hyperspace. An animated video on the homepage provides basic guidance on the materials available in Hyperspace and its intended purpose. Two video tutorials are located on the "How to work with Hyperspace" tab, providing users with information on how to customize the Hyperspace environment for comfortable and clear work with multimedia content, as well as how to use the different options and variants of working within Hyperspace.

[Introduction | Hyperspace](#)

[Hyperspace for formative assessment and inquiry-based learning: Concept – development – application | Masaryk University](#)

2. **The Telepractice web portal**, which includes instructional manuals and an e-learning course, was created as a supportive platform for families of children with neurodevelopmental disorders and the therapists who provide online support to these families. It was developed as part of the project TL04000069 Telepractice – Supporting Parents and Children with Neurodevelopmental Disorders in the Home Environment. The portal contains instructional videos on both interventions and ICT support, manuals, and materials necessary for initiating and conducting long-term behavioral interventions. These materials focus not only on carrying out the interventions themselves but also on their legal and administrative support, as well as sharing best practices. The portal also includes an e-learning course where participants (parents of children with neurodevelopmental disorders) become familiar with the basic principles and procedures of applied behavior analysis and practice using them. The course consists of 8 online lessons (estimated duration: 8-10 weeks), which the parent progresses through at their own pace. Each lesson includes study materials, an audio lecture, exercises with answer verification, and a

²⁹ See Terms definition.

standalone task. The estimated time required for each module, including exercises and the independent task, is approximately 3 hours.

[Telepractice – Supporting children with neurodevelopmental disabilities in the home environment | MUNI PED](#)
[Access to e-learning](#)

[Piloting an E-Learning Applied Behavior Analysis Course for Caregivers of Children with Autism in the Czech Republic | Masarykova univerzita](#)

[Examining the perceptions of needs, services and abilities of Czech and North Macedonian caregivers of children with autism and trainers | Masarykova univerzita](#)

3. **The Geo4tea application** (Geography for Teachers) was developed as part of the project TL05000033 Development of an Online Platform to Support the Professional Growth of Teaching Students and Geography Teachers: A Diagnostic Tool for Identifying Teaching Approaches. The application was developed in a responsive format for all predominant operating systems. It is intended to help teaching students and geography teachers self-identify their approach to teaching geography and offer them feedback along with subject-didactic recommendations to improve their teaching. The application can be used on mobile devices, tablets, or PCs with Windows, Android, and iOS. It is aimed at students of geography teacher training, as well as geography teachers at all educational levels, both certified and non-certified. Using a simple calculator, participants can calculate their predominant approach to teaching. There are nine different approaches to geographic education. The application is based on the results of basic research funded by the Czech Science Foundation (GA ČR) and its development was financed by the Technology Agency of the Czech Republic (TA ČR). The application is available in both Czech and English. A series of nine workshops were held for teachers, who are the main target group. The collaborating university department or the application guarantor's institution ensured the participation of teachers from the relevant catchment area. During the workshops, the platform geo4tea.com/en/ was introduced, and its usage options were demonstrated.
geo4tea.com/en/

4. **Design of School Certificate for Elementary Schools** was created within the project TL05000360 Development and implementation of a pilot design end-semester /school certificate: Innovation of final pupils' assessment in the elementary schools based on comprehensive concept of assessment. The School Certificate includes broader student evaluation, emphasizing not only knowledge but also competencies. It aims to provide more informative value than the current traditional grading of School Certificate. It is designed to build upon the ongoing formative assessment of students and to provide a comprehensive evaluation of their progress. The project's result, the pilot design of the School Certificate, offers teachers, students, and parents a new perspective on final student evaluations. The School Certificate gives a more comprehensive insight into the learning process, the student's results, and their personality. Since the autumn 2022, a website has been launched to present the template and the project – [Certificate OTHERWISE | MUNI PED](#). The website is intended not only for schools involved in the project but also for other interested parties, the professional community, and parents. It contains information about the project and its goals, presents the final version of the School Certificate template, and provides methodology for teachers. To inspire, the website also features examples of School Certificate, self-assessments, and examples of evaluations in subjects related to character development. Additionally, the website provides information about educational courses, which serve as another form of methodological support for schools and teachers. For easier implementation by schools and the public, the term "Vysvědčení JINAK" has been adopted. The word "JINAK" is also an acronym: J – "Jednotlivě" (Individually): recognizing the child's strengths, and progress, and supporting their development, I – "Informativně" (Informatively): useful for the child's further development and self-perception, N – "Nově" (Newly): including the child's self-assessment as part of the final report, A – "Aktivně" (Actively): providing information for further actions, supporting the child's responsibility for their results, K – "Komplexně" (Comprehensively): offering a holistic view of the child; evaluating not only knowledge but also behavioral expressions.

[Studie o procesu tvorby designu a popisu vysvědčení: souhrnná výzkumná zpráva | Masaryk University](#)
[„Jdeme do hloubky k dětem“: vývoj procesu změny zavádění inovovaného závěrečného hodnocení výsledků žáků v praxi škol | Masaryk University](#)

5. As part of the project TL02000064 Barriers in Inclusion and Their Overcoming – Implementation in Czech Primary Schools, the online **platform Beln** was created, which includes a summary of barriers to inclusion and their solutions. The website is available to the general public and directly addresses the needs of primary school staff. Additionally, an e-learning course IVp020 "Guide for Beginning Teachers" is available, featuring an interactive curriculum providing teachers and other interested parties with methodological support in school inclusion. The course aims to introduce new teachers to situations they may encounter at the start of their careers. The course

guides students through the following topics: how to establish a relationship with the principal and colleagues, how to find their teaching style, how to get to know their class, how to plan and provide supportive measures, how to collaborate with the school's counseling office and teacher assistants, how to give formative feedback and assessments, and how to handle student behavior. The entire e-learning is designed to connect theoretical knowledge with practical activities. The goal of e-learning is to introduce students to school practice and its functioning without major difficulties.

[PDF:IVp020 Průvodce začínajícího učitele - Course Information](#)

A methodology for meeting platforms for sharing and exchanging experiences among educational staff has also been created. This methodology summarizes practices from both domestic and international schools in the area of professional support through sharing and exchanging experiences within a school staff, both within a single school and between staff members from two or more schools. The introduction outlines general principles for sharing within collegial support.

[metodika_bein_fin.pdf](#) (only in Czech language)

6. As an output of the project TL02000306 Early Childhood Education in Day Care Institutions in the Czech Republic, a **website for the Center for Early Childhood Education and Care** at the Faculty of Education was created, along with an e-learning platform that includes instructional videos and supplementary worksheets. The result "Creation of Instructional Videos" includes the following videos and accompanying materials: Adaptation with parent, Adaptation without parent, Active listening, Supportive environment, Comfortable daily routine, Children's play and the role of early childhood education and care facilities, Play as a means of developing the volitional aspect of a child's personality, Play and cognitive development of children, Play and social development of children. Worksheets: Adaptation with parent, Adaptation without parent, Active listening, Supportive environment, Comfortable daily routine, Children's play and the role of early childhood education and care facilities, Play as a means of developing the volitional aspect of a child's personality, Play and cognitive development of children, Play and social development of children + Support for teachers. Additionally, authorization was obtained for a legal entity according to Act No. 179/2006 Coll. for qualifications 69-073-M Childcare Worker for Children in Day Care Groups and 69-017-M Childcare Worker for Children Before Starting Compulsory School Attendance. This step allows offering this qualification not only to interested students but also to those already in the job market who wish to continue their education. Students in relevant pedagogical fields (e.g., preschool, special, and social pedagogy) can therefore gain a suitable supplement to their education during their studies, which will enable them to work in childcare groups with both children under 3 years old and older children. The legislative amendment now requires relevant pedagogical education for caregivers in daycare groups providing services to children over 3 years old. This combination (studies in preschool, special, or social pedagogy + childcare worker qualification) meets both the current legal framework and the practical requirements of childcare groups for caregiving staff.

[Early Childhood Education and Care Center | Faculty of Education MUNI](#)

[Teaching materials | Early childhood education and care center | Faculty of Education MUNI](#)

[What is early childhood education and care for? How early childhood education and care for children under the age of three is discussed in the Czech Republic | Masaryk University](#)

7. **The SLAN software** (web and mobile application) was developed as part of the project TL03000293 Word Formation Analyzer for Teaching Czech to Foreigners (SLAN). The project was carried out by a team of authors from Department of Russian Language and Literature, Department of Czech Language and Literature, Department of German Language and Literature. The external application guarantors of the project were the Association of Teachers of Czech as a Foreign Language and the Center for Foreigners in the South Moravian Region. The software allows users to generate online exercises and worksheets on word formation in Czech, and it includes methodological recommendations for teachers (advice for various task types). The software also contains descriptions/explanations of individual affixes in Russian and English (for Russian and English-speaking foreigners), with their equivalents provided in Russian (if available). The SLAN software enables work with the word formation structure of Czech nouns found in Czech textbooks for foreigners at levels A2–B2 (the total number of units with which SLAN works is 2,132). The software uses data from the UčebKo corpus, which operates on the SketchEngine platform: <https://ske.fi.muni.cz>. As part of the SLAN project, the UčebKo textbook corpus was created, consisting of 9 Czech textbooks for foreigners at levels A2–B2, in total 303,862 words. The SLAN software is available as a freely accessible web interface, where users can work interactively in two modules: "I am a student" and "I am a teacher." A detailed description of both modules and the features of the SLAN software can be found in the User Manual. The UčebKo textbook corpus may only be used for scientific research, with the aim of not achieving direct or indirect economic or commercial benefit, and only to the extent necessary for the intended purpose.

<https://slan.ped.muni.cz/#/>

Word-formation Analysis Software Tool for Teaching Czech for Foreigners (SLAN). An interim report. | Masarykova univerzita

8. The goal of the project TQ01000030 Using Artificial Intelligence and Virtual Reality to Develop Competencies for Managing Challenging Behavior in the Classroom is to support students in teacher training and beginning teachers in their efforts to prepare for and better manage challenging behavior in the classroom. As part of the project, a **web platform** was created, and several key features were implemented: Full-text search for case studies and recommending similar cases using a vector database: The introduction of full-text search and the recommendation of similar case studies using a vector database facilitates working with data. Deployment of the Whisper model on the MUNI infrastructure and its connection to the backend enabling transcription of audio to text: The backend now allows audio recordings to be uploaded, which are automatically transcribed to text thanks to the Whisper model integrated into the MUNI infrastructure. Support for creating case studies with audio upload and automatic extraction of important data using the Whisper and GPT-4 models.
Automatic generation of proposed solutions for case studies using artificial intelligence.
Today, both beginning and experienced teachers often assess their professional competencies as insufficient for managing discipline situations in the classroom. This often leads to frustration and professional dissatisfaction. Through this project, teachers will be able to analyze situations involving challenging student behavior and try to propose solutions for these situations. These might be situations that more or less occur in school practice, with which teachers may not always know how to deal. We believe that deepening reflection and a creative approach to problem-solving, based on theoretical concepts, will lead teachers to develop their professional competencies and strengthen their confidence. Our goal is to support teachers in gaining confidence in managing challenging educational situations in the classroom and enhancing the quality of a positive classroom climate.
<https://edustories.cz/>

9. As part of the project TL03000425 3D Printing and its Application in Primary and Secondary Schools, which aimed to utilize the potential of 3D printing to enhance the quality of the educational process and further improve the education of teachers and students in this field to increase their pedagogical and didactic competencies, and in cooperation with the company Y Soft, publicly accessible **lessons, 3D teaching aids, and a verified methodology** for integrating 3D printing technology into teaching in primary and secondary schools were created. The contribution of the publication lies in the application area of schools, educational institutions, and supporting didactics in subjects such as computer science, technology, mathematics, geography, natural sciences, and more. The project's output is an online collection of 3D printing lessons intended for educational professionals. The 3D printing lesson plans consist of projects tested by teachers, which use 3D printing to practically teach technical and creative subjects. Each 3D lesson plan offers a variety of materials, including 3D model files, videos, worksheets for students, and presentations to explain the project to students. The output also includes the creation of teaching aids, which are available online at Be3Academy.
[3D Lesson Plans for Education | YSoft BE3D Academy](https://munispace.muni.cz/library/catalog/book/2227)
<https://munispace.muni.cz/library/catalog/book/2227>
<https://is.muni.cz/publication/2368228>

10. **The certified methodology Concept of Field Education for Primary Schools: Using Examples of Topics for Short-Term and Medium-Term Field Education in Local History and Geography** was created as an output of the project TJ01000127 Field Education System for Primary Schools. It presents a "guide" on how, when, where, and in which forms it is appropriate to incorporate field education, prepared and led by a teacher, in a way that aligns with and deepens the content of the material taught in the classroom. The methodology includes detailed examples of teaching topics that can be applied in both urban and rural settings, instructions for ensuring safety during field education, legislation related to field teaching, and examples of using specific teaching aids.
SVOBODOVÁ, Hana, Darina MÍSAŘOVÁ, Radek DURNA, Tereza ČEŠKOVÁ a Eduard HOFMANN.
Koncepte terénní výuky pro základní školy : na příkladu námětů pro krátkodobou a střednědobou terénní výuku vlastivědného a zeměpisného učiva. 2019. <https://dx.doi.org/10.5817/CZ.MUNI.M210-9246-2019>. [info](#)
[The Concept of Outdoor Education for Elementary School. On the example of topics for short-term and medium-term outdoor education of the Man and His World and Geography subjects | PEDF | Munispace – Masaryk university reading room](#)

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Web Portal	2022	Hyperspace - Introduction Hyperspace
E-learning course Web Portal	2022	Telepractice - Telepractice – Supporting children with neurodevelopmental disabilities in the home environment MUNI PED
Application	2022	Geo4tea - News JINAK report card MUNI PED
Design of School Report	2023	School report JINAK - News JINAK report card MUNI PED
E-learning course Web Portal	2020	BeIn - About BeIN Pdf - Bariéry v inkluzi a jejich překonávání
E-learning course Instructional videos	2022	Teaching materials Early childhood education and care center Faculty of Education MUNI
Software Special-purpose publication	2023	Main Page - SLAN User Manual for SLAN Software (only in Czech)
Database	2023	edustories.cz/database/ MU-NLPC/Edustories-en · Datasets at Hugging Face
Online lesson, methodology	2021, 2022	https://3dprintinschools.ics.muni.cz/ https://be3dacademy.ysoft.com/cs/ Methodology 3D Print In Schools MUNI ICS
Certified methodology	2019	The Concept of Outdoor Education for Elementary School. On the example of topics for short-term and medium-term outdoor education of the Man and His World and Geography subjects PEDF Munispace – Masaryk university reading room

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

³⁰ Specify the specific type of result. Add rows as needed.

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

Since 2005, the **Technology Transfer Office** (TTO MUNI) has been an integral part of Masaryk University. TTO MUNI is perceived as an institutional unit providing support and conditions for the practical application of university's research results. It provides services in technology/knowledge transfer (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralised, ensuring the necessary personnel, methodological and technical frameworks.

TTO MUNI manages the intellectual property of MUNI and cooperates in its identification, protection and commercial exploitation (licensing, spinoffs, application consulting, contract research) following MUNI rules and standards. TTO MUNI supports cooperation between the scientific community and companies by building the university's internal environment and defining the internal rules. It initiates opportunities for meeting scientists with company representatives or finding resources for collaborative research. All this contributes to the mutually beneficial development and implementation of commercially interesting results of scientific work into everyday life.

TTO MUNI supports the development of a functional environment for technology transfer by a diverse mix of activities. Some target the academic community, e.g. student training, workshops, round tables, TT Day and more. Others are aimed at the general or professional public, especially building long-term partnerships in the field of applied research. The TTO staff, within the framework of their agendas, are involved in areas that facilitate and lead to the delivery of R&D results at MUNI into practical use. This includes professional competencies in the field of intellectual property protection, licensing, legal support, as well as searching for application partners and negotiating conditions for cooperation. As a key player in the South Moravian Region, TTO MUNI collaborates closely with the South Moravian Innovation Centre and other institutions to support entrepreneurial initiatives, technology development, start-up growth, business incubation, and training programs in innovative entrepreneurship.

The Faculty of Education is aware of the existence of TTO MUNI, however, due to the nature of PED's research activities — primarily focused on social sciences and humanities, with an emphasis on pedagogy and education — the faculty has not actively utilized the services of the TTO MUNI so far. The predominant research outputs, such as methodologies, didactic approaches, and educational interventions, are typically disseminated through open sharing with the professional community and educational practice rather than through commercialization. Nevertheless, PED continues to explore opportunities for further cooperation with the TTO MUNI, especially in light of the growing emphasis on applied research and the transfer of innovations into educational practice.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Total					

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

The Faculty of Education actively engages in research popularization and public communication through various activities. The goal of these initiatives is to make scientific knowledge accessible to a broader audience and to raise awareness of its research activities.

The methods of popularization can be divided into several areas.

1. Media Statements on Current Topics in Educational Policy, Strategy Development, and Responses to Contemporary Issues

PED actively participates in public discussions on educational policy through expert commentary, analyses, and recommendations. Its academics regularly provide media statements on current issues in education, school legislation, and the strategic development of the education system. PED responds to contemporary challenges in education with a focus on teaching quality, inclusion, digital transformation, and teacher professional development.

Dr. Martina Kampichler participated in the roundtable discussion at the Chamber of Deputies: Quality First – Early Childhood Education and Care for Children Under Three Years Old where she presented the book *A World for Children Under Three* and its key findings. Prague on March 23, 2023.

Prof. Karel Pančocha participated in an expert debate moderated by Daniel Stach on Czech television (ČT1) on April 12, 2021, following the broadcast of the documentary *Obchod s nadějí* (Trading in Hope), which focused on an organization practicing applied behavior analysis (ABA) therapy for children with autism spectrum disorder. The debate addressed the care and accessibility of services for children with disabilities in the Czech Republic.
[Czech Television broadcasts documentary about children with autism, which is being sued by parents - iDNES.cz](#)

On September 26, 2023, the Faculty of Education at Masaryk University officially presented the innovative school report *Vysvědčení JINAK – Alternative Assessment*
[Workshop 2023 | Certificate JINAK | MUNI PED](#)

2. Media Appearances on Television and Radio Addressing Sector-Specific or Current Issues

Our experts regularly participate in television and radio programs, where they engage the public in an interesting and accessible way, present topics related to their research interests or comment on issues within their fields of expertise. In addition to traditional media, PED also utilizes social media platforms such as Facebook, Instagram, Twitter, and YouTube.

Assoc. Prof. Alena Žáková was hosted on Czech Television (ČT1) in the program Události, discussing the rise of ticks in the Pisárky area in Brno, 2023.

Dr. Radovan Smolinský co-authored and participated in the Czech Television documentary Za oponou přírody (Behind the Curtain of Nature), 2023, Episode 1: The Magic of Deception.

Assoc. Prof. Marie Koldinská moderated the Czech public affairs series Historie.cs, broadcast by Czech Television, focusing on historical events in the Czech Republic.

Dr. Helena Vaďurová and Dr. Lenka Slepíčková participated in Radio Proglas programme, where they introduced the online project "Hovory o zdraví" (Conversations about Health), based on personal testimonies of people openly sharing how they coped with illness—either their own or their child's—detailing their experiences with diagnosis and living with a chronic condition.

[Talks about health - Radio Proglas](#)

Dr. Ondřej Navrátil was a guest on Czech Radio Vltava in the program Art Has Never Stood Alone. The Current Environmental Wave Requires Overlaps into Science and Education, 2021.

Hana Delalande was a guest on Czech Radio, Radio Prague International, presenting the French Interactive Map (Une carte interactive répertorie tous les acteurs de la langue française en Tchéquie), an online tool that collects and displays all organizations, institutions, and stakeholders connected to the French language in the Czech Republic.

Assoc. Prof. Lucie Jarkovská was a guest on DTVV programme, hosted by Martin Veselovský, where she commented on the current controversy regarding allegations of inappropriate behavior by sexologist Radim Uzel.

[Uzel je bavič, jeho bonmoty jsou okorálé, na obtěžování si nesmíme zvykat, říká Jarkovská - YouTube](#)

3. Popularization Lectures, Workshops, and Seminars

PED contributes to the popularization of science and education through lectures, workshops, and seminars designed not only for the professional community but also for the general public. These activities aim to disseminate scientific knowledge, inspire, and raise awareness of PED's initiatives.

Assoc. Prof. Lucie Jarkovská appeared in the TEDxPragueED stand-up program with her talk:

[Does sexuality belong in schools? | Lucie Jarkovská | TEDxPragueED - YouTube](#)

Dr. Irena Hůlková organized a webinar for primary school English teachers, hosted by Oxford University Press, on the topic:

WHY, HOW, and WHEN to Integrate Pronunciation into Regular English Lessons.

In addition to academic activities, student-led initiatives in the field of popularizing pedagogy and teacher education are also developing at PED. Students of the Faculty of Education are involved, for example, in **Otevřeno**. It is an initiative focused on innovating the education of future teachers in the Czech Republic. It was founded in 2015 by students of the Faculty of Education. What started as a student initiative has since transformed into a nationwide student organization. Its goal is to contribute to the modernization and improvement of teacher training at faculties of education.

The organization hosts educational events, discussions, and other activities for education students and early-career teachers. One such event is the **Night of Education**, an annual event aimed at future and early-career teachers. Its goal is to inspire and provide practical skills through lectures, workshops, and discussions. It was designed for both teacher education students and current educators.

4. Popularization of Scientific Outputs Through Events and Festivals

PED engages in the dissemination of scientific knowledge and research findings through public events, festivals, and specialized activities. The goal of these initiatives is to introduce the general public to current pedagogical trends, innovations in education, and the practical significance of science. PED regularly participates in events such as:

Czech European Research Night

A popular science event for the general public is held annually across Europe. It aims to bring science and research closer to the public engagingly and interactively. Visitors have the opportunity to meet scientists, try out various experiments, attend lectures and discussions, or take guided tours of laboratories and research facilities. Each year, the event is centered around a specific theme that connects the various activities. Several departments of PED, with different disciplinary focuses, actively participated in this event.

[Brno | Researchers' Night](#)

Festival of Inclusive Culture

It was first launched in 2023, creating a space where diversity, culture, and informal education come together. The festival offers experiential Art Workshops for Masaryk University students and a cultural program that embraces diversity. The project focuses on supporting the realization of a multi-day community cultural event at the Faculty of Education for both the MU academic community and the general public. The festival is based on an inclusive concept in the socio-cultural field.

Science Festival

It is a popularization event aimed at promoting science and research to the general public, especially to children and young people. The goal of the festival is to present various scientific disciplines in an interactive and fun way, showing visitors how science impacts everyday life. The Faculty of Education participates in the Science Festival through a variety of activities, such as workshops, interactive exhibits, didactic, and educational activities

[About the event | Science Festival](#)

Brno Art Week

It is a platform connecting Brno exhibition institutions and schools with an artistic focus. Together we create a weekly program consisting of a gallery and the original program created specifically for Art Week. The twelfth Brno Art Week will take place in an online environment. You can look forward to the already well-known tracing format and special television broadcasts of the Department of Art Education, Faculty of Education, MUNI, as well as big videos about the graffiti scene in Brno and fashion designer Dominica Kozáková, urban legends of individual galleries, a symposium on digital curation. Art warm-ups! We are also preparing several guided walks through art in the public space of the city of Brno, which you can use to be inspired and to go around the selected places yourself. In addition to important sculptural realizations, one of the walks will also focus on the topic of monument care and demolition, or insensitive reconstructions of historically valuable buildings in the wider city center of Brno.

<https://brnoartweek.cz/english>

5. Creative Learning Environment

Open Art Studio

The mission of Open Art Studio is to create a creative and unique environment where the principles of inclusion are fulfilled through artistic and art-based educational forms. The studio's concept aligns with the philosophy of similar art centers abroad. The target group includes children, adolescents, and adults with differences. The creative space is open to everyone according to their abilities and skills. The outcomes and the process of creating an artifact can be associated with terms such as Outsider Art, Disability Art, Art Brut, or Art for Therapy. The instructors take into account the specific educational needs and individual approaches of their students whenever necessary for an authentic creative process. They strive to help develop each student's unique artistic language. Their pedagogical approach aims to strengthen students' communication, self-confidence, and self-awareness. It focuses on the connection between visual arts, pedagogy, and creative education. It is an open space for experimenting with various artistic techniques, materials, and approaches, designed for both students and the general public, including children, teachers, and art enthusiasts.

[Introduction – Open Art Studio](#)

6. Co-organising of Educational Programmes

Mjuni (Masaryk University Junior University)

It is an educational program of Masaryk University designed for children and youth aged 9–18. The goal of the program is to introduce young students to the academic environment and encourage their interest in various scientific and humanities fields. It offers lectures, workshops, and practical activities led by experts from Masaryk University. Participants have the opportunity to explore university life, try out scientific experiments, and develop their knowledge in various areas, ranging from natural sciences and humanities to medicine and technology.

[MyUNI](#)

7. Organisation of Summer School

Summer School Tutoring

This is a volunteer program that the university first organized in 2021. Its primary goal was to alleviate the educational gaps caused, for example, by distance learning during the COVID-19 pandemic. Volunteers from the Faculty of Education participated, helping to tutor students from socially disadvantaged backgrounds. The aim was to reduce the differences in education and assist students in reviewing subjects they struggled with at school, alongside the volunteers from the Faculty of Education.

8. Publishing Popularization Publications

A successful publication is the book *Sculptural Brno 1989-2019* created by Prof. Radek Horáček and his doctoral team. This book offers valuable research material and was published in its second edition in 2021. It provides both a Czech and English guide to sculptures in four main thematic areas. Since 2005, sculptures dedicated to figures connected

with the history of the city have been created as part of the *Sculptures for Brno* cycle. Another collection includes works in the areas of Masaryk University, and due to sculpture symposiums, sculptures can also be found by the Svatka River or on the beaches of Brno Reservoir. The fourth area is the international exhibition *Brno Art Open / Sculptures in the Streets*. Through 123 photographs, expert commentary, and biographies of the sculptors, the book *Sculptural Brno 1989–2019* provides information about these remarkable activities. The book was published by Masaryk University in cooperation with the CooperARTive association.

[Sculpture in Brno 1989–2019 / Sculpture in Brno 1989–2019 | MUNISHOP](#)

In the sixth volume of the series *Munice* which is a new popular science series of Masaryk University Press, and that brings current topics from natural, social, and human sciences in an accessible form and fresh graphic design, Prof. Tomáš Janík published *Everything for Education. Lessons in Pedagogy*. This book is an introduction to the field of education. It focuses on both the general as well as the academic public. Education can be found anywhere, where a person offers a helping hand to another one. It grows from interpersonal solicitude and is expressed in helping another human being at work. Its essential tool is “agogia” – leading or accompanying others – initially children (*paidos*).

<https://www.press.muni.cz/en/editorial-series-of-munipress/vse-pro-vychovu>

Since 1992, the Faculty of Education at Masaryk University has been publishing *Komenský Journal*, a journal intended for teachers, teaching students, and the general public. It features articles presenting the results of educational research, practical experiences and ideas, proposals for alterations of authentic teaching situations, and more.

9. Translations of Foreign Scholarly and Popular Literature

Following the Applied Behavioural Analysis educational courses, PED has produced a translation of a significant foreign publication *Applied behavioural analysis* from William Heward, which is used by participants of this education program.

Additionally, a book of popular essays titled *Myths – Fallacies – Untruths* was translated from German, addressing “errors” in education and pedagogy.

Publications of this kind enable PED to fulfill its goals in the dissemination of relevant knowledge, not only from the Czech Republic but also from abroad, to a wide range of users.

10. Organisation of Competitions for pupils and students

The Department of Geography organizes Geography Olympiads that support talented students with an interest in geography. The goal is to develop their knowledge, analytical skills, and ability to work with geographical data. The International Geography Olympiad (iGeo) is a competition for the best 16 to 19-year-old geography students from all over the world. Four students represent each country in a series of Geography tests in (generally) a four-day program. An adult Team leader and International Board Member accompany each national team. The official language of the iGeo is English.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

The suggestions and recommendations from the previous evaluation of the National Evaluation of Research and Internal Evaluation of Research and Doctoral Studies focused on the development of research topics with an international dimension. PED was advised to support interdisciplinarity in research, focus **on socially relevant research topics**, and **develop applied research**. Additionally, it was recommended to **emphasize the dissemination of research results** with practical impact, **support innovative education methods**, and **respond to the demands of the changing environment**. The

need for further **development of cooperation with non-academic sectors** was also highlighted. A common theme in these recommendations is the need to strengthen PED 's focus on **research with social relevance**.

In recent years, PED has concentrated on acquiring **applied research projects**, which is a key step in its direction toward enhancing the practical impact of research activities on society. PED recognizes the growing importance of connecting research and practice and therefore has paid special attention to supporting its staff in obtaining such projects. PED is also creating an environment that promotes collaboration between different scientific areas, both internally among departments and with external partners such as public institutions, schools, and non-profit organizations.

In the past period, PED has been the leader or co-leader of 12 basic research projects and 15 applied research projects, the outcomes of which largely contribute to practice and benefit society. Since 2021, PED has organized a Research Symposium where researchers from PED present their applied research projects. The event aims to raise awareness about ongoing research and share experiences across PED.

Among PED 's long-term goals is the effort to acquire strategically significant projects (Horizon Europe, Widening, ERC) and to align research topics with the priorities of the EU/Czech Republic. PED has established an interdisciplinary council for science and research, whose task is to propose interdisciplinary topics that could succeed in grant calls. PED will continue to support academics in preparing project applications and introduce new motivational programs (since 2021, PED has included a pillar within the Strategy for Supporting Publication and Research at the Faculty of Education focused on supporting the preparation of research projects submitted to grant agencies – the goal of this program is to provide financial support for employees preparing research project proposals for submission to grant agencies such as GAČR, TAČR, HEU, COST).

Regarding PED 's activities in the field of science popularization, a grant scheme has been introduced to support authors in creating popularization outputs. Some of the outputs in the area of popularization are also awarded as part of the Dean's Award.

The collaboration between PED and practice, as well as other relevant partners, has intensified. The concept of cooperation with PED's partner schools and other institutions has been revised. The long-term development goals of PED include the intention to build a clinical school as a space for intensive collaboration in the education of future teachers and research. This intention of establishing a clinical school is currently being addressed within the project OP JAK MUNI 4 PREGRAD which aims to support the enhancement of pre-service teacher education and contribute to strengthening systemic changes in their initial training in accordance with the approved Teacher Education Reform in the Czech Republic. Through the development of selected subject-specific competence frameworks, the implementation of the national competence framework into teacher education programs, support for networking and professional development of educators, and the creation of a clinical school concept, the project will facilitate the development of professional competencies for both future and current teachers at Masaryk University.

Currently, PED is focusing on developing specific methodologies for socially relevant research (action research, community-based research) and supporting the creation of educational materials based on research (research-based learning materials). It strives to develop social relevance both at the level of research topics (inclusion, critical thinking, migration, working with socially disadvantaged groups) and by combining research aimed at addressing knowledge gaps with research aimed at addressing social needs. PED is strengthening its visibility in the academic community and also working to disseminate research results to the broader public. The Faculty of Education has set several key goals outlined in the contract between PED and the Rector's Office, which will contribute to its development and success. It aims to profile itself as an institution capable of addressing current social challenges in its areas of expertise. Therefore, its core goals include: addressing socially relevant issues in education and related fields, which will be a subject of focus, increasing the quality of research and creative activities with an emphasis on results that contribute to national and university-level science and research evaluation, developing topics with international and interdisciplinary relevance, thereby supporting interdisciplinary cooperation with international partners, improving doctoral studies, which are an integral part of research and development.

PED's pursuit of the above-mentioned goals in the fields of research and doctoral studies will lead to a stronger role for the Faculty of Education in society.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
Research and development web – Faculty of Education	3.1	https://www.ped.muni.cz/en/research-and-development
Strategy for Research and Doctoral Studies	3.1	Faculty of Education - Strategy for Research and Doctoral Studies 2022-2027
Strategic Plan of the Faculty of Education of Masaryk University for the years 2021–2028	3.1.	Strategic Plan of the Faculty of Education of Masaryk University for the years 2021 2028.pdf
Institute of Inclusive Education	3.1.	https://iviv.ped.muni.cz/information-in-english
Institute for research in School Education	3.1	https://ivsv.ped.muni.cz/en
Department of Education	3.1	https://www.ped.muni.cz/pedagogika/en
(Post)doctoral School Faculty of Education	3.1	(Post)doctoral school MU Faculty of Education
Support for career growth at the MU Faculty of Education in the form of contribution to a foreign internship and the operation of the workplace	3.1	https://www.ped.muni.cz/en/research-and-development/habilitation-proceedings-and-appointment-of-professors
Medal of the Ministry of Education, Youth and Sports	3.2.1	Medal of the Ministry of Education and Youth for the year 2023 for doc. Jana Kratochvílová Department of Pedagogy MUNI PED
Award of the Minister of Education, Youth and Sports for excellent educational activities at the university	3.2.1	Cena ministra školství, mládeže a tělovýchovy za vynikající vzdělávací činnost na vysoké škole, MŠMT ČR
The Foundation of Česká spořitelna	3.2.1	Czech Savings Bank Foundation Awards
Award of the Czech Association of Pedagogical Research	3.2.1	ČAPV appreciates
MUNI Scientists Award	3.2.1	MUNI Scientist Awards 2020 Grant Agency of Masaryk University MUNI Scientist Award 2021 MU Grant Agency MUNI Scientist Award 2023 MU Grant Agency

MUNI Innovation Award	3.2.1	Masaryk University recognises achievements in innovations News em.muni.cz
Global Lung Cancer Coalition	3.2.1	Journalism Awards 2019 Global Lung Cancer Coalition
South Moravian Region Award	3.2.1	Cena Jihomoravského kraje letos zamířila na Katedru českého jazyka a literatury PdF MU Pedagogická fakulta MU
The Masaryk University Rector's Awards		Masaryk University honored prominent scientists and successful students Events em.muni.cz Masaryk University honored prominent scientists and successful students Events em.muni.cz Awards Masaryk University Laureates of this year's Rector's Awards and Medals of Masaryk University Events em.muni.cz Awards Masaryk University
Memberships in Editorial Boards	3.2.2	Co-editor-in-chief of the scientific journal "Discourse and Interaction". 2014 - 2026. ISSN 1802-9930 Member of editorial Board The European Journal of Applied Linguistics and TEFL, 2018 - 2021, ISSN 2192-1032 Members of Editorial Board Topics in Linguistics. 2015-2025. ISSN 1337-7590 Member of Editorial Board of XLinguae European Scientific Language Journal – 2019. ISSN 1337-8384 Members of the Advisory Board for the international scientific journal ARS INTER CULTURAS. 2017-2022. ISSN 2083-1226 Member of Editorial Board WEST-EAST. Scientific Journal, 2019. ISSN 2587-5434 Member of Scientific Board Journal of Exceptional People, 2016 - 2020. ISSN 1805-4978 Member of Editorial Board KONTEXTE, 2022. ISSN 2941-1408. Member of Editorial Board Aussiger Beiträge. 2019-2022. ISSN 1802-6419 Members of Editorial Boards Studia Paedagogica. ISSN 2336-4521. Members of Editorial Board Orbis Scholae. ISSN 1802-4637
Research project: National Institute for the Research of Socioeconomic Impacts of Diseases and Systemic Risks (2022/99/LX22NPO5 101, NPI)	3.3	Project Masaryk University
Research project: School as a Multilingual Space. Exploring Linguistic	3.3.	School as a multilingual space? Exploring linguistic realities at Czech urban schools (MultiSpace) Masaryk University

Reality in Czech Urban Schools - MultiSpace (GA19-12624S, The Czech Science Foundation)		
Research project: Research and Teaching of Academic Writing from an Intercultural Perspective (LTC18015, COST)	3.3.	Researching and teaching academic writing from a cross-cultural perspective Masaryk University
Research project: Early Childhood Education in DayCare Institutions in the Czech Republic (TL02000306, Technology Agency of Czech Republic)	3.3.	Early Childhood Education and Care in Day Care Facilities in the Czech Republic Masaryk University
Research project: Development and Implementation of a Pilot Design for School Reports: Innovation of Final Assessment of Primary School Students in Connection with Comprehensive Developmental Assessment (TL05000360, Technology Agency of Czech Republic)	3.3.	Development and implementation of a pilot design end-semester /school certificate: Innovation of final pupils' assessment in the elementary schools based on comprehensive concept of assessment. Masaryk University
Research project: Development of an Online Platform for Supporting Professional Growth of Pre-Service and In-Service Geography Teachers: A Diagnostic Tool for Identifying Teaching Conceptions (TL05000033, Technology Agency of Czech Republic)	3.3.	Development of an online platform supporting pre-service and in-service geography teachers' professional development: A diagnostic tool for identifying conceptions of geography teaching Masaryk University

Research project: Hyperspace for Formative Assessment and Inquiry-Based Teaching in Science Subjects and Mathematics (TL02000368, Technology Agency of Czech Republic)	3.3.	Learning Hyperspace for Formative Assessment and Inquiry Based Science Teaching Masaryk University
Research project: Telepractice – Support for Parents and Children with Neurodevelopmental Disorders in the Home Environment (TL04000069, Technology Agency of Czech Republic)	3.3.	Telepractice – Support of Parents and Children with Neurodevelopmental Disabilities in Home-based Settings Masaryk University
Research project: Word Formation Analyzer for Teaching Czech as a Foreign Language – SLAN (TL03000293, Technology Agency of Czech Republic)	3.3.	Word-formation Analysis Software Tool for Teaching Czech for Foreigners (SLAN) Masaryk University
Research project: Use of Artificial Intelligence and Virtual Reality in the Development of Competencies for Managing Challenging Behavior in the Classroom (TQ01000030, Technology Agency of Czech Republic)	3.3.	Using artificial intelligence and virtual reality in developing competencies to solve challenging behavior in the classroom Masaryk University
Hyperspace	3.4.	Introduction Hyperspace Hyperspace for formative assessment and inquiry-based learning: Concept – development – application Masaryk University
Telepractice	3.4.	Telepractice – Supporting children with neurodevelopmental disabilities in the home environment MUNI PED
Geo4tea	3.4.	geo4tea.com/en/
School report JINAK	3.4.	News JINAK report card MUNI PED

BeIn	3.4.	About BeIN Pdf - Bariéry v inkluzi a jejich překonávání
Early Childhood Education and Care Center	3.4.	Teaching materials of Early Childhood Education and Care Center (only in Czech)
SLAN	3.4.	Main Page - SLAN User Manual for SLAN Software (only in Czech)
Edustories	3.4.	edustories.cz/database/ MU-NLPC/Edustories-en · Datasets at Hugging Face
3D Print	3.4.	3D Print In Schools MUNI ICS 3D Print Lessons For Education YSoft BE3D Academy Methodology 3D Print In Schools MUNI ICS
Certified Methodology	3.4.	SVOBODOVÁ, Hana, Darina MÍŠAŘOVÁ, Radek DURNA, Tereza ČEŠKOVÁ a Eduard HOFMANN. The Concept of Outdoor Education for Elementary School. On examples of topics for short-term and medium-term outdoor education in primary and lower secondary education. 2019. https://dx.doi.org/10.5817/CZ.MUNI.M210-9246-2019.info
Presentation of the innovative school report Certificate JINAK – Alternative Assessment	3.6	Workshop 2023 Certificate JINAK MUNI PED
Documentary Trading in Hope	3.6	Czech Television broadcasts documentary about children with autism, which is being sued by parents - iDNES.cz
Czech European Research Night	3.6	https://www.nocvedcu.cz/en/about
DVTV Programme	3.6.	Uzel je bavič, jeho bonmoty jsou okoralé, na obtěžování si nesmíme zvykat, říká Jarkovská - YouTube
TEDxPragueED stand-up	3.6	Does sexuality belong in schools? Lucie Jarkovská TEDxPragueED - YouTube
Science Festival	3.6	About the event Science Festival
Czech European Research Night	3.6	Brno Researchers` Night
Brno Art Week	3.6	https://brnoartweek.cz/english
Open Art Studio	3.6	Introduction – Open Art Studio
Mjuni (Masaryk Junior University)	3.6	MyUNI

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Pharmacy, Masaryk University

FORD: 3 - Medical and health sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The mission of the Faculty of Pharmacy is to carry out university education, scientific, research and other creative activities and professional activities in the field of pharmacy and related disciplines.

An integral part of this is to fulfil the role of the University's social impact and to carry out activities that fulfil the University's mission as a top academic institution.

The vision of the Faculty of Pharmacy is to strengthen its mission and to continue **to pursue excellence in its activities in the field of protection and support of human and animal health**, with an effort to comprehensively address the issue of pharmaceutical product (active substance, medicinal product, diagnostic product, medical device, cosmetic product, etc.).

Pharmaceutical education goes hand in hand with medical education. Nowadays, a very close **interaction between medicine and pharmacy is essential** in order to achieve a personalised approach to the patient. This personalised approach can have a significant impact on the healthcare system, particularly in view of the considerable economic savings that can be made in the context of effective and rational pharmacotherapy. The faculty offers one bachelor, two master's and eight doctoral programmes. **During the evaluated period, the faculty was attended by 1 172 students, the vast majority of whom were women (approx. 85%).** The scientific research activities are carried out at its six departments and developed in close cooperation with the medical and natural science disciplines of Masaryk University. One of the institutes works more closely with practice and the remaining five are dedicated to laboratory research.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

Thanks to the move to Masaryk University, the Faculty of Pharmacy can use the facilities of the university hospitals and close contact with the patients, but also a very strong scientific research background with the prospect of further development of both the Faculty of Pharmacy and its own pharmaceutical disciplines. Pharmaceutical disciplines can greatly enrich the research topics addressed at university in the direction of **biologically active substances of various origins**, their **production** and especially **the processing into modern dosage forms**. At the same time, there is room for the **development and commercial exploitation of various activities**, especially in the field of preclinical contract research.

The Faculty of Pharmacy is not only an educational institution, but also **a research centre that prepares future pharmacist, scientists and health care professionals**. Within six research institutes, it focuses on the whole spectrum of pharmaceutical disciplines. During the evaluated period, the faculty employed a total of **113 academic staff members**. The gender ratio among these academics was remarkably balanced (**44 men to 69 women**), reflecting a commitment to diversity and inclusion within the academic community. **The Department of Chemical Drugs** is specifically concerned with the area of synthesis of new potential drug substances and their analytical evaluation. **The Department of Natural Drugs** deals with the isolation and identification of new biologically active substances of plant origin. **The Department of Molecular Pharmacy and Pharmacology and Toxicology** then focus on testing the biological activity of these (and other) substances in *in vitro* cell models and *in vivo* animals. The last of the experimental institutes, **the Department of Pharmaceutical Technology**, completes the portfolio with the development and analysis of advanced oral drug delivery systems to provide controlled drug release. **The Department of Applied Pharmacy** focuses on the topics related to pharmacy in the society, healthcare system, pharmaceutical care, and history of pharmacy.

In July 2020, the Faculty of Pharmacy officially became part of Masaryk University (MU). This transition marked a significant milestone, as it was the first time in recent history that a faculty transferred from one university to another in the Czech Republic. Previously, the Faculty of Pharmacy was part of the University of Veterinary and Pharmaceutical Sciences (UVPS) in Brno.

The move was initiated to foster closer collaboration between pharmaceutical research and the medical and scientific disciplines at MU. This integration enhances the development of personalized medicine and improves public health. The Faculty of Pharmacy continues to operate at its original premises, now leased to MU, and offers **new study programs** such as **clinical pharmacology** and **pharmacoeconomics**. This transition also opened up new opportunities for students, including international exchanges and **interdisciplinary research projects**. Research at the faculty primarily focuses on the research areas of the departments at the faculty and consists of **scientific research projects** in collaboration **with both research institutions and industrial partners**. This research encompasses **both basic and applied research**. Additionally, the faculty actively **collaborates with industry** and participates in **contract research** with these partners.

For the aforementioned reasons, only the years 2020-2023 will be considered in the self-assessment questionnaire. The year 2019 is irrelevant for the Faculty of Pharmacy, Masaryk University.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	-	1.7/0	3.0/0	3.1/0	2.9/0	4.3/0
Associate Professor	-	14.7/4.2	14.3/4.5	14.1/4.5	12.9/3.7	16.3/4.5
Assistant Professor	-	30.5/20.3	26.1/16.3	25.6/14.75	27.4/17.1	38.8/24.4
Assistant	-	9.5/4.5	7.1/3.7	10.7/6.9	10.3/6.4	18.4/11.5
R&D Personnel ³	-	0/0	0/0	0/0	0/0	0/0
Researchers in other categories ⁴	-	2.6/2.6	4.3/3.8	2.9/2.9	2.6/2.6	5.8/5.8
Technical and economic staff ⁵	-	3.7/3	3.8/3	2.5/1.6	3.0/2.0	10.2/8.2
Scientific, research and development staff involved in teaching activities	-	54.2/27.8	50.4/24.3	53.45/26.1	51.5/27.2	82.8/42.8
Early career researchers ⁶	-	10/5.1	7.7/5	6.75/4.6	6.25/3.7	15.2/8.8
Total ⁷	-	62.7/34.6	58.6/31.3	58.9/30.6	59.1/31.8	93.8/54.4

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	-	-	-	-	-	-	-	-	-	-	-	-

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Associate Professor	-	-	-	-	-	-	-	-	-	-	-	-
Assistant Professor	-	-	-	-	-	-	-	-	-	-	-	-
Assistant	-	-	-	-	-	-	-	-	-	-	-	-
R&D Personnel ⁹	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁰	-	-	-	-	-	-	-	-	-	-	-	-
Technical and economic staff ¹¹	-	-	-	-	-	-	-	-	-	-	-	-
Scientific, research and development staff involved in teaching activities	-	-	-	-	-	-	-	-	-	-	-	-
Early career researcher ¹²	-	-	-	-	-	-	-	-	-	-	-	-
Total ¹³	-	-	-	-	-	-	-	-	-	-	-	-

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	1	0	1	0	0	0	2	0
Associate Professor	0	0	0	0	3	0	9	3	1	0	2	0
Assistant Professor	0	0	15	6	18	13	8	6	2	0	1	1
Assistant	3	1	7	5	3	1	2	1	3	2	0	0
R&D Personnel ¹⁵	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁶	3	3	0	0	1	1	1	1	0	0	0	0

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

Technical and economic staff ¹⁷	1	0	2	1	1	1	1	1	0	0	0	0
Scientific, research and development staff involved in teaching activities	4	4	21	11	25	14	19	9	5	3	5	2
Early career researcher ¹⁸	0	0	13	8	-	-	-	-	-	-	-	-
Total ¹⁹	7	4	24	12	27	16	22	12	6	2	5	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	-	-	-	-	-	-	-	-	98	82	98	82
Master's ²⁰	-	-	713	603	723	601	686	573	715	571	955	831
Doctoral	-	-	65	42	64	42	59	38	64	39	64	41
Lifelong Learning Courses	-	-	160	142	311	268	383	317	283	239	55	43
Total	-	-	938	787	1098	911	1128	928	1160	931	1172	997

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate	-	-	-	-	-	-	-	-	1/0	0/0	1/0	0/0
Master's	-	-	1/1	0/0	1/1	0/0	1/1	0/0	1/1	0/0	1/1	0/0
Doctoral	-	-	10/6	0/0	10/6	0/0	10/6	0/0	10/6	0/0	10/6	0/0
Lifelong Learning courses	-	-	8/1	0/0	9/2	0/0	9/4	0/0	12/3	0/0	38/10	0/0
Total	-	-	19/8	0/0	20/9	0/0	20/11	0/0	24/10	0/0	50/17	0/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	12,8
	1.2 Computer and information sciences		Zvolte položku.	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences	8,4	Basic Research	
	1.5 Earth and related environmental sciences		Zvolte položku.	
	1.6 Biological sciences	3,9	Basic Research	
	1.7 Other natural sciences	0,5	Basic Research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	0,3
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies	0,3	Basic Research	
3. Medical and Health Sciences	3.1 Basic medicine	77,2	Basic Research	85,5
	3.2 Clinical medicine	7,2	Basic Research	
	3.3 Health sciences	1	Basic Research	
	3.4 Medical Biotechnology	0,1	Basic Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	0,4	Basic Research	0,8
	4.2 Animal and Dairy science	0,2	Basic Research	
	4.3 Veterinary science	0,2	Basic Research	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	0,4
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education	0,4	Basic Research	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
	6.1 History and Archaeology		Zvolte položku.	0,2

6. Humanities and the Arts	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion	0,2	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

The Faculty of Pharmacy MU holds a significant position in the research community. It contributes extensively to advancements in pharmaceutical sciences, including drug development, pharmacokinetics, and clinical pharmacy. Faculty members often collaborate with industry and healthcare institutions, driving innovation and improving patient care. Their research outputs are frequently published in high-impact journals, enhancing the faculty's reputation and influence in the field.

- **RSC Adv. HOT Article (RSC 2020, David Švestka, Mgr; Jan Otevřel, PharmDr., Ph.D.; Pavel Bobál, assoc. prof., Ing., CSc.)**

Every month, the reviewers and handling editors of the RSC Advances journal handpick high-quality articles for the HOT Article Collection. This collection contains papers that were very well received by reviewers and handling editors and should be highlighted to experts in the field. The featured interviews with the authors of such articles are then published on the RSC Advances Blog [1].

- **Cena Sanofi (Sanofi Award, Embassy of France to the Czech Republic and Sanofi, Veronika Leláková, PharmDr., 2020)**

Veronika Leláková was awarded the third place at prestigious Sanofi Award. In her scientific work, she focused on evaluating the anti-inflammatory potential of polyphenolic substances of the stilbene type, which are found in foods (e.g., blueberries, grapes, peanuts, white tea, red wine) and medicinal plants for neuroprotection against stroke, with a focus on inflammatory signaling. The goal of this competition is to award the best Ph.D. research work in experimental biomedical and pharmaceutical research.

- **Medal of Eduard Skarnitzl for lifelong contribution to the development of science, research and education in pharmacy (Czech Pharmaceutical Society, Jozef Kolář, assoc. prof., RNDr., CSc., 2021)**

The Medal of Eduard Skarnitzl is an award granted by the Committee of CzPhS since 2016 to prominent personalities of Czech pharmacy who have contributed to the development of the pharmacy field. The CzPhS is the national scientific and professional organization of pharmacists and other experts working in pharmacy. Its history dates back to 1871. Assoc. prof. Jozef Kolář was awarded the Medal of Eduard Skarnitzl in 2021 as part of a ceremonial assembly held on the 150th anniversary of the founding of the CzPhS.

- **Editor-in-Chief, Czech and Slovak Pharmacy (ISSN:1210-7816) – Kateřina Kubová, Assoc. prof., Ph.D.**

Between 2021 and 2023, the journal Czech and Slovak Pharmacy was published by the Czech Pharmaceutical Society and the Slovak Pharmaceutical Society in collaboration with Masaryk University. With a tradition of more than sixty years, it builds on the joint publishing activities of Czech and Slovak pharmaceutical experts. The journal is also open to international authors and publishes original research papers, professional reviews, and short communications in the field of pharmacy and related disciplines.

- **Invited lecture – Asymmetric Phase-Transfer Catalysis (Aarhus Universitet, Denmark, Jan Otevřel, PharmDr., Ph.D., 2022)**

Requested lecture for Prof. Karl Anker Jørgensen's research group, where dr. Otevřel was a visiting scientist between September 2022 and February 2023 (6 months).

The talk was solicited as a follow-up to the previous work in asymmetric phase-transfer catalysis and summarized the current trends in this field, which were along with prof. Mario Wasser from Johannes Kepler University, Austria, also outlined in the chapter: *Asymmetric Phase-Transfer Catalysis – From Classical Applications to New Concepts* (available at [[Asymmetric Phase-Transfer Catalysis – From Classical Applications to New Concepts - Asymmetric Organocatalysis - Wiley Online Library](#)])

- **Invited lecture – Natural phenolic compounds as a possible treatment for metabolic diseases (University of Padua, Italy, Jakub Tremel, PharmDr., Ph.D., 2022)**

The invited lecture was based on long-term cooperation between Faculty of Pharmacy MU and University of Padua. The topic was an overview of results of dr. Tremel's laboratory work in the field of natural phenolics bioactivities. The lecture was part of a seminar for PhD students and took place on August 30th, 2022. As a part of the stay laboratories of prof. Stefano Dall'Acqua, prof. Ferri and prof. Rigobello were visited, and new contacts were obtained.

- **Invited lecture – Prenylated phenolics as possible drugs (University of Graz, Austria, Karel Šmejkal, prof., Ph.D., 2023)**

Invited lecture based on the personal invitation of prof. Rudolf Bauer and prof. Franz Bucar (University of Graz) for students of doctoral study program in Pharmacy and academics (Pharmaceutical Colloquium). The lecture summarized the research done on prenylated phenolics and showed the methodologic approach for research in natural compounds. Based on the lecture, following discussion deepened contacts and collaboration with Institute of Pharmaceutical Sciences (Uni Graz).

- **Evaluation for Antal Brantner Youth Award, (Tünde Ambrus, PharmDr., Ph.D., Hungarian Society for Pharmaceutical Sciences, 2022 and 2023)**

Antal Brantner Youth Award is a fellowship program for young pharmacists (up to 35 years) and pharmacy students. It aims to support the potential authors of scientific papers and, subsequently, their publication in the journal "Gyógyszerészet" issued by the Society. The panel of evaluators helped the journal editorial staff assess the submitted manuscripts and gave recommendations to the authors to improve the manuscripts before publication.

- **Invited lecture - Nicola Ferri, prof. Padua University, Italy Role of PCSK9 on cholesterol metabolism and beyond: identification of new natural inhibitors, 2023**

Prof. Nicola Ferri is a full professor of pharmacology at the Department of Medicine, University of Padua. The Padua University is in TOP300 QS ranking. Prof. Ferri established his research in the fields of cardiovascular diseases, lipid metabolism, and vascular biology. He was invited to participate in

the education of students in MSP Pharmacy and doctoral students, as part of course Advances in Pharmaceutical Sciences and Practice. The lecture covered the topic of the recently discovered family of new small molecules with inhibitory activity on PCSK9 production by human hepatoma cell lines.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
Jozef Kolář, assoc. prof., RNDr., CSc.	Medal of Eduard Skarnitzl for lifelong contribution to the development of science, research and education in pharmacy	Czech Pharmaceutical Society, 2021
Dominik Grega, PharmDr., Ph.D. (as member of the awarded team)	ISPOR 2022 Outstanding Regional Chapter Award	ISPOR—The Professional Society for Health Economics and Outcomes Research, 2022
Tünde Ambrus, PharmDr., Ph.D.	ISHP Research Fellowship	International Society for the History of Pharmacy, 2020
David Švestka, Mgr; Jan Otevřel, PharmDr., Ph.D.; Pavel Bobál, doc., Ing., CSc.	RSC Advances. HOT Article	RSC 2020
David Švestka, Mgr; Jan Otevřel, PharmDr., Ph.D.; Pavel Bobál, doc., Ing., CSc.	Wiley Top Downloaded paper (Adv. Synth. Catal.)	Wiley 2023
Michaela Kuchynka, Mgr., Ph.D.	2021 PRIZE OF SPECTROSCOPIC SOCIETY OF JAN MAREK MARCI – Third place in the competition for the best published work in the field of Spectroscopy, year 2020.	SPECTROSCOPIC SOCIETY OF JAN MAREK MARCI
Jiří Zeman, PharmDr., Ph.D.	MUNI Innovation Award	Masaryk University
Veronika Leláková, PharmDr.	Cena Sanofi 2020 (Sanofi Award)	Embassy of France to the Czech Republic and Sanofi
Jan Juřica, assoc. prof., PharmDr., Ph.D.	Czech Neuropsychopharmacological Society (CNPS) Best Poster Award – For the determination of olanzapine and its demethylated metabolite in serum for clinical and experimental use.	Czech Neuropsychopharmacological Society (CNPS)
Tereza Kauerová, PharmDr., Ph.D.	1st place in the competition for the best poster at the 71st Czech-Slovak Pharmacological Days conference. 71st Czech-Slovak Pharmacological Days, 2023.	Czech Society for Experimental and Clinical Pharmacology and Toxicology ČLS JEP and Slovak Pharmacological Society SLS

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Tünde Ambrus, PharmDr., Ph.D.	Kaleidoscope – Művelődés-, Tudomány- és Orvostörténeti Folyóirat / Journal on the History of Culture, Science and Medicine, ISSN 2062-2597
Tünde Ambrus, PharmDr., Ph.D.	Orvostörténeti Közlemények / Communicationes de Historia Artis Medicinae, ISSN 0010-3551
Jakub Vysloužil, PharmDr., Ph.D.	Pharmaceutics, ISSN 1999-4923

Jan Gajdziok, assoc. prof., Ph.D.	Pharmaceutics, ISSN 1999-4923
Kateřina Kubová, assoc. prof., Ph.D.	Czech and Slovak Pharmacy, ISSN:1210-7816
Karel Šmejkal, prof. Ph.D.	Phytochemical Analysis, ISSN:1099-1565
Karel Šmejkal, prof. Ph.D.	Molecules, ISSN: 1420-3049
Karel Šmejkal, prof. Ph.D.	Biochemical Systematics and Ecology, ISSN: 1873-2925
Karel Šmejkal, prof. Ph.D.	Turkish Journal of Chemistry, ISSN: 1300-0527

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
PharmDr. Tünde Ambrus, Ph.D.	The origin and historical development of the pharmaceutical education	University of Pécs, Faculty of Pharmacy, Hungary	2023
Jan Otevřel, PharmDr., Ph.D.	Vicinal Aminoalcohols as Valuable Synthetic Targets	Johannes Kepler Universität Linz, Austria	2020
Jan Otevřel, PharmDr., Ph.D.	Asymmetric Phase-Transfer Catalysis	Aarhus Universitet, Denmark	2022
Michaela Kuchynka, Mgr., Ph.D.	Elements and proteins imaging by LA-ICP-MS: medical and pharmaceutical research	Vall de Hebron VHIR, Barcelona, Spain	2023
Michaela Kuchynka, Mgr., Ph.D.	Laser ablation imaging in bioapplication	Winter plasma Conference, Tucson, USA	2022
Jakub Trembl, PharmDr. Ph.D.	Natural phenolic compounds as a possible treatment for metabolic diseases	University of Padua, Italy	2022
Karel Šmejkal, prof. Ph.D.	Prenylated phenols with potent anti-inflammatory effects	4th Annual CNPD Conference 2023 on 'Natural Products in Cosmetics, Food and Medicine', Liverpool, England. 2023.	2023
Karel Šmejkal, prof. Ph.D.	Prenylated phenolics as possible drugs	University of Graz, Austria	2023
Karel Šmejkal, prof. Ph.D.	Isolation and Identification of Flavonoids from Endemic Bulgarian <i>Astragalus</i> Species	3rd Annual Conference of the Centre for Natural Products Discovery - Natural Products and their role in post-Covid time, 2022, Liverpool, UK	2022
Karel Šmejkal, prof. Ph.D.	Anti-inflammatory phenolics – a chance to find a new drug?	T20 PSE Conference Liverpool; 2020, UK	2020

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Emese Sipos, prof., Ph.D.	University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș, Romania.	Nanofibers	2023
María-Jesús Pérez-Pérez, prof., Ph.D.	Instituto de Química Médica (IQM, CSIC), Madrid (SPAIN)	Antiviral drug discovery: approaches and challenges	2023

Liana Fattore, prof., Ph.D.	Institute of Neuroscience (IN), National Research Council (CNR) Italy	"New psychoactive substances and psychiatric symptoms: the importance of in vivo animal research"	2022
Rudolf Bauer, prof. Ph.D.	University of Graz, Austria	New strategies for the elucidation of active principles in herbal drugs	2023
Nonappa Nonappa, Dr.	Tampere University, Finland	Precision breast cancer models: Hydrogel-based 3D nanoscaffolds for tissue explant culture	2022
Marco Mihavilovic, prof., Ph.D.	TU Wien, Austria	Bioorganic & Green Synthesis – Adventures @ the Chemistry / Biology Interface	2023
Francisco Macias, prof., Ph.D.	University of Cadiz, Spain	Organic nanotechnology to enhance efficiency of phytodrugs	2023
Anders Backlund, prof., Ph.D.	Uppsala University, Sweden	ChemGPS-NP: development and applications in natural product chemistry	2023
Nicola Ferri, prof., Ph.D.	Padua University, Italy	Role of PCSK9 on cholesterol metabolism and beyond: identification of new natural inhibitors	2023
Elisabeth (Hennie) Valkenier - Van Dijk, Dr.	Université libre de Bruxelles, Belgium	Transmembrane transport of ions by supramolecular receptors	2022

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
PharmDr. Tünde Ambrus, Ph.D.	Antal Brantner Youth Award	Hungarian Society for Pharmaceutical Sciences	2022, 2023
Oldřich Farsa, assoc. prof. PharmDr. Ph.D.	Evaluation of research organizations in the Czech Republic according to Methodology 17+	Government of the CR, Research, Development and Innovation Council	2021-2023
Kateřina Kubová, assoc. prof., Ph.D.	Using of microparticles as carriers of hormonally active substances in artificial reproduction of fish (QK1810221)	Ministry of Agriculture of Czech Republic	2018–2021
David Vetchý, Prof., Ph.D.	Second-generation detection tubes for continuous and repeated monitoring of nerve agents and other toxic substances (VI20192022172)	Ministry of Interior of Czech Republic, Security Research Programme of the Czech Republic in the years 2015 - 2022 (BV III / 1 VS)	2019–2022
Kateřina Kubová, assoc. prof., Ph.D.	Rational Design of Polysaccharide-based Particulate Systems for the	The Czech Science Foundation	2022–2024

	Delivery of Mucosal Therapeutics with Broad Spectrum of Biological Activities		
Jan Gajdziok, assoc. prof., Ph.D.	Research and development of innovative compounds with complex effects and methods of their binding to new generation transporters for targeted transport of active substances in the GIT of poultry	Technology Agency of the Czech Republic – TREND	2023–2026
Tünde Ambrus, PharmDr., Ph.D.	Mátyás Rozsnyay Memorial Contest for Young Pharmacists	Hungarian Society for Pharmaceutical Sciences	2020
Karel Šmejkal, prof. Ph.D.	Hungarian lignicolous fungi as promising sources of biologically active metabolites/NKFIH	National Research, Development and Innovation Office, Hungary	2023
Milan Malaník, PharmDr., Ph.D.	VEGA	Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences	2022
Karel Šmejkal, prof., Ph.D.	Hungarian lignicolous fungi as promising sources of biologically active metabolites/NKFIH	National Research, Development and Innovation Office, Hungary	2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

The Faculty of Pharmacy at Masaryk University focuses its scientific research activities primarily on basic and applied research, supported mainly by national grant schemes. These include various programs from the ministries of the Czech Republic, as well as fundings from the Czech Science Foundation and the Technology Agency of the Czech Republic. Additionally, the faculty frequently collaborates with industrial partners on both scientific and applied research projects. This collaboration also extends to contract research. Furthermore, the faculty takes advantage of internal grant opportunities provided by GAMU (Grant Agency of Masaryk University). This grant agency offers a variety of internal funding opportunities, which are crucial for advancing innovative projects and fostering academic excellence. Moreover, Grant Agency of Masaryk University is particularly supportive of young scientists. Programs like the MUNI Award in Science and Humanities (MASH) offer significant funding and resources to promising young researchers, helping them to establish their careers and secure prestigious grants such as the European Research Council (ERC) grants. This support is vital for nurturing the next generation of scientific leaders and innovators.

Overall, the utilization of MU's grant agencies and internal challenge opportunities enables the Faculty of Pharmacy to maintain a dynamic and productive research environment, contributing to the advancement of pharmaceutical sciences and the education of future healthcare professionals. The Faculty of Pharmacy has made extensive use of the opportunities of this internal agency (especially Specific University Research projects (SVV), proof of concepts, and others). The Faculty of Pharmacy has used 13 713k CZK (541k EUR) from these internal projects in this period. Internal grants are commonly used by representatives of all six departments of the faculty.

The text below describes the most significant externally funded projects and contract research at the faculty.

- **GA ČR (Role of prenylation and glycosylation patterns in anti-inflammatory activity and metabolism of natural phenolic compounds; prof. Karel Šmejkal, 2023–2025)**

This project is subsidized by the Grant Agency of the Czech Republic, and the Faculty of Pharmacy is acting as the main beneficiary of the subsidy. The project is still ongoing and is led by the principal investigator prof. Šmejkal. Many faculty members, especially from the Department of Natural Drugs

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

are involved in the project. The duration of the project is three years (2023–2025) and is collaborated with Czech University of Life Sciences Prague and Czech Academy of Sciences. The total project budget is 13 992 000 CZK (552 000 EUR). The project topic aligns with the mission of the department. The Department of the Natural Drugs, which focuses on research and study of medicinal products and excipients of natural origin. The main focus is on preparing a series of prenylated and/or glycosylated phenolics, investigate their effect on the gut microbiota, metabolism in intestinal models and in vivo, test pro- and anti-oxidant, anti-inflammatory and antimicrobial activity in in vitro and in vivo models using metabolomic methods. Phenolic substances, including prenylated ones, are bioactive compounds present in a wide range of foods and medicinal plants. They have significant immunomodulatory, anti-inflammatory and antioxidant activity, affect the composition and activity of the gut microbiota, while at the same time being catabolised by this microbiota and further metabolised, for example, in the liver. However, sources of prenylated or parallel glycosylated phenols are limited and information on their metabolism and bioactivity is scarce. Both prenylation and selective glycosylation slow down degradation in intestine and may increase bioavailability. Chemo-enzymatic biotransformations are an important option to obtain sufficient quantities of such compounds and to test their putative pharmacodynamic potential and pharmacokinetic parameters.

- **JMK (Pharma Centre of Excellence in Advanced Technology; assoc. prof. Pavel Bobál, 2021–2022I)**

This project, where the Faculty of Pharmacy, was acting as a main beneficiary of the subsidy, helped to finance the preparation of faculty's own big international project with the aim of establishing a centre of excellence in the South Moravian Region. This, mainly development, project would then directly support research, prestige of the faculty and subsequently its departments as well as support and encourage the submissions of additional research project. These types of projects are an excellent indicator describing the efforts of the Faculty of Pharmacy, after it became part of the second largest university in Czech Republic, to develop significantly in the direction of science and research and to behave as a full-fledged unit of Masaryk University. The project was supported by the South Moravian Region in the years 2021–2022 with total financial subsidy of 982k CZK (39k EUR).

The project itself was primarily aimed at the preparation of the ERA Chair project. The aim was to attract to the Faculty of Pharmacy a great scientific personality that would bring the faculty's research closer to world-class quality with its skills, experience and reputation. The integration of this personality into the faculty's structure, would then ensure the creation of an excellent research team and develop cutting-edge research in the field of pharmacy and biomedicine in the South Moravian Region.

- **GA ČR (Complexes of selected transition metals with plant substances with anti-NF-kappa B and pro-PPAR dual activity; prof. Karel Šmejkal, 2021–2023)**

This project was subsidized by the Grant Agency of the Czech Republic and Austrian Science Fund (FWF), with the Faculty of Pharmacy acting as the co-beneficiary of the subsidy (2415k CZK), together with Palacký University (Olomouc, CZ) as main beneficiary, and Institute of Vascular Biology and Thrombosis Research at the Medical University of Vienna (MedUni Wien). The project was targeted on diseases associated with chronic inflammation. A promising therapeutic approach to suppress inflammatory processes is the modulation of the activity of the pro-inflammatory transcription factor NF- κ B and the activation of the anti-inflammatory nuclear receptors PPAR. The aim of this project was to obtain substances, especially prenylated phenols as secondary metabolites of plants, with dual activity against NF- κ B and for PPAR. Complexes were also synthesized which the mentioned phenolic compounds serving as organic ligands for complexation with suitable transition metals (e.g. Zn, Cu, Au). The substances were evaluated based on their ability to inhibit NF- κ B and

stimulate PPAR, and modulate gene expression in vitro. Promising compounds were also tested for their anti-cellular senescence effect on HUVEC cells exposed to TNF α . In vivo anti-inflammatory effects of selected substances were studied in preclinical models.

- **AZV ČR (Biocompatible nanoparticles as targeted drug delivery systems and theranostics for stroke treatment; assoc. prof. Radka Opatřilová, 2021–2025)**

Project calls subsidized by Czech Health Research Council and The Ministry of Health, are the largest provider of grants for medical research in the Czech Republic. The project calls of this authority are jointly with GA ČR, the largest national investors, which the faculty of pharmacy focuses on. Associate Professor Opatřilová's project is a representative of medical research at the faculty. Faculty of Pharmacy has a co-beneficiary role on the project (3 848k CZK) and is involved in the project together with St. Anne's University Hospital Brno (main beneficiary) and Institute of Macromolecular Chemistry Czech Academy of Sciences.

The main aim of the project is to test if supplementation with plasminogen improves thrombolysis and to develop and pre-clinically test targeted drug delivery system containing plasminogen and alteplase for plasminogentargeted thrombolysis. The Faculty of Pharmacy, thanks to its technical background and expertise, participated together with principal investigator in all parts of the project, from proof of concepts to testing the newly developed nanoparticles. It was thanks to its research background that the faculty complemented the clinical environment of the principal investigator.

- **Ministry of Interior of CR (Second generation detection tubes for continuous and repeated monitoring of nerve agents and other toxic substances; prof. David Vetchý, 2020–2022)**

Despite its narrow focus on the natural sciences and medical fields, the Faculty of Pharmacy is able to use its expertise outside these fields as well. This is facilitated by the Institute of Pharmaceutical Technology, which is more technically oriented. A project that confirms this ability of the faculty is specifically project about the involvement in the Czech Republic's security research program. The faculty of Pharmacy was involved as a partner in a cooperation with the National Institute for Nuclear, Biological and Chemical Protection and the industrial partner ORITEST spol. s r.o., which was the main beneficiary of the support. The Faculty of Pharmacy was awarded 1 352k CZK (53k EUR) for its participation on the project. The team led by prof. Vetchý, consisting of faculty staff, analyzed reagents and matrices suitable for the construction of second-generation detection tubes that allowed long-term and repeated monitoring of the presence of the most important chemical weapons and industrial pollutants in the atmosphere. The design of such tubes was done, and their functionality was proved. The project has demonstrated the ability of the evaluated unit not only to collaborate with industry on a scientific topics, but also to have multidisciplinary focus.

- **Ministry of Agriculture of CR (Use of microparticles as carriers of hormonally active substances in controlled fish reproduction; assoc. prof. Kateřina Kubová, 2020–2022)**

Similar to the previous entry, this project demonstrates the ability of multidisciplinary research at the Faculty of Pharmacy. In this case, the call from the Ministry of Agriculture was used. A team led by associate professor Kubová and a team composed of employees of the Department of Pharmaceutical Technology (1 265k CZK) in partnership with the industrial partner ŠTÍCÍ LÍHEŇ – ESOX, spol. s r.o. and the University of South Bohemia in České Budějovice (main beneficiary) collaborated on the implementation of the project with the overall objective to develop and verify the effectiveness of PLGA microparticles as carriers of biologically active substances including the final gamete maturation of economically important fish species. With its flexibility, professional background and ability to collaborate with industrial partners, the research team of the Faculty of Pharmacy perfectly complemented the research objectives of the principal investigator.

- **ADDICOO Group s.r.o.**

This contract research was carried out by the Department of Pharmaceutical Technology MUNI PHARM for Addicoo, a leading manufacturer of feed premixes, and focused on developing a dissolution method and evaluating butyric acid release from the supplied products. The products tested were intended for the feed industry, specifically for poultry, where there is a high demand for natural, value-added products to help eliminate infection pressure and increase poultry performance. Specifically, the biorelevant dissolution assay was optimized regarding transit times, enzymes, and surfactant additions, and an analytical HPLC method was developed to evaluate the release of active ingredients from the product. The contract research can be evaluated as successful. The results obtained were used as preliminary data for the subsequent successful submission of two grant applications and for developing a long-term collaboration between Addicoo and MUNI PHARM. Increasing collaboration with the application sphere is one of the goals set by the faculty when signing the contract between the faculty and the university management (strategic document 2022–2027, [2]).

- **oncomed manufacturing a.s.**

As part of the collaboration with the company oncomed, the Faculty of Pharmacy at Masaryk University received a contract to develop a lyophilization cycle for a formulation containing a nanoparticle complex of copper diethyldithiocarbamate (CuET) with human serum albumin, whose development was led by Palacký University Olomouc.

Since the Department of Pharmaceutical Technology had recently acquired a pilot lyophilizer, the Christ Epsilon 2-12D, the contract was beneficial for both parties – oncomed did not have to allocate its production facilities, personnel, and time to lyophilization cycle development, while employees and graduate students of the Faculty of Pharmacy had the opportunity to expand their skills by working with this newly available equipment.

The outcome included seven lyophilization programs, which were used on samples provided by the company, which resulted in hundreds of lyophilized samples. One of these programs was crucial, as it enabled the creation of a high-quality lyophilized cake and preserved the nanoparticle size even after reconstitution of the samples, which was the goal of development.

- **PAUL HARTMANN AG**

Contract research for Paul Hartmann AG has been ongoing at the Department of Pharmaceutical Technology since 2022. The project deals with several research directions that combine the use of pharmaceutical technology methods to design, prepare and evaluate medical devices for wound healing. Due to the confidentiality agreement, no further details regarding the experiments can be disclosed. In 2024, in one of the research directions a transfer agreement was executed under the leadership of MUNI TTO and subsequently the customer filed three international patent applications, of which the MUNI research team is a co-author. A similar procedure is planned for another research direction for 2025. At a later stage, the publication of the achieved results in the form of scientific articles is also planned. The launch of the project in 2022 enabled the bolstering of the Department of Pharmaceutical Technology team with two talented Ph.D. students, who are now regular employees. The project significantly increased the competences, experience and enabled the career advancement of several young postdocs and Ph.D. students. For 2025, the services were expanded to include the involvement of the Department of Molecular Pharmacy and consulting activities regarding the principles of national drug authorities. Given the fact that the contract has been renewed annually for three years now, we assume that the customer is so far satisfied with the services.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
GA ČR	Role of prenylation and glycosylation patterns in anti-inflammatory activity and metabolism of natural phenolic compounds	-	-	-	-	4 300/170
JMK	Pharma Centre of Excellence in Advanced Technology	-	-	656/26	326/13	
Total		-		656/26	326/13	4 300/170
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
TA ČR	New bioactive hemostats and wound coverings based on collagen and cellulose	-	249/10	486/19	486/19	-
TA ČR	Research and development of innovative compounds with complex effects and methods of their binding to new generation transporters for targeted transport of active substances in the GIT of poultry	-	-	-	-	1 194/47
MV ČR	Second generation detection tubes for continuous	-	356/14	660/26	336/13	-

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

²⁷ Ibid.

	and repeated monitoring of nerve agents and other toxic substances					
MPO ČR	Development of a synthetic procedure for Naphthol AS and its derivatives	-	-	176/7	1 056/42	-
GA ČR	Complexes of selected transition metals with plant substances with anti-NF-kappa B and pro-PPAR dual activity	-	-	876/35	801/32	738/29
GA ČR	Development of novel fluorescent labels for electrophoretic analysis of breast cancer-associated glycoproteins	-	-	-	1 104/44	1 127/44
GA ČR	Rational design of particulate polysaccharide systems for delivery of drugs with a broad spectrum of biological activity for mucosal therapy	-	-	-	1 134/45	1 134/45
MUNI (GAMU)	-	-	-	4 078/161	6 357/251	3 278/129
AZV ČR	Biocompatible nanoparticles as targeted drug delivery systems and theranostics for stroke treatment	-	-	737/29	1 047/41	1 027/41
AZV ČR	Improving the efficacy and safety of cerebral infarction recanalization with dual thrombolytic therapy	-	-	-	-	857/34
MZE ČR	Use of microparticles as carriers of	-	434/17	830/33	-	-

	hormonally active substances in controlled fish reproduction					
Total		-	1 039/41	7 843/350	12 321/487	9 355/369

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
ICCI – International Cannabis and Cannabinoids Institute (SI)	Scientific review	-	72/3	-	-	-
Ústav makromolekulární chemie AV ČR	Physical characterization of biomaterials	-	33/1	-	-	-
ADDICOO GROUP s.r.o.	Analytical evaluations	-	-	120/5	30/1	-
Hemcon Medical Technologies CZ s.r.o.	Evaluation of hemostatics	-	-	64/3	-	-
Biomaterial s.r.o.	Plant material analysis	-	-	-	20/1	-
Bioveta, a.s.	Measurement of suspension particles	-	-	-	4/0.2	-
Hackshot s.r.o.	Development of analytical method	-	-	-	21/1	-
HEATON k.s.	Development of analytical method	-	-	-	47/2	-
Hola Biolabs s.r.o.	Stability studies of PCR kits	-	-	-	32/1	-
oncomed manufacturing a.s.	Development of the lyophilisation cycle	-	-	-	10/0.4	275/11
ORITEST spol. s r.o.	Pellet preparation	-	-	-	25/1	25/1
TRUMF International s.r.o.	Chromatographic sample analysis	-	-	-	146/6	-
Vysoké učení technické v Brně (Brno University of Technology)	Measurement of powder material	-	-	-	9/0.3	-
PAUL HARTMANN AG	-	-	-	-	201/8	1072/42
Biomedicínské centrum SAV Bratislava	Spectral characterization	-	-	-	-	25/1
Česká zemědělská univerzita v Praze	Isolation of substances from plants	-	-	-	-	17/1
Total		-	105/4	184/8	545/22	1 414/56

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

- **Spherical pellets, manufacturing process of such pellets, use, and a detection tube comprising such pellets (patent, 2020)**

This European patent was developed in collaboration with the company Oritest spol. s r.o., which is globally engaged in the production and sale of simple and fast-to-use detection systems for identifying chemical warfare agents and industrial toxicants. One such system includes detection tubes for nerve agents (e.g., sarin, soman, tabun, VX). Some of these tubes contain a filling with carriers (e.g., silica gel, granules) with immobilized enzymes and/or detection reagents.

The patent specifically addresses the preparation of an innovative carriers in the form of matrix pellets containing magnesium aluminometasilicate and other excipients impregnated with the enzyme butyrylcholinesterase, developed at the Department of Pharmaceutical Technology. These carriers enable extremely rapid detection with a distinct color transition, as the detection principle is based on visual observation of a color change (or its absence) on the carriers.

The final detection tube is designed for use by armed forces (Czech Republic, NATO) and integrated rescue services (primarily firefighters and police) at worldwide scale. By improving and accelerating the detection of these substances, the economic impact includes faster deployment of appropriate treatment for affected populations, resulting in not only economic benefits but, more importantly, health advantages. Additionally, this enhances the competitiveness of the Czech company Oritest in the global market.

Although the invention does not have a direct gender-related aspect, in practice, it can help save lives regardless of gender. Moreover, its sustainable impact lies in the efficient use of materials and resources, minimizing waste while maximizing the speed and accuracy of hazardous substance detection, ultimately contributing to public health and safety on a global scale

- **Coated spherical matrix pellets for adjustment into detection tubes to detect cholinesterase inhibitors (patent, 2020)**

This Czech patent was developed in collaboration with Oritest spol. s r.o., a company specializing in the production and sale of fast and simple detection systems for chemical warfare agents and industrial toxicants. One such system includes detection tubes for nerve agents (e.g., sarin, soman, tabun, VX). Some of these tubes contain a filling with carriers (e.g., silica gel, granules, pellets) with

²⁹ See Terms definition.

immobilized enzymes and/or detection reagents.

The patent focuses on an innovative carrier in the form of coated pellets containing magnesium aluminometasilicate and other excipients which forms pellet cores. The enzyme acetylcholinesterase or butyrylcholinesterase is embedded in a polymer layer around this core, which is further coated with a semipermeable polyacrylate layer to concentrate the developed color on the pellets surface. This system, developed at the Department of Pharmaceutical Technology, enables rapid detection with a clear color transition and is particularly effective for detecting hazardous substances in liquids, including certain pesticides that act similarly to nerve agents.

The detection tubes are intended for use by armed forces (Czech Republic, NATO) and integrated rescue services (primarily firefighters and police) worldwide. Faster detection of these substances allows for a quicker medical response, leading to both economic and health benefits. The innovation also strengthens the competitiveness of the Czech company Oritest in the global market.

While the invention is not gender-specific, it contributes to public safety for all. Its sustainability aspect lies in the efficient use of materials, minimizing waste while maximizing detection accuracy, ultimately supporting public health and environmental protection.

- **Method of preparing an indicator cartridge for detection tubes for detecting phosgene and diphosgene (patent, 2021)**

This Czech patent was developed in collaboration with Oritest spol. s r.o., a company specializing in the production and sale of fast and easy-to-use detection systems for chemical warfare agents and industrial toxicants. One such system includes detection tubes for choking agents (e.g., phosgene and diphosgene). Previously, these tubes contained silica gel carriers with older detection reagents, which were less sensitive.

The patent introduces an innovative carrier in the form of highly porous matrix pellets made of magnesium aluminometasilicate and other excipients, including volatile substances that evaporate during drying, creating a porous structure. These carriers are then impregnated with a newly developed detection reagent, o-phenylenediamine-pyronin. This system, developed at the Department of Pharmaceutical Technology, enables rapid detection with a highly distinct color change from yellow to dark purple in the presence of phosgene or diphosgene. Additionally, the samples fluoresce under UV light even at very low concentrations of phosgene/diphosgene, enhancing detection sensitivity.

The detection tubes are designed for use by armed forces (Czech Republic, NATO) and integrated rescue services (primarily firefighters and police) worldwide. Faster detection of these substances allows for a quicker medical response, providing both economic and health benefits. The innovation also strengthens the global competitiveness of the Czech company Oritest.

While the invention is not gender-specific, it enhances public safety for all. Its sustainability aspect lies in the efficient use of materials, reducing waste while improving detection accuracy, ultimately contributing to public health and environmental protection.

- **Pharmaceutical pellets composition with a particle size of 0.1 to 10 mm for oral use for aquatic animals how to prepare it (patent, 2020)**

This invention has served as a cornerstone for the generation of clinical samples for toxicological evaluations for many years, simplifying the formulation of medicated feed premixes specifically

designed for the thriving aquaculture industry. This elegantly streamlined process, protected by the scope of this patent, allows manufacturers to create specialized feed mixtures with unprecedented ease and efficiency. While a full understanding of the broader macroeconomic implications remains a future endeavor, the potential of this technology to revolutionize the treatment of aquatic animals is undeniable. Specifically applicable to the cultivation of vital species such as cyprinids and trout, this patent expands a significant opportunity for any aquaculture business seeking to improve the health and well-being of its populations. Through licensing or purchase, companies will gain access to a method for administering virtually any orally available drug, opening new avenues for disease management, preventative care, and ultimately a more robust and sustainable approach to aquatic animal husbandry. This innovation promises to not only improve treatment efficiency, but also streamline operations, reduce costs, and contribute to overall progress in the aquaculture industry. The patent is intended for aquatic animals for which gender rules do not yet apply and fish cannot freely choose their sex. Similarly, zoology knows only males and females and the patent therefore does not take into account the construction of sex.

- **Highly stable feed mixture containing probiotics intended especially for aquatic animals (utility model, 2023)**

This utility model introduces the idea of enhancing the well-being of aquatic creatures through the strategic deployment of probiotics, with a particular emphasis on the remarkable potential of lactobacilli. This new methodology not only holds the promise of significantly increasing the vitality, resilience, and overall health of aquatic populations, but also fosters a more harmonious and balanced relationship with the sensitive and often vulnerable ecosystems they call home. This approach, which thoughtfully avoids the environmental burdens often associated with conventional treatment protocols, points a compelling course toward a more sustainable and environmentally responsible future for the aquaculture industry. Furthermore, it is confidently anticipated that the judicious use of these naturally beneficial microorganisms will substantially contribute to both the productivity and yield of breeding operations, paving the way for a prosperous and bountiful harvest, and ensuring greater efficiency and abundance of aquatic resource production. While a comprehensive assessment of the macroeconomic impact, encompassing the full range of potential benefits, remains a subject of future study and analysis, the inherent potential for widespread adoption of this environmentally friendly and demonstrably productivity-enhancing technology strongly suggests a future brimming with promise, not only for its positive benefits to the aquaculture industry itself, but also for its broader impact on the global economic landscape and sustainable food supply. The utility model is intended for aquatic animals, for which gender rules do not yet apply and fish cannot freely choose their sex. Similarly, zoology only knows males and females, and the utility model therefore does not take into account the construction of gender.

- **Wound dressing for chronic wounds (prototype, functional sample, 2022)**

The dressing represents an innovative product in the collagen wound dressing segment. Freeze-dried samples were prepared at BUT-CEITEC Brno, and Collado Ltd, the future manufacturer, verified the freeze-drying technology. Biological tests for hemostasis, biocompatibility, and wound healing were performed in a rat animal model. This result was supported by the Czech Technology Agency project, New bioactive hemostatic and Collagen-cellulose Wound dressings (TH0402020540) [3].

- **Wound dressing Colcel (prototype, functional sample, 2022)**

The wound dressing prepared by a combination of collagen and carboxymethylcellulose, designed in particular for chronic wounds, which are difficult to heal, bleeding wounds, and granulating and epithelialising wounds. The dressing is prepared in the form of freeze-dried sponge structure. Characteristics - improved physical properties (flexibility, cohesiveness, softness), high absorbency, hemostatic properties. The product will be classified as a class III medical device. This result was

supported by the Czech Technology Agency project, New bioactive hemostatic and collagen-cellulose wound dressings (TH0402020540). Collado Ltd has invested in production facilities and is preparing product approval according to Regulation MDR 745/2017 [4].

- **Active wound dressing for chronic wounds (prototype, functional sample, 2023)**

Carboxymethylated regenerated cellulose - equine collagen in the form of lyophilized sponges. Active hemostatic wound dressing (and its composition) represents an innovative product in the segment of surgical hemostatics. The samples were prepared by BUT-CEITEC and the lyophilization technology was verified by Collado Ltd. Biological efficacy was verified in the pig animal model. The product will be classified as a class III medical device. Wound dressing prepared by a combination of collagen and carboxymethylated cellulose containing biologically active substances. The dressing should be intended especially for difficult-to-heal wounds and wounds in the granulation and epithelization phase. This result was supported by the Czech Technology Agency project, New bioactive hemostatic and collagen-cellulose wound dressings (TH0402020540) [5].

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Patent	2020	Spherical pellets, manufacturing process of such pellets, use, and a detection tube comprising such pellets
Patent	2020	Coated spherical matrix pellets for adjustment into detection tubes to detect cholinesterase inhibitors
Patent	2021	Method of preparing an indicator cartridge for detection tubes for detecting phosgene and diphosgene
Patent	2020	Pharmaceutical pellets composition with a particle size of 0.1 to 10 mm for oral use for aquatic animals how to prepare it
Utility model	2023	Highly stable feed mixture containing probiotics intended especially for aquatic animals
prototype, functional sample (TH0402020540)	2022	Wound dressing for chronic wounds
prototype, functional sample (TH0402020540)	2022	Wound dressing Colcel
prototype, functional sample (TH0402020540)	2023	Active wound dressing for chronic wounds

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

³⁰ Specify the specific type of result. Add rows as needed.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

The Faculty of Pharmacy at Masaryk University actively seeks industrial partners to collaborate on various research projects. This collaboration is primarily established through **the personal contacts of individual scientists**, leveraging their professional networks. Additionally, the faculty utilizes platforms such as **Life Sciences 4.0** [6] to identify and connect with potential partners. **These efforts aim to foster mutually beneficial partnerships that enhance both scientific research and practical applications, aligning with the faculty's strategic commitment to contract research.**

The Faculty of Pharmacy collaborates with industrial partners on both **basic** and **applied research** projects, as well as **contract research**. While the faculty itself does not utilize technology transfer opportunities directly, **it has access to the Technology Transfer Office**. The faculty maintains contact with this office through designated individuals responsible for technology transfer.

The Technology Transfer Office (TTO MUNI) is perceived as an institutional unit providing support and conditions for the practical application of university's research results. It provides services in technology/knowledge transfer (TT) to all MUNI departments. **The key TT activities are methodologically and substantively centralised, ensuring the necessary personnel, methodological and technical frameworks.**

TTO MUNI manages **the intellectual property of MUNI** and cooperates in its **identification, protection** and **commercial exploitation** (licensing, spinoffs, application consulting, contract research) following MUNI rules and standards.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
Total	-	-	-	-	-

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

The Faculty of Pharmacy at Masaryk University actively engages in various activities to popularize science and research, as well as to enhance science communication with the public. Here are some key initiatives:

- **Public Lectures and Workshops:** The faculty organizes public lectures and workshops where researchers and experts share their knowledge on current scientific topics and advancements in pharmacy. These events are designed to be accessible to a broad audience, including students, professionals, and the general public.
- **Science Festivals and Open Days:** The faculty participates in science festivals and open days, such as the annual Masaryk University Open Day. These events provide an opportunity for visitors to explore the faculty's facilities, interact with researchers, and learn about ongoing research projects.
- **Collaborations with Schools:** The faculty collaborates with local schools to promote interest in science among younger students. This includes hosting school visits, providing educational materials, and organizing interactive science experiments.
- **Media Engagement:** Faculty members frequently engage with the media to discuss their research and its implications for society. This helps to raise public awareness about the importance of pharmaceutical research and its impact on health and well-being.
- **Online Presence:** The faculty maintains an active online presence through its website and social media channels. These platforms are used to share news, research findings, and information about upcoming events, making science more accessible to the public.

These efforts contribute to a greater understanding and appreciation of science and research within the community.

Among the most significant events in which the faculty participates in the context of science communication:

- **Night of Scientist (2020–2023)**

Every year the Faculty of Pharmacy participates in the traditional well-known national event Night of Scientists, which attracts thousands of curious visitors to the Bohunice campus alone. At the end of September, we are always actively involved in this popular event, which takes place all over Europe and aims to bring the world of science and research closer to the public. At the Bohunice campus, we present ourselves alongside the Faculty of Medicine, the Faculty of Science and the Faculty of Sports Studies. Masaryk University is sending a special bus to bring visitors to the campus for this event. Every year we see a great attendance of families with children, individuals, couples and seniors. The Faculty of Pharmacy always contributes to this success with two interesting stations. In 2023, these included Antibiotic Resistance and The Mystery of the Pill. All departments of the faculty of pharmacy are involved in the event on a rotating basis [7].

- **MjUNI (2020–2023)**

The MJUNI Junior University is an event for children and young adults. The event contains many interesting workshops, lectures and interactive programmes for primary and secondary school pupils and students at the Bohunice campus alongside the Faculty of Medicine. MJUNI students can choose their lectures in advance according to their interests and preferences, so that the programme is as close to them as possible. Junior University (MJUNI) is a lifelong learning programme under the auspices of Masaryk University for pupils and students aged 9 to 18. It is a unique opportunity that opens the door to the world of science, education and research for children and adolescents. Students have the opportunity to get to know the academic environment and try out the role of a university student for real, but on their own skin. All departments of the Faculty of Pharmacy are involved in MJUNI on a rotating basis. The event is held yearly (2020–2023) [8].

- **Science festival (Festival vědy) (2020–2023)**

Thousands of visitors eager for knowledge visit the fun fair Festival of Science and Technology held at the Brno Exhibition Centre every year. Primary schools, secondary schools, families with children and individuals attend and look at the latest advances in science and learn many interesting things at the stands of individual research institutions. Each year, the faculty of pharmacy MU is represented at the fair by one of the institutes, whose members prepare an interactive programme with which they can illustrate pharmaceutical topics to the guests of the Science Festival. In 2023, we were represented by the Institute of Chemical Medicines, which prepared interesting activities for the guests of the festival, such as preparing capsules, folding filter paper or testing the expiry date and substances contained in medicines [9].

- **Gaudeamus (2020–2023)**

Gaudeamus is the most important student festival held annually in Prague, Brno, Bratislava, Košice and Nitra. The festival is attended by thousands of high school students who are considering choosing a university to ensure a quality education and a foundation for their future professional life. All relevant universities are represented at the fair, and Masaryk University, of course, cannot be missing. The colourful presentation symbolizing the colours of each of the ten faculties catches the eye at first sight, which is why the Masaryk University stands are always crowded. The Faculty of Pharmacy sends smiling, friendly students to the fair to answer questions about the entrance exams, studying and the advantages of living in the student city of Brno. In recent years, we have also participated with the Science for Life program, which offered interactive programs such as herb identification [10].

- **University of Third Age 2021–2023 (lecturer Aleš Franc, Marta Chalupová, Jan Juřica, Tünde Ambrus, Jozef Kolář, Lenka Smejkalová, Karel Vašut, Karel Šmejkal, Dagmar Jankovská, Ruta Masteiková, David Vetchý)**

The University of the Third Age, abbreviated U3V, is a set of lifelong learning programmes aimed at educating people of post-productive age.

The basic mission of U3V is to open up the university's resources of knowledge, knowledge and skills to people of older age. The aim of U3V is not only to deepen existing knowledge, but also to present new knowledge, disciplines and technologies that are otherwise inaccessible to seniors.

The lecture is held annually, usual length is 90 minutes, with subsequent discussion. The lecture is held in the facilities of Masaryk University in Brno [11].

- **Jakub Tremel, PharmDr. Ph.D., 2022 – Invitation to Czech Television to talk about “Drug development and antibiotic resistance”.**

This talk was part of a TV show called Sama doma (Home alone). The purpose is to inform general public about different topics. In this case Dr. Tremel concentrated on the number one health problem, which is antimicrobial resistance. The problem was explained through conversation with moderators.

One of the aims was to inform general public and patients about proper usage of antibiotics and to point out usual mistakes.

- **Jakub Tremel, PharmDr. Ph.D., 2022 – Newspaper article based on interview about antibiotic resistance.**

The topic of antibiotic resistance is very important and thus Dr. Tremel was asked to participate on preparation of an article to newspapers called Lidové noviny (People's Newspapers). The communication with the journalist was in written form and Dr. Tremel was able to authorize the text. The purpose of the article was to inform general public and patients about the importance of antibiotic resistance, how is it produced and how we can participate to prevent it.

- **Lecture course for public (Tereza Kaueroová, PharmDr., Ph.D., 2023)**
 1. **Over-the-counter medicines I.: Pain, diseases of the digestive system and allergies (6 lectures)**
 2. **Over-the-counter medicines II.: Colds and coughs, strengthening immunity, skin diseases, anxiety and insomnia and more (6 lectures)**

The aim of the courses for the public is to provide them with professional information from areas that affect their everyday life in a comprehensible form. These two lecture courses for the public were dedicated to the topic of over-the-counter medicine. This activity is naturally linked with the activity of the Department of Pharmacology and Toxicology at the Faculty of Pharmacy, which is dedicated to the teaching of pharmacology and scientific research in this area. The course was designed as online lectures that were recorded and thus provided the opportunity to watch the lecture even offline. The whole course was divided into two cycles. Six lectures were included in each of the two cycles. Each of these lectures was focused on one area of health problems that are often treated by self-medication. The goal of these courses was to help the attendants better orient themselves in the field of self-medication. The lectures show what types of products the pharmacy offers to patients, how over-the-counter medicinal products differ from dietary supplements, how to use these over-the-counter-medicines correctly, or in which cases there is a risk of drug interactions with other simultaneously used medicines, dietary supplements, food, alcohol, etc.

- **Podcast at Science slam 2021 „Jak vzniká lék“ (PharmDr. Bc. Kotolová, Ph.D., 2021)**

The podcast on the topic “Jak vzniká lék” (How a drug is created) was recorded in the podcast studio Science slam MU, which is a platform for popularization of science for the general public. The topic comprehensively discussed how an investigational substance becomes a drug, what path the research must take, and what pharmaceutical industries are involved in the process. The topic was discussed together with Dr. Eva Havráňková and Dr. Jan Elbl. In detail, the challenges of pharmaceutical chemistry, focusing on the position of pharmacology and pharmaceutical technology was discussed. The phases of clinical testing of drugs were presented. The whole interview lasted about 1.5 hours. Its content described the main disciplines studied at the Faculty of Pharmacy of MU. Podcast was recorded in September 2021.

- **Brněnský den léčivých rostlin 2022 - Day of Medicinal Plants in Brno, 2022, 17/10. Popularization all-day event connected with presentation of medicinal plants and plant compounds with medicinal properties (170 participants).**

The **Day of Medicinal Plants in Brno**, which was organized by the Faculty of Pharmacy of Masaryk University, in cooperation with the Natural Medicines Section of the Czech Pharmaceutical society, presented innovations in the use of natural substances in the therapy of various diseases, scientific progress in the field of natural substances, and current events in the field of pharmacognosy and research in field of natural substances at scientific institutions in the Czech Republic. The speakers of the day (Prof. Karel Šmejkal, MUNI Pharm; Dr. Jakub Tremel, MUNI Pharm; Dr. Margita Dvorská, MUNI Pharm; Dr. Jaroslav Péč, Faculty of Pharmacy, Charles University; Assoc. Prof. Jaroslav Havlík, CULS

Prague; prof. Pavel Mučaji – Komensky university, Bratislava; Assoc. Prof. Jan Hošek – Palacký University; Dr. Milan Malaník, MUNI Pharm) [12].

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

The Faculty of Pharmacy at Masaryk University (Pharm MU) has implemented the recommendations for Module 3 from the previous evaluation period, even though, during the evaluation time, it was part of the University of Veterinary and Pharmaceutical Sciences (UPVS) in Brno. Integrating the Faculty of Pharmacy into Masaryk University from UPVS has already led to a notable increase in the societal impact of its research, development, and innovation, benefiting society and its members. Pharm MU has made significant improvements in various areas.

By moving the Faculty of Pharmacy from UPVS to Masaryk University, there has been a remarkable improvement in collaboration within the university with the Faculty of Science, CEITEC, and the Faculty of Medicine. This is evidenced by the numerous joint scientific projects that have been submitted and many joint publications.

Pharm MU has stable and continuous success in receiving grant support. Projects are not only national but also international relevance. It is worth mentioning the successful EU-funded project application. As a part of the exploitation of the potential of Pharm MUNI, we tried to implement the European Research Area (ERA) Priorities by hiring an outstanding researcher/innovator with a decisive and positive impact on the culture and performance of the institution. Besides others, MUNI Pharm focuses on developing advanced drug formulations and molecular biology techniques. The successful ERA Chair project application (Topic: HORIZON-WIDERA-2022-TALENTS-01-01; Type of Action: HORIZON-CSA; Proposal number: 101086962; Proposal acronym: ExcellPharmTech) was therefore targeted to intensify the research and development of advanced drug formulation and nanotechnologies to open new opportunities to intensify MUNI Pharm research capacities in the field of pharmacy and develop strategic partnerships with the application sphere and public sector for faster translation of the advanced drugs into clinics. This application was in accord with the National Recovery Plan (part of RRF – Recovery and Resilience Facility, NextGeneration EU). Prof. David Oupický as the leader of the project, was hired to solve the targeted delivery and transportation of nucleic acids into the target cell environment and to establish an interdisciplinary center of excellence (Pharma Center of Excellence in Advanced Technology). Unfortunately, the project had to be terminated due to a health issue of Prof. Oupický.

Compared to the 2014–2019 evaluation period, contract research revenues increased by more than five times in 2023 with international clients' involvement.

Masaryk University strongly supports technology transfer and intellectual property protection. Nowadays, Pharm MU has contacts and collaborations with important pharmaceutical companies (national and international) that have a strong standing in research support and a track record in joint projects with academia. Pharm MU collaborates extensively with industrial partners not only on contract research but also actively engages in collaborative research projects.

Currently, not only is the group of senior professors recognized nationally, as stated in the qualitative assessment from the year 2019, but **also the younger faculty members are well recognized at the national level and internationally as well.**

Pharm MU maintains a **high activity level in popularizing R&D&I and communication with the public.** The faculty engages in activities to **popularize science**, such as **public lectures, science festivals, and school collaborations.** Notable events include the **Night of Scientists, MjUNI Junior University**, and the **Science Festival.**

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
RSC Advances Blog	[1]	https://blogs.rsc.org/ra/2020/08/25/rsc-advances-hot-articles-a-feature-interview-with-pavel-bobal-jan-otevrel-and-david-svestka/?doing_wp_cron=1740162168.4748640060424804687500
Contract - a strategy for research and doctoral studies (2022–2027)	[2]	https://www-pharm-muni-cz.translate.goog/aktuality/zavazali-jsme-se-k-plneni-strategie-pro-vyzkum-a-doktorske-studium? x tr sl=cs& x tr tl=en& x tr hl=cs (The page was automatically translated using Google Translate.)
Wound dressing for chronic wounds (prototype)	[3]	https://www.isvavai.cz/riv?s=jednoduche-vyhledavani&ss=detail&n=0&h=RIV%2F00216305%3A26620%2F22%3APR37009%21RIV23-TA0-26620
Wound dressing Colcel (prototype)	[4]	https://www.isvavai.cz/riv?s=jednoduche-vyhledavani&ss=detail&h=RIV%2F45537933%3A%2F22%3AN0000004%21RIV22-TA0-45537933
Active wound dressing for chronic wounds (prototype)	[5]	https://www.isvavai.cz/riv?s=jednoduche-vyhledavani&ss=detail&h=RIV%2F00216305%3A26620%2F23%3APR37011%21RIV23-TA0-26620
Life Sciences 4.0	[6]	Life Sciences - Life Sciences 4.0
Night of Scientist	[7]	Researchers' Night
MjUNI	[8]	https://mjuni-cz.translate.goog/? x tr sl=cs& x tr tl=en& x tr hl=cs (The page was automatically translated using Google Translate.)
Science festival	[9]	https://www-festivalvedyatechniky-cz.translate.goog/? x tr sl=cs& x tr tl=en& x tr hl=en-US& x tr pto=wapp (The page was automatically translated using Google Translate.)
Gaudeamus	[10]	https://en.gaudeamus.cz/
University of 3 rd age	[11]	https://u3v.muni.cz/en
Day of Medicinal Plants in Brno	[12]	Program PHARM - 70 years under MU (The page was automatically translated using Google Translate.)

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Economics and Administration

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

Mission and Vision

The Faculty of Economics and Administration (ECON MUNI) at Masaryk University is committed to delivering top-quality education producing desirable graduates and conducting high quality research that informs both the academic community and society at large. ECON MUNI aims to uphold above-standard efficiency in the use of its resources to maintain highest educational and research standards.

The institution maintains a balance between basic and applied research. Its basic research meets the high standards of top international scientific journals, while its applied research provides valuable insights and methodologies for policymaking at global, national, and local levels, as well as for business and nonprofit management. In both areas, research is conducted according to recognized ethical standards and remains independent of specific interest groups.

To support this mission, ECON MUNI fosters a stimulating and inclusive environment where employees and students are encouraged to explore ideas freely, collaborate with colleagues within and outside the faculty, and thrive in their academic and professional pursuits.

Societal Contribution of Research, Development, and Innovation (R&D&I)

The research at ECON MUNI is concentrated in several key areas, each varying in the focus on scientific impact and social relevance. The institution actively collaborates with government agencies, businesses, and nonprofit organizations to apply research findings to real-world challenges. Key research areas include:

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

- *Transportation Economics* – Research in the topics of transportation planning, modal choice or competition in the transport industry informs policymakers and industry leaders, with application partners including the Police of the Czech Republic, Czech Railways, the Ministry of Transportation, and the Competition Office (see part 3.3, projects 4 and 7).
- *Environmental Economics and Sustainability* – Findings from the research on waste management and circular economy support municipalities in optimizing waste management and provide technological firms with guidance on implementing circular economy principles. The key partners include the Czech Environmental Information Agency (see part 3.3, projects 1, 2, 5 and 6).
- *Labour and Health Economics* – Research on topics such as discrimination on the labour market and migration contributes to policymaking at national and international levels, with partners including the OECD and the Ministry of Labour and Social Affairs (see part 3.3, projects 3 and 10).
- *Financial Risk Modelling and Regulation* – Research on financial innovation informs financial regulators about risks arising from financial technologies, with key partnerships including the Czech National Bank and the European Commission (see part 3.3, project 9).
- *Public and non-profit sector management* – Research on crisis governance or non-profit sector is of particular interest to municipalities or Government Council for Non-Governmental Non-Profit Organisations (see part 3.3, project 8).

Within the economic field, social impact of research is achieved either by directly providing research services or by communication of fundamental research findings to policymakers. Research aimed at social impact takes the form of policy recommendations and statistical analyses where researchers propose evidence-based recommendations for policymakers and organization to improve governance and make informed decisions (see part 3.4, results 2, 9 and 6). Additionally, researchers develop modelling solutions that predict economic behaviour and optimize decision-making processes (see part 3.4, results 1 and 5). In some cases, it leads to the production of specialized software tools designed to assist with economic modelling and data analysis (see part 3.4, results 3, 4, 7 and 8). These tools are usually tailored to the needs of contract research clients or application partners involved in publicly funded projects. The findings of fundamental research may also inform design of specific policies, and they are communicated to policymakers not only through scientific papers (see part 3.4, result 10) but also via workshops and recently established policy paper series.

Organizational Structure, Size and Staffing

ECON MUNI consists of five departments: Business Management, Finance, Economics, Public Economics, and Regional Economics. The faculty educates 2 681 students, including 1 702 undergraduate students, 928 master's students, and 51 doctoral students. We offer a wide range of study programs. In the undergraduate study, we have 8 full-time programs in the Czech language, 4 professional combined study programs in the Czech language, and 2 full-time programs in English. In the master's study, we offer 10 full-time programs in the Czech language and 6 full-time programs in English.

The faculty at ECON MUNI (likely referring to the Faculty of Economics and Administration at Masaryk University) employs over 200 people, with 156 of them engaged in academic roles, including teaching and research.

To ensure a clear and transparent academic career progression, ECON MUNI has established a structured career system. This system defines:

- *Academic positions* – Various roles such as assistant professor, associate professor, full professor, lectures and research positions.
- *Career tracks* – Different career pathways that faculty members can pursue, whether focused more on research, teaching, or a combination of both.
- *Teaching and research expectations* – The system specifies the expected teaching, and research loads and for each academic position. This helps maintain balance and clarity regarding workload distribution.

- *Promotion and tenure requirements* – The criteria faculty members must meet to receive a permanent academic position, which includes external peer-review evaluation during the habilitation procedure.

The hiring strategy maintains high academic standards and a diverse faculty, ECON MUNI recruits internationally, meaning they seek candidates from around the world rather than hiring exclusively from within the country. They also regularly hire graduates from prestigious PhD programs (e.g. KU Leuven, Tilburg University, University Mannheim, Pardee RAND).

 Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	7,95 / 0,75	7,55 / 0,45	8,30 / 0,55	8,35 / 0,45	6,35 / 0,25	12,15 / 0,75
Associate Professor	26,15 / 6,25	27,30 / 7,75	25,00 / 7,00	24,35 / 6,35	25,95 / 4,65	37,55 / 9,25
Assistant Professor	50,58 / 23,05	49,80 / 21,95	52,90 / 24,25	49,40 / 22,20	49,90 / 21,95	79,34 / 36,45
Assistant	7,60 / 4,00	6,35 / 3,50	4,40 / 2,30	4,60 / 2,60	0,80 / 0,80	11,53 / 7,00
R&D Personnel ³	-	-	-	-	-	-
Researchers in other categories ⁴	12,63 / 4,53	8,53 / 2,40	9,75 / 1,35	12,00 / 4,23	4,10 / 0,74	31,16 / 9,08
Technical and economic staff ⁵	5,70 / 2,90	5,28 / 2,65	5,30 / 3,00	8,50 / 7,00	10,1 / 7,50	13,70 / 9,80
Scientific, research and development staff involved in teaching activities	99,50 / 36,70	106,96 / 36,45	102,10 / 36,80	101,17 / 36,20	99,00 / 34,75	139,68 / 54,05
Early career researchers ⁶	22,01 / 8,50	28,00 / 9,75	28,80 / 9,80	28,53 / 9,58	32,18 / 11,25	50,90 / 18,93
Total ⁷	110,61 / 41,48	104,81 / 38,70	105,65 / 38,45	107,20 / 42,83	97,20 / 35,89	185,43 / 72,33

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	1	1	2	1	2	0	3	1	5	0
Associate Professor	0	0	2	0	18	4	7	3	2	1	2	0
Assistant Professor	1	0	22	11	27	14	3	2	2	1	2	0
Assistant	5	4	6	2	2	1	0	0	0	0	0	0
R&D Personnel ⁹	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁰	8	2	18	5	4	2	2	1	0	0	1	0
Technical and economic staff ¹¹	2	2	5	3	1	0	1	0	0	0	0	0
Scientific, research and development staff involved in teaching activities	10	4	32	14	54	20	13	7	10	3	13	1
Early career researcher ¹²	5	1	28	10	0	0	0	0	0	0	0	0
Total ¹³	16	8	54	22	54	22	15	6	7	3	10	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Professor	0	0	0	0	1	0	3	0	3	1	1	0
Associate Professor	0	0	2	0	19	4	7	2	3	2	1	0
Assistant Professor	0	0	24	10	24	11	8	5	1	1	1	0
Assistant	2	2	0	0	0	0	0	0	0	0	0	0
R&D Personnel ¹⁵	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁶	5	2	4	0	3	0	1	0	0	0	0	0
Technical and economic staff ¹⁷	0	0	6	5	5	3	1	0	0	0	0	0
Scientific, research and development staff involved in teaching activities	4	2	37	16	53	18	22	9	8	4	5	0
Early career researcher ¹⁸	4	1	35	13	5	2	0	0	0	0	0	0
Total ¹⁹	7	4	36	15	52	18	20	7	7	4	3	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	1452	699	1466	674	1490	702	1566	735	1637	724	6201	3012
Master's ²⁰	1059	613	1146	641	1149	606	1073	538	1012	492	6429	3174
Doctoral	85	34	88	33	89	35	71	30	58	26	151	62
Lifelong Learning Courses	394	177	453	211	709	339	580	302	586	268	6010	2931
Total	2990	1523	3153	1559	3437	1682	3290	1605	3293	1510	18791	9179

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	2019		2020		2021		2022		2023		Total	
Undergraduate	12/0	0/0	12/2	4/0	12/2	4/0	8/2	4/0	8/2	4/0	12/2	4/0
Master's	14/4	0/0	14/4	0/0	14/4	0/0	14/4	0/0	14/6	0/0	14/6	0/0
Doctoral	10/12	0/0	12/14	0/0	12/14	0/0	12/14	0/0	12/14	0/0	22/24	0/0
Lifelong Learning courses	13/0	0/0	13/0	0/0	14/0	1/0	12/0	1/0	17/0	1/0	17/0	1/0
Total	51/18	0/0	51/20	4/0	52/20	5/0	46/20	5/0	51/22	5/0	55/22	5/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics	3,2	Basic Research	4,3
	1.2 Computer and information sciences	0,5	Basic Research	
	1.3 Physical sciences	0,2	Basic Research	
	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences	0,1	Basic Research	
	1.6 Biological sciences	0,3	Basic Research	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	0,2	Basic Research	1
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences	0,8	Basic Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	

5. Social Sciences	5.1 Psychology and cognitive sciences	1,4	Basic Research	94
	5.2 Economics and Business	66,3	Basic Research	
	5.3 Education	1,5	Basic Research	
	5.4 Sociology	1,7	Balanced basic and applied research	
	5.5 Law	0,7	Basic Research	
	5.6 Political science	14,5	Basic Research	
	5.7 Social and economic geography	5,4	Balanced basic and applied research	
	5.8 Media and communications	0,6	Balanced basic and applied research	
	5.9 Other social sciences	1,9	Basic Research	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	0,7
	6.2 Languages and Literature	0,3	Basic Research	
	6.3 Philosophy, Ethics and Religion	0,4	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

During the evaluation period (2019–2023), the evaluated unit has established a strong presence within the national and global research community. This can be documented by the interactions with research community at research seminars and conferences, services to the research community and various research awards.

Faculty members are regularly invited to present their research findings at internationally recognized institutions (e.g. CERGE-EI, IZA, WIFO, Ragnar Frisch Centre) and deliver invited lectures at conferences (e.g. Public Transport Conference, European Conference on AI in Finance). The unit has also hosted renowned international researchers, fostering academic exchange and collaboration. Notably, the unit organizes its own **research seminar series MUES** (<https://mues.econ.muni.cz/>) with a regular schedule of one talk per week during semester. Despite the disruption caused by the COVID-19 pandemic, the seminar series successfully hosted more than 90 research talks between 2019 and 2023 of speakers coming from prestigious institutions worldwide. A small sample of speakers is listed in the table 3.2.4. Beyond the regular seminar series, ECON MUNI annually organizes a **Young Economists' Meeting conference** (<https://yem.econ.muni.cz/>) hosting 40 to 50 young researchers each year. The conference is highly selective attracting usually more than 150 submissions.

The unit has also provided essential services to the research community through editorial responsibilities and project evaluations. Several faculty members serve on editorial boards of esteemed scientific journals, including **Finance a Úvěr - Czech Journal of Economics and Finance** (leading Czech journal in economics), **International Review of Administrative Sciences**, and **Journal of Public Budgeting, Accounting & Financial Management**. Moreover, staff members have actively participated in the evaluation of national and European research projects, contributing as panel chairs and members for institutions such as the **Czech Science Foundation**, the **Swiss National Science Foundation**, and the **Austrian Science Fund (FWF)**. The sample of these activities is listed in tables 3.2.2 and 3.2.5.

The research and contribution of some faculty members has been awarded by reputable institutions. Specifically, faculty members have been honoured with prestigious accolades such as the **GACR President's Award** (Czech Science Foundation), the **WU Award for Outstanding Research Achievements** (WU Vienna University of Economics and Business), and a **membership in the United Nations Committee of Experts on Public Administration**. These awards highlight high-quality research contributions of the faculty's scholars.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
doc. Mgr. Alena Kluknavská, PhD.	GACR President's awards	Czech Science Foundation
Ing. Miloš Fišar Ph.D.	WU Award for Outstanding Research Achievements	WU Vienna University of Economics and Business
prof. Ing. Juraj Nemec, CSc.	Member of Committee of Experts on Public Administration	United Nations

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
prof. Ing. Štefan Lyócsa, PhD.	Finance a úvěr - Czech Journal of Economics and Finance (co-editor), ISSN 2464-7683
prof. Ing. Juraj Nemec, CSc.	NISPAcee Journal of Public Administration and Policy, ISSN 1338-4309
prof. Ing. Juraj Nemec, CSc.	International Review of Administrative Sciences, ISSN 0020-8523
prof. Ing. Juraj Nemec, CSc.	Journal of Public Budgeting, Accounting & Financial Management, ISSN 1096-3367
Tommaso Reggiani, PhD	International Review of Economics, ISSN 1865-1704
Ing. Dušan Mladenović, Ph.D.	International Journal of Management Trends, e-ISSN 2956-0772
doc. Ahad Zareravasan, PhD	Digital Business, ISSN 2666-9544
doc. Ing. Alena Klapalová, Ph.D.	Journal of Global Hospitality and Tourism, ISSN 2771-5957
Ing. Miloš Fišar Ph.D.	Management science (data editor), ISSN 1526-5501
doc. Ing. Mgr. Jakub Procházka, Ph.D.	International Journal of Services, Economics and Management, ISSN 1753-0822

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Luca Fumarco, PhD	(un)Effectiveness of the Temporary Protection EU Act: A Study with Ukrainian Refugees Job Applicants	Austrian Institute of Economic Research (WIFO)	2023
doc. Ing. Rostislav Staněk, Ph.D.	It is not true, but it could be: Does misinformation about an opponent's intentions provoke conflict?	Centre for Economic Research and Graduate Education - Economics Institute (CERGE-EI)	2023
prof. Ing. Štefan Lyócsa, PhD.	Attention and sentiment around scheduled macroeconomic news announcements	European COST conference on Artificial Intelligence in Finance	2022
Ing. Michal Struk, Ph.D.	Panel VII. Making use of waste and the secondary materials in cities	Central European Energy Conference	2022
doc. Ing. Štěpán Mikula, Ph.D.	The long-term impact of church activity on social capital: lessons from post-war Czechoslovakia	Ragnar Frisch Centre for Economic Research	2022

doc. Ing. Ondřej Krčál, Ph.D.	Social Comparisons and Effort Provision: The Response to Learning One is Less Preferred	Centre for Economic Research and Graduate Education - Economics Institute (CERGE-EI)	2022
doc. Ing. Vilém Pařil, Ph.D.	Economic Motivation for Population Labor Mobility Example of Brno City (Czech Republic)	Fragilità territoriali Politecnico di Milano, DASTU, Dipartimenti di Eccellenza	2019
prof. Ing. Martin Kvizda, Ph.D.	Competition in passenger rail transport – an opportunity, or a threat?	Public Passenger Transport conference	2019
doc. Ing. Štěpán Mikula, Ph.D.	Air Pollution Reduction and Migration: Exploiting a Natural Experiment from the Czech Republic	IZA Workshop on Environment and Labor Markets	2019
doc. Ing. Ondřej Krčál, Ph.D.	Real consequences matter: why hypothetical biases in the valuation of time persist even in controlled lab experiments	Universidad Publica de Navarra & University of the Basque Country	2019

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Tuugi Chuluun, CFA, Ph.D.	Loyola University Maryland	Corporate Long-termism: Looking Toward an (Un)certain Future	2023
David Hugh-Jones, PhD	University of East Anglia	Trading Social Status for Genetics in Marriage Markets: Evidence from Great Britain and Norway	2023
Michal Biron, PhD	University of Haifa	Crafting telework: A conceptual process model and some empirical evidence among individuals and teams	2023
Ilan Cooper, Ph.D.	BI Norwegian Business School	What Drives Marginal Q and Investment Fluctuations?	2023
Luca Corazzini, PhD	Università Ca' Foscari Venezia	Digital Access to Healthcare Services and Healthcare Utilization: A Quasi-Experiment	2022
Erik Plug, PhD	University of Amsterdam	The only child	2022
Jan Kabátek, PhD	University of Melbourne	Longer Careers: A barrier to hiring and coworker advancement?	2021
prof. Eyal Winter, PhD	Hebrew University, Lancaster University	Why Our Emotions Are More Rational Than We Think	2021
Jakub Lonsky, PhD	University of Pittsburgh	Gulags, Crime, and Violence: Origins and Consequences of the Russian Mafia	2019
Catia Nicodemo, PhD	University of Oxford	Migration, Health, and Well-Being	2019

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Luca Fumarco, PhD	FWF Grant referee	Austrian Science Fund (FWF)	2023

Ing. Bc. Alena Šafrová Drážilová, Ph.D.	MSCA4Ukraine	Humboldt Foundation	2023
Luca Fumarco, PhD	Swiss National Science Foundation, grant referee	Swiss National Science Foundation	2021
doc. Ing. Vilém Pařil, Ph.D.	Transport 3: Priority 1 and 5 TEN-T rail infrastructure	Ministry of Transport (CZ)	2023
doc. Ing. Rostislav Staněk, Ph.D.	Standard projects, Chairman of the panel P402	Czech Science Foundation	2022-2023
Ing. Mgr. Michal Krčál, Ph.D.	Evaluator of the SIGMA programme (sub-objectives 2 & 3)	Technology Agency of the Czech Republic	2022-2023
doc. Ing. Eduard Baumöhl, PhD.	Standard projects, member of the panel P403	Czech Science Foundation	2020-2023
Ing. Dagmar Vágnerová Linnertová, Ph.D.	Evaluator of the SIGMA and ÉTA programmes	Technology Agency of the Czech Republic	2019-2022
doc. RNDr. Josef Kunc, Ph.D.	Standard projects, member of the panel P404	Czech Science Foundation	2019-2022
doc. Ing. Petr Pirožek, Ph.D.	Evaluator of the Programme Johannes Amos Comenius (P JAC)	Ministry of Education, Youth and Sports	2022-2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

1) DiCiM - Digitalised Value Management for unlocking the potential of the Circular Manufacturing Systems with integrated digital solutions

The [DiCiM project \(Digitalised Value Management for Unlocking the Potential of the Circular Manufacturing Systems with Integrated Digital Solutions\)](#) is a four-year initiative (2023–2026) funded by the European Commission (Horizon Europe, Cluster 4). Coordinated by ECON MUNI, it brings together twelve academic and

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

industry partners from eight European countries to develop and implement digital solutions that enhance circular manufacturing practices. A key aspect of DiCiM is the direct involvement of industrial partners Gorenje, Arcelik, Lexmark, and C-Eco, who serve as demonstrators for the project's solutions in real-world settings. The companies involved in the project represent three major industrial sectors—white goods, electronics, and automotive. These types of goods account for over two-thirds of the European economy. DiCiM focuses on value recovery in circular manufacturing by leveraging advanced technologies such as the Internet of Things (IoT), Machine Learning (ML)-based Artificial Intelligence (AI), Big Data, Image Processing, and Augmented Reality (AR). The project aims to develop an open-access digital platform for lifecycle information management and decision-making support in circular economy activities such as tracking, tracing, condition monitoring, reverse logistics optimization, and value recovery operations (collection, inspection, sorting, disassembly). By integrating digital innovations into their manufacturing and value recovery processes, these companies involved in the project contribute to the development of new circular economy business models, supporting the transition toward more sustainable production practices across Europe. The overall budget of the project allocated to ECON MUNI is EUR 610 000.

2) Resource-Efficient Circular Product-Service Systems (ReCiPSS)

The [ReCiPSS project \(Resource-efficient Circular Product-Service Systems, 2018–2022\)](#) was a large-scale European initiative funded by the Horizon 2020 research and innovation programme. Coordinated by the Royal Institute of Technology (KTH) in Sweden, the project brought together 13 partners from 8 countries, including ECON MUNI, which contributed as a research partner. The project aimed to support the large-scale implementation of Circular Manufacturing Systems by developing innovative business models and digital tools that enhance circular economy practices in industry. ReCiPSS focused on two large-scale demonstrators from the white goods and automotive sectors, showcasing how circular economy principles can be applied in real-world settings. In the white goods sector, Gorenje introduced a "pay-per-wash" model for washing machines in four European countries. This business model enabled remote monitoring and tracking of appliance usage through an IoT platform, allowing for more efficient resource management while investigating consumer traction and the environmental impact of circular solutions. In the automotive sector, Bosch and Circular Economy Solutions GmbH worked on optimizing reverse logistics for 80,000 automotive components, streamlining the remanufacturing process by creating an advanced supply chain system that facilitates reuse. Machine-learning algorithms were employed to improve condition-based monitoring, ensuring that components could be efficiently reintegrated into the market. ECON MUNI played a key role in analysing economic aspects and developing circular business models to support these demonstrators. Additionally, the project advanced design methodologies, value chain innovations, and digital tools to facilitate the transition to circular manufacturing. By integrating IoT, machine learning, and supply chain optimization, ReCiPSS helped establish new circular economy business models that minimize waste, extend product lifecycles, and promote sustainable industrial practices across Europe. The overall budget allocated to ECON MUNI was approximately EUR 355 000.

3) OECD Labour Market Analysis

The OECD Labour Market Analysis project (2020-2022), led by Assoc. Prof. Štěpán Mikula from ECON MUNI, was conducted at the request of the Organisation for Economic Co-operation and Development (OECD) and the Czech Ministry of Labour and Social Affairs. The aim was to provide analytical support for designing a new system of labour migration management in the Czech Republic by assessing key labour market indicators and the role of migration in addressing workforce needs. A core aspect of the project was data-driven policy support, where ECON MUNI assisted the OECD in identifying relevant labour market indicators, evaluating the contribution of migrant workers to the Czech economy, and projected impacts of suggested policies. The research focused on historical and current trends in labour migration, examining economic contributions, employment outcomes, and the retention of foreign workers. Furthermore, the study explored how labour market indicators and integration metrics could inform the development of a multi-criteria (point based) migration selection system, ensuring a balanced and evidence-based approach to economic migration. ECON MUNI played a key role in preparing and analysing data by collaborating with Czech authorities to access

administrative and survey datasets. The project also reviewed the institutional framework for labour market monitoring and identified available data sources. Through joint efforts with the OECD, ECON MUNI contributed to providing critical insights for policymakers. By supporting evidence-based migration policy, this project directly contributed to shaping a more efficient and adaptive labour migration system in the Czech Republic, aligning with both national economic priorities and international best practices. The overall budget allocated to ECON MUNI was EUR 25 000. More information about the final report, the main result of the project, can be found in the section 3.4 of this report.

4) New Mobility – High-Speed Transport Systems and Transport-Related Human Behaviour

Rooted in collaboration with key stakeholders from private and public sector, the [New Mobility - High-Speed Transport Systems and Population Mobility Behaviour \(2018-2022\)](#) project remains one of ECON MUNI's key initiatives. It was designed to enhance cross-sectoral and interdisciplinary cooperation in examining the evolving patterns of mobility behaviour in response to the development of high-speed rail networks in the Czech Republic. A fundamental objective was the establishment of a specialized research platform integrating academic institutions, industry leaders, and governmental bodies to conduct a comprehensive assessment of the socio-economic ramifications of high-speed rail on society and quality of life. This platform facilitated a structured exchange of expertise, fostering an evidence-based approach to transportation planning. The project addressed critical dimensions of transport research, forging a robust and synergistic research network focused on railway transport studies. This network was institutionally anchored by the Institute for Transport Economics, Geography, and Policy (ITREGEP), which evolved into an autonomous research entity within Masaryk University. By furnishing rigorous, research-driven perspectives on high-speed rail development, the initiative enriched policy deliberations without contravening established national infrastructure plans. Instead, it provided nuanced, empirically substantiated insights aimed at optimizing the socio-economic benefits of high-speed transport investments. The project's international scope, characterized by the participation of renowned foreign institutions and experts, reinforced its academic credibility and positioned the research consortium as a competitive contender for prestigious international grants. Moreover, the initiative played a pivotal role in disseminating knowledge by embedding industry practitioners into university curricula and research endeavours, thereby reinforcing the symbiotic relationship between academia and other stakeholders. The overall budget allocated to ECON MUNI, who acted as the main project coordinator, was CZK 55 million. The funding was obtained from the Operational Programme Research, Development, and Education of the Ministry of Education, Youth, and Sports.

5) Monitoring and Measures to Improve Air Quality in Brno

The [Monitoring and Measures to Improve Air Quality in Brno \(2021-2024\)](#) project, led by ECON MUNI in collaboration with the City of Brno, the Agency of Urban Environment of the City of Oslo, and the University of Stavanger, addressed a pressing environmental and public health challenge. Initiated in response to air pollution trends observed during the COVID-19 pandemic, the project investigates unexpected pollutant concentration patterns. While reduced traffic led to lower nitrogen oxide (NOx) levels, particulate matter (PM10 and PM2.5) occasionally increased, underscoring the need to understand pollution sources better and influencing factors such as urban morphology, meteorological conditions, and land use. A principal objective of the project is to enhance Brno's Air Quality Action Plan through advanced monitoring, achieving twice the spatial resolution of conventional air pollution monitoring systems via one-year-long mobile monitoring stations of air pollution (during 2022) in twelve different locations in the City of Brno together with stationary monitoring on another twelve sites which achieves 24 monitoring points. Furthermore, it evaluates children's exposure to air pollution based on mobility choices throughout the measuring with personal devices performed together with twelve primary schools engaging 150 children. This approach integrates high-resolution environmental data from both personal devices and certified instruments with behavioural insights accompanied by several campaigns and a questionnaire survey among children and parents to examine whether awareness of health impacts influences transport decisions. Beyond Brno, the project contributes to European discussions on sustainable urban air quality by fostering international collaboration and knowledge exchange. This cutting-edge approach advances scientific understanding and equips policymakers and citizens

with evidence-based strategies for cleaner, healthier cities. Norway Grants have funded the project, allocating nearly CZK 20 million to ECON MUNI.

6) Centre of environmental research: Waste management, circular economy and environmental security

The [Centre of environmental research: Waste management, circular economy and environmental security \(2021–2026\)](#) aims to establish a long-term, interdisciplinary research hub uniting key academic institutions with expertise in waste management and the circular economy. Led by CENIA, the Czech Environmental Information Agency, in collaboration with ECON MUNI and other leading institutions, the initiative provides expert support, data-driven insights, and innovative solutions for policymakers, industry stakeholders, public sector and academic communities to facilitate the transition to a circular economy model. The Centre focuses on material flow analysis, technological advancements to reduce reliance on primary raw materials, and optimizing waste utilization processes. Key research areas include eco-design, life cycle assessment, environmental monitoring, and emerging pollutants. Additionally, the project advances methodologies for detecting and mitigating environmental contamination through remote sensing and innovative analytical techniques. Beyond environmental considerations, the initiative addresses socio-economic dimensions of sustainability transitions. A key aspect is the development of monitoring tools and indicators to evaluate circular economy policies, integrating environmental safety, industrial accident prevention, cybersecurity in waste management, and societal acceptance of environmental risks. By fostering interdisciplinary collaboration across natural sciences, engineering, and social sciences, the institute bridges research with policy and practice. Through high-quality research, intersectoral cooperation, and evidence-based policymaking, it plays a crucial role in advancing the Czech Republic's transition from a linear to a sustainable, resource-efficient economy. The overall budget allocated to ECON MUNI has been more than CZK 8 million.

7) Development of advanced tools for traffic accident analysis for the Czech Police

The [Development of Advanced Tools for Traffic Accident Analysis for the Czech Police \(2020-2023\)](#) project addresses a critical gap in traffic safety management. Led by Charles University in collaboration with ECON MUNI, its aim was to transform raw accident data into dynamic, user-friendly analytical platform. Despite possessing extensive records on traffic incidents, the Czech Traffic Police lacked an efficient tool to extract meaningful insights for strategic decision-making. This project attempted to bridge that gap by developing an advanced system capable of real-time data analysis and visualization, facilitating evidence-based policy interventions and optimized resource allocation. The developed analytical tool facilitates identification of both acute and chronically hazardous road sections, enabling a proactive accident prevention. By integrating advanced data processing capabilities, the application allows for in-depth examination of accident causes, incorporating parameters such as location, time, vehicle characteristics, and driver attributes. This approach allows the law enforcement authorities to conduct targeted interventions, optimizing patrol deployment, and improving the strategic planning of road safety initiatives. The tool enhanced the ability to design effective preventive measures in collaboration with BESIP, the Czech road safety program, and support urban planners and policymakers in implementing infrastructure modifications to mitigate accident risks. Through its combination of real-time analytics, predictive modelling, and user-defined parameters, the project represents a significant advancement in the field of traffic accident analysis. By bridging the gap between data availability and practical usability, the project empowered the Czech Police with cutting-edge tools that enhance situational awareness, streamline decision-making processes, and ultimately contribute to reducing traffic-related fatalities and injuries. The funding was obtained from the Technology Agency of the Czech Republic. The budget allocated to ECON MUNI was CZK 1.3 million. More information concerning the main project result can be found in the section 3.4 of this report.

8) Interactive map of the non-profit sector

The [Interactive Map of the Non-Profit Sector \(2017–2020\)](#) is one of the key projects led by the Centre for Nonprofit Sector Research at ECON MUNI, in collaboration with local government associations and non-profit organizations. The project addressed a critical need for transparency and accessibility of data within the Czech non-profit sector, which heavily relies on multi-source funding, including public and private contributions. By

developing a fully functional and user-friendly information system, the project significantly enhanced the decision-making capabilities of public authorities, donors, and the public. The interactive maps and story maps created within this project provide a dynamic way to visualize key economic indicators of non-profit organizations. Users can access real-time data on funding flows, EU subsidies, social and healthcare services, and other thematic areas, with advanced filtering options tailored to different stakeholder needs. This level of transparency empowered local governments to allocate resources more effectively and encouraged public engagement in the non-profit ecosystem. By making financial and operational data of non-profits more accessible, the initiative fostered trust, accountability, and informed decision-making. Donors could make well-founded contributions, policymakers gained critical insights for legislative and funding strategies, and non-profit organizations themselves benefited from benchmarking and networking opportunities. The project set a new standard for data-driven governance in the sector and remains a valuable tool for ensuring sustainable and transparent development of civil society in the Czech Republic. The overall budget of the project was CZK 10 million. The funding was provided by the Ministry of Labour and Social Affairs via the Operational Programme Employment (OPZ). More information about the project's main results is provided in section 3.4 of this report.

9) A FINancial supervision and TECHnology compliance training programme

The [FINTECH project \(A FINancial supervision and TECHnology compliance training programme, 2019–2021\)](#) was an international initiative coordinated by the University of Pavia, with ECON MUNI's Institute of Financial Complex Systems as one of 25 participating institutions. The project addressed the growing impact of technological innovations—such as big data analytics, artificial intelligence (AI), and blockchain—on the financial industry and the regulatory challenges they pose. While fintech solutions offer significant benefits, including greater financial inclusion and improved efficiency, they also raise concerns related to cybersecurity, fraud, market integrity, and consumer protection. The project focused on equipping financial regulators and supervisory bodies with the knowledge and tools to navigate these emerging risks effectively. ECON MUNI contributed to examining fintech-driven risks and compliance challenges and helped develop training modules aimed at strengthening regulatory frameworks and supervisory practices. By fostering collaboration between academia, industry, and regulatory authorities, the FINTECH project played a crucial role in shaping the future of the European financial supervision in an era of rapid technological change. The project was funded by the Horizon 2020 programme, with EUR 50 000 allocated to ECON MUNI.

10) National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI)

The [National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks \(SYRI\)](#) is a multidisciplinary research initiative (2022–2025) coordinated by Masaryk University, in collaboration with Charles University and the Czech Academy of Sciences. Funded by the National Recovery Plan of the Czech Ministry of Education, Youth and Sports and the European Union's NextGenerationEU program, SYRI functions as a virtual scientific hub that brings together researchers across institutions to analyse systemic risks and socioeconomic inequalities in times of crisis. SYRI focuses on real-time policy-relevant research, addressing challenges posed by unexpected events such as the COVID-19 pandemic, the war in Ukraine, inflation, rising prices, and climate change. The goal is to provide data-driven insights that have been lacking in the Czech Republic, supporting policymakers in making informed decisions to mitigate risks and reduce socioeconomic disparities. Researchers from ECON MUNI are actively engaged in five of SYRI's nine research groups, contributing expertise in the areas of socioeconomic health inequalities, law and governance, economic impacts, macroeconomic predictions, and labour market dynamics. In addition to conducting empirical research, ECON MUNI scholars also author policy reports on key societal issues, further strengthening the project's direct impact on public policy. By fostering collaboration among experts who might not otherwise work together, SYRI plays a critical role in enhancing resilience and preparedness for future crises, ensuring that evidence-based solutions guide national decision-making. The overall budget allocated to ECON MUNI is almost CZK 1.9 million.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary -						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Ministry of Labour and Social Affairs (OPZ)	Interactive map of the non-profit sector (2017-2020)	3 573 / 141	893 / 35			
Ministry of Education, Youth and Sports (OP VVV)	New mobility - high-speed transport systems and the transport behaviour of the population (2018-2022)	23 796 / 679	17 169 / 418	17 304 / 423	17 070 / 414	
Norway Grants (via the Ministry of the Environment)	Monitoring and measures to improve air quality in Brno (2021-2024)			12 000 / 473	1 500 / 59	900 / 36
Horizon Europe	Digitalised Value Management for Unlocking the potential of the Circular Manufacturing Systems with integrated digital solutions (2023-2026)					2 066 / 82
Technology Agency of the Czech Republic	Analysis of the potential of the South Moravian Region in relation to the circular economy (2018-2021)	1 748 / 69	1 418 / 56	198 / 8		
Interreg SK-CZ	Strengthening municipal cooperation to address the "Invisible border" problem (2020-2021)		1 500 / 59	1 500 / 59		
Norway Grants (via the Ministry of Finance)	Green mobility (2023-2024)					218 / 9
Norway Grants (via the Ministry of the Environment)	Air quality monitoring in small settlements in South Moravia with local heating systems using sensors (2023-2024)					2 495 / 98
Czech Science Foundation	Tax Compliance with a Competitive Audit Selection Mechanism: An Experimental Approach (2017-2019)	1 325 / 52				

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

Czech Science Foundation	Dynamic forecast averaging of macroeconomic models (2017-2019)	1 475 / 58				
Czech Science Foundation	Identification of key factors for successful inter-municipal cooperation	848 / 34				
Czech Science Foundation	The Effect of Housing on Preferences and Behaviour: Lab-in-the-Field Experiments with Participants of a Randomized Controlled Trial (2018-2019)	776 / 31				
Czech Science Foundation	Predicting volatility in emerging financial markets (2018-2020)	922 / 36	923 / 36			
Czech Science Foundation	Residential mobility, social capital and trust: evidence from a natural experiment (2018-2021)	923 / 36	722 / 28			
Czech Science Foundation	Contestation of truth: Public discourses on migration in Central Europe in the post-truth era (2019-2022)	1 186 / 47	1 385 / 55		1 393 / 55	
Czech Science Foundation	Alternative ways of providing services (2019-2021)	1 826 / 72	2 041 / 81	2 135 / 84		
Czech Science Foundation	Experimental analysis of multiple public goods funding dilemmas (2020-2023)		1 308 / 52	1 422 / 56	1 353 / 53	
Czech Science Foundation	Unintended consequences of promotions in organisations (2020-2023)		1 367 / 54	1 504 / 59	1 379 / 54	
Czech Science Foundation	Transformation of Czech enterprises: socialist enterprises in a market economy (2020-2023)		2 031 / 80	2 069 / 82	2 086 / 82	
Czech Science Foundation	Financial Networks: Examining Market Linkages using Network Approach (2020-2023)		2 030 / 80	2 030 / 80	2 030 / 80	
Czech Science Foundation	Closed-loop view of information system business value: bidirectional relationship between IT/IS investments and firm performance (2020-2022)		923 / 36	1 243 / 49	1 206 / 48	
Czech Science Foundation	Effects of (dis-)integrations at the Austrian-Czech border (2020-2023)		857 / 33	828 / 33	803 / 32	
Czech Science Foundation	On the time-varying predictive ability of theoretical and empirical macroeconomic models (2021-2023)			1 053 / 42	1 107 / 44	1 096 / 43
Czech Science Foundation	The Concept of Structure and the Social Ontology of the Cambridge Group (2021-2023)			641 / 25	653 / 26	641 / 25

Czech Science Foundation	Conflicts as misunderstandings: three experimental studies (2021-2023)			1 031 / 41	1 178 / 47	1 058 / 42
Czech Science Foundation	The impact of coronavirus on organisational change and digitalisation in public administration (2021-2023)			374 / 15	2 085 / 82	1 748 / 66
Czech Science Foundation	Predicting market risk: the role of trading activity, attention and sentiment (2022-2024)				1 362 / 54	1 398 / 55
Czech Science Foundation	Credit risk models in P2P markets using graph theory (2022-2025)				1 238 / 49	1 493 / 59
Czech Recovery Plan (Ministry of Education, Youth and Sports; Next generation EU)	National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks SYRI (2022-2025)				114 067 / 4 500	165 103 / 6 512
Technology Agency of the Czech Republic	Functioning and effective knowledge management in projects (2019-2021)	1 878 / 74	1 758 / 69	1 788 / 71		
Technology Agency of the Czech Republic	Model of financial health of non-profit organizations and prediction of their financial vulnerability (2019-2020)	1 288 / 51	1 300 / 51			
Technology Agency of the Czech Republic	Decision support system for merger assessment in markets with homogeneous product and spatial differentiation (2019-2020)	470 / 19	500 / 20			
Ministry of Education, Youth and Sports (OP VVV)	Postdoc@MUNI (part of university project dedicated to ECON MUNI) – (2017-2021)	1 422 / 56	1 573 / 62	150 / 6		
Ministry of Education, Youth and Sports (OP VVV)	Postdoc2@MUNI (part of university project dedicated to ECON MUNI) – (2020-2023)		519 / 20	1 429 / 56	936 / 37	
Ministry of Education, Youth and Sports (OP VVV)	MSCAfellow3@MUNI (part of university project dedicated to ECON MUNI) – (2019-2022)	514 / 20	2 574 / 102	2 574 / 102	515 / 20	
Ministry of Education, Youth and Sports (OP VVV)	MSCAfellow6_MUNI (part of university project dedicated to ECON MUNI) – (2023-2028)					2 491 / 98

Sports (OP JAK)						
Total		43 970 / 1 734	42 791 / 1 688	51 273 / 2 023	151 987 / 5 995	180 707 / 7 128
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Horizon 2020 (COST Actions)	A FINancial supervision and TECHnology compliance training programme (2019-2021)	634 / 25	634 / 25			
Horizon 2020	Resource-efficient Circular Product-Service Systems (2018-2022)	3 005 / 119	3 005 / 119			
Technology Agency of the Czech Republic	Effective marketing as a tool for competitiveness and sustainable development of non-profit organizations providing social services (2019-2020)	309 / 12	309 / 12			
Horizon 2020	Sustainable Historic Environments hoListic reconstruction through Technological Enhancement and community-based Resilience (2019-2023)	634 / 25	1 014 / 40	1 014 / 40	1 014 / 40	233 / 9
Ministry of Industry and Trade (OP PIK)	Application of behavioural economics in the context of marketing research and marketing in B2B markets (2019-2021)	1 393 / 55	1 093 / 43	1 093 / 43		
Norway Grants (via the Ministry of Finance)	Strengthening the management and control of public finances (2021-2022)			797 / 31	582 / 23	
Technology Agency of the Czech Republic	Derivation of the capitalization rate of specific properties according to the analogous investment from capital markets (2021-2022)			288 / 11	514 / 20	
Ministry of Industry and Trade (OP PIK)	Supporting the investment strategy of public corporations (2021-2023)			1 160 / 46	1 677 / 66	774 / 31
Horizon Europe	Robust Crisis Governance in Turbulent Times – Mindset, Evidence, Strategies (2022-2026)				254 / 10	761 / 30

²⁷ Ibid.

Ministry of Industry and Trade (OP PIK)	Developing innovative approaches to optimal asset allocation to evaluate and improve optimization tools (2021-2022)			471 / 19		
Technology Agency of the Czech Republic	Digitalization of project management education using the concept of serious games, virtual and augmented reality with regard to the current needs of business (2023-2026)					58 / 2
Ministry of Industry and Trade (OP TAC)	Analytical Platform 2.0. - a platform for automated portfolio management using learning systems (2023-2025)					87 / 3
Technology Agency of the Czech Republic	Rapidly connecting metropolitan areas: an economic model of the labour market impacts of (new) accessibility using big data (2018-2021)	1 019 / 40	945 / 37	388 / 15		
Technology Agency of the Czech Republic	Centre of environmental research: Waste management, circular economy and environmental security (2021-2026)			582 / 23	1 425 / 56	1 571 / 62
Technology Agency of the Czech Republic	Development of advanced tools for traffic accident analysis for the Czech Police (2020-2023)		371 / 15	464 / 18	464 / 18	69 / 3
Czech Science Foundation	Impact of changes in tax legislation on efficiency and equity in the Czech Republic (2017-2019)	285 / 11				
Czech Science Foundation	Spatial interactions and their conceptualization: an analysis of selectivity, indeterminacy and hierarchy (2020-2022)		225 / 9	215 / 8	205 / 8	
Czech Science Foundation	Design of a dynamic knowledge-based business model based on the principles of open innovation (2020-2023)		552 / 22	552 / 22	552 / 22	
Total		7 279 / 287	8 148 / 322	7 024 / 276	6 687 / 263	3 553 / 140

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

City of Slavičín	Proposal for the elaboration of a strategy/concept for the development of sport (2019)	60 / 2				
City of Brno	Review of the economic model of operating costs for the upcoming velodrome construction project in Hněvkovského, Brno-jih (2019)	50 / 2				
City of Slavičín	Development of a strategy/concept for the development of education (2019-2020)	70 / 3	22 / 1			
Ministry of Transport	Frequency surveys in long-distance rail transport (2020-2021)		816 / 32	408 / 16		
Joy Ventures Ltd	Consulting services and research in the field of behavioural economics for Joy Ventures (2020-2022)		97 / 4			
Neovize Ltd	Identifying young people's attitudes towards laser eye surgery and recommendations for developing a marketing campaign (2020)		54 / 2			
KORDIS JMK, Plc	Freight traffic intensity on the main routes of the South Moravian Region (2021)			180 / 7		
KORDIS JMK, Plc	Vision of the future development of passenger and freight transport in the Czech Republic with special reference to the territory of the South Moravian Region (2021)			180 / 7		
Neovize Ltd	Marketing communication campaign for Neovize Ltd (2020-2021)			34 / 1		
Mořice Municipality	Development Strategy of the Municipality of Mořice (2020-2021)			53 / 2		
OECD	OECD Labour market analysis (2020-2022)			431 / 17	203 / 8	
KOMIX Ltd	Identification of motivating factors and design of measures to maximise the use of the electricity trading platform (2020-2022)			120 / 5	120 / 5	
GROUND.COM.SPACE Ltd	Marketing Research (2022)				120 / 5	
Skills Ltd	Expert opinion on market and entry conditions for long-distance passenger rail transport in the Czech Republic and Austria (2022)				400 / 16	
Local Action Group Slavkov Battlefield, z.s.	SECAP - Sustainable Energy and Climate Action Plan for Local Action Group Austerlitz's Battlefield (2022-2023)				413 / 16	827 / 33
EY Strategy and Transactions SRL	Study on passenger and freight rail transport services' prices to final customers (2023)					142 / 6

Railway Administration	Critical factors that will influence whether passengers choose to travel by HSR (2023)					117 / 5
Railway Administration	Big data and consumer surveys - how better HSR availability will affect scheduled routes, impact on population behaviour (2023)					112 / 4
Total		180 / 7	989 / 39	1 406 / 55	1 256 / 50	1 198 / 48

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

1) OECD labour market analysis (2022)

The report produced as part of the project (described in detail in the previous section of this report) provided the foundation for drafting the laws and regulations necessary for introducing a points-based system (PBS) within the migration policy. Under the PBS, foreign nationals coming to the Czech Republic for work are awarded points based on their characteristics, the characteristics of their employers, and the vacancies they are supposed to fill. High-scoring individuals are then eligible for preferential treatment, such as longer work permits. The PBS and related laws and regulations are now under consideration by the government of the Czech Republic. The result has contributed to the following SDGs: (8) Decent Work and Economic Growth; (9) Industry, Innovation and Infrastructure; (16) Peace, Justice, and Strong Institutions. The analysis considered gender as an important employee characteristic. However, the formulation of PBD is gender blind due to non-discriminatory requirements.

2) Action plan for air quality improvement in Brno (2023)

The [Action plan for air quality improvement in Brno](#) is a key strategic document developed by the researchers from ECON MUNI, namely Assoc. prof. Vilém Pařil and Dr Dominika Tóthová, in cooperation with multiple stakeholders including the RECETOX centre and the City of Brno. This plan serves as a foundation for implementing measures to improve air quality, guiding both investment decisions—such as the purchase of low-emission public transport vehicles—and regulatory actions like dust reduction from construction or restrictions on solid fuel combustion. It defines the city's primary objectives and approach in air quality management and sets out a framework of measures that will lead to emission reductions, air quality improvements, and public awareness of the impact of air pollution on human health. The goal is to reduce air pollution in Brno below the annual limits set by law and gradually move towards the WHO limits. The plan is one of the results of the research project Monitoring and Measures to Improve Air Quality in Brno (2021-2024), which integrated diverse scientific approaches, combining accredited air quality measurements,

²⁹ See Terms definition.

experimental personal sampling conducted by schoolchildren, and large-scale data collection from mobile and stationary monitoring stations. The study achieved an unprecedented level of detail in mapping air pollution in Brno and the findings have been instrumental in shaping municipal policies, securing over CZK 11 billion in planned environmental investments. The plan was officially approved by the Brno City Council in 2023 and became the first of its kind to successfully undergo a Strategic Environmental Assessment. The societal impact of the result is thus evident, including the broad media coverage, exhibitions, and active collaboration with various stakeholders. The result has contributed to the following SDGs: (3) Good Health and Well Being; (11) Sustainable Cities and Communities; (13) Climate Action; (15) Life on Land.

3) Traffic accident analysis tools for the Police of the Czech Republic (2023)

Dr Michal Kvasnička and Assoc. prof. Štěpán Mikula from ECON MUNI, in collaboration with colleagues from Charles University, have developed an advanced software solution for the Czech Police to analyse traffic accidents. Created with the TA CR project entitled *Development of advanced tools for traffic accident analysis for the Czech Police*, the system identifies high-risk locations across the Czech road network based on accident data. This allows the Police to allocate their limited resources more efficiently, focusing on critical areas for preventive measures such as traffic sign inspections or vehicle condition checks. Unlike previously existing solutions, his system can assess risk across large and complex road segments, including intersections, and considers the severity of accidents in its analysis. The backend processes police data, generates risk assessments, and provides outputs compatible with geographic information and police information systems. In addition, a user-friendly web application has been developed, enabling interactive exploration of high-risk areas and regional statistical overviews. A demo version of the application is available here (only in Czech): <https://trafficacc.econ.muni.cz/> The result has contributed to the following SDGs: (3) Good Health and Well Being; (15) Life on Land; (16) Peace, Justice and Strong Institutions.

4) Decision support system for assessing mergers in markets with a homogeneous product and spatial differentiation (2020)

An innovative software to support decision-making in assessing mergers in the fuel market has been developed by Dr Michal Kvasnička, Assoc. Prof. Rostislav Staněk and Assoc. Prof. Ondřej Krčál from ECON MUNI. It incorporates advanced econometric techniques and spatial modelling, making it a valuable tool for the Czech Office for the Protection of Competition (ÚOHS), as merger clearance is one of the Office's most crucial competition policy instruments. However, the ÚOHS not only uses the software, but it also collaborated on the definition of the input data, provided feedback and commented on the solution as well as the underlying econometric model. As fuel costs constitute a significant share of household and business expenditures, the fuel market is particularly sensitive to mergers. Therefore, price increases can impact economic prosperity for years. Since the Czech fuel market is highly fragmented, it is likely that mergers will occur. The software enables ÚOHS to assess the mergers based on local competition, rather than relying solely on national market shares – this is crucial since previous research suggested that competition is predominantly local. Beyond fuel markets, the software can be applied to other industries with spatial competition (e.g. hypermarkets, pharmacies). It allows users to prepare data, estimate econometric models, simulate merger impacts on fuel prices, and visualize results using static and interactive price maps. This enhances the accuracy and efficiency of merger assessments, ensuring well-informed regulatory decisions. Its methodological significance is demonstrated in a peer-reviewed article published in *Empirical Economics*. In addition, the software is publicly available and thus can be used by the general public via [this link](#) (the zip file must be downloaded). The result has contributed to the following SDGs: (8) Decent Work and Economic Growth.

5) Using big data in forecasting the population transport behaviour (2020)

By leveraging residual signalling data from mobile operators to map transport flows, this research significantly contributed to the international scientific community as well as other relevant stakeholders. Long-distance passenger and freight transport were the main focal points, with a novel capability to distinguish between transport modes – an aspect not previously addressed neither in Czechia, nor abroad. In the Czech Republic, the research primarily differentiated between rail and road transport. As different geographical scopes can

significantly influence the transport flow volumes, one of the key findings is the crucial impact of defining trip origins and destinations. The study hence underscores the importance of input parameter definitions as an integral part of data collection, processing, and interpretation. Developed solely at ECON MUNI, by a team consisting of Prof. Martin Kvizda, Assoc Prof. Tomáš Nigrin, Dr Daniel Seidenglanz, Prof. Zdeněk Tomeš and Assoc. Prof. Vilém Pařil, the research utilised raw signalling data provided by T-Mobile Czech Republic, which were then calibrated to identify transport flows in modal and temporal distribution by CE-Traffic. Due to the small size of the Czech Republic and shorter travel distances, capturing transport flows through signalling data proved to be challenging. However, this makes the approach particularly valuable for larger countries, where its accuracy can be even greater. The research was conducted within the TA CR ETA programme and reviewed by the Ministry of Transport. The research was awarded by the MUNI Innovation Award 2023. We suggest that the result has contributed the following SDGs: (12) Responsible Consumption and Production; (16) Peace, Justice, and Strong Institutions. While mobile data does not provide an opportunity to explore potential differences in gender-based transport behaviour, the gender dimension in transportation research is primarily addressed through survey data.

6) Vision of the future development of passenger and freight transport in the Czech Republic with special reference to the territory of the South Moravian Region (2021)

This groundbreaking analysis of long-term transportation statistics in the Czech Republic, co-authored by Dr Monika Jandová, Dr Tomáš Paleta, Assoc. prof. Vilém Pařil and Professor Martin Kvizda from ECON MUNI, identifies key trends and shifts in transportation demand by incorporating changes in preferences, technologies, and policies. The study, spanning over two decades, does not rely solely on extrapolation, as traditional forecasting models do, but introduces scenario-based predictions that consider qualitative and technological developments, providing a more robust framework for long-term transportation planning. The findings have been instrumental in shaping infrastructure strategies in the South Moravian Region and beyond, with applications for entities such as Kordis JMK, the Ministry of Transport, and the City of Brno. The methodology allows for adaptable forecasts based on different political, strategic, and technological contexts, significantly improving the accuracy of demand projections and reducing investment risks. This unique approach is not yet common practice in the Czech Republic or the European Union, making it a valuable contribution to transportation economics. The project was conducted as part of a contractual research initiative with Kordis JMK and was supported by the Interreg CENTRAL EUROPE program under the CARCAP project. As this report is a result of contract research activities, the SDGs have not been assigned to it. However, we suggest that it contributed to the following goals: (12) Responsible Consumption and Production; (16) Peace, Justice, and Strong Institutions.

7) Software for automatic transformation and visualization of open public sector data in the Czech Republic (2020)

An online information portal www.mapaneziskovek.cz has been developed as part of the project, providing comprehensive, accurate, and verifiable data on all non-governmental organizations (NGOs) in the Czech Republic. The portal automates data collection from public registries, process it using advanced software, and presents it in an accessible format to policymakers, NGOs, other stakeholders as well as to the public. Key software tools include automated data collection scripts (Python) and data transformation software (C++), enabling efficient integration of information from multiple sources, such as economic registries, social service providers, and funding records. This creates a unified database that tracks the NGO sector's structure, financial flows, and service provision. Regular updates ensure up-to-date insights into the sector's evolution. Enhancing cooperation and communication among NGOs and public authorities, the portal helps to facilitate evidence-based policy making, leading to more effective resource allocation. Hence, it supports interdisciplinary collaboration and knowledge-sharing, helping the public officials to coordinate activities with the NGO sector. Consequently, donors are provided with transparent information, the public awareness of NGOs is strengthened and informed discussions is fostered as well as volunteer engagement. By promoting transparency and competition, the platform empowers public institutions, donors, and citizens to make informed decisions. Developed in collaboration with key stakeholders, including the Czech Statistical Office

and the Government Council for Non-Governmental Non-Profit Organisations, the software also contributes data to national open-data initiatives, ensuring long-term societal benefits. The result has contributed to the following SDGs: (16) Peace, Justice, and Strong Institutions.

8) Software application for NGO's creditworthiness models (2020)

A software application for classifying non-governmental organizations (NGOs) based on their financial health has been developed by Dr Marie Hladká, Assoc. Prof. Daniel Němec, Dr Jakub Pejcal, Dr Petr Valouch, Assoc. Prof. Vladimír Hyánek and Dominik Dvořák, BA. This innovative tool assesses whether an NGO applying for public funding is financially stable, sustainable, and viable. The software is built on predictive models that identify key financial and operational factors distinguishing financially healthy NGOs from those at risk. By assigning a financial rating, the system helps predict an organization's vulnerability, offering both NGOs a tool for self-assessment and public authorities a more reliable method for evaluating grant applicants. Unlike conventional financial analysis, the model incorporates qualitative factors specific to NGOs, such as governance, operational practices, and fundraising strategies. The software is freely accessible via an online platform (www.fikane.cz), providing an open-source solution for stakeholders in the nonprofit and public sectors. Developed under the project *Financial Health Model of Nonprofit Organizations and Prediction of Their Financial Vulnerability (TL02000080)*, the tool is endorsed by the Government Council for NGOs, underscoring its practical value in improving transparency and accountability in nonprofit funding decisions. This result has contributed the following SDGs: (16) Peace, Justice, and Strong Institutions.

9) Circular business model development and implementation plan (2020)

This deliverable of the ReCiPSS project contributes to the development of circular business models in the white goods and automotive industries, supporting the transition to a more sustainable economy. For the white goods sector, a comparative analysis of competitors was conducted to assess the feasibility of pay-per-wash services in four countries. A survey provided data for customer segmentation, pricing, and marketing strategies. Additionally, modelling and simulation helped evaluate the economic and environmental benefits of pay-per-wash, including new revenue streams and market expansion. In the automotive sector, companies involved in aftermarket services, logistics, and digital platforms were analysed to propose pricing and marketing strategies for circular business models. The developed model focuses on independent aftermarket wholesalers but offers insights applicable to other stakeholders, such as remanufacturers and workshops. Simulation results highlight how improved reverse logistics, enabled by the ReCiPSS ICT platform, enhance efficiency, reduce waste, and lower environmental impact. By advancing circular business models, this research supports sustainable consumption, resource efficiency, and reduced environmental footprints, benefiting both industries and society. The findings provide actionable strategies for businesses, fostering economic viability while aligning with global sustainability goals. The result has contributed to the following SDGs: (4) Quality Education; (9) Industry, Innovation, and Infrastructure; (12) Responsible Consumption and production; (13) Climate Action; (17) Partnerships for the Goals.

10) We just estimated twenty million fiscal multipliers (2020, journal article)

The article "[We Just Estimated Twenty Million Fiscal Multipliers](#)", authored by Assoc. Prof. Jan Čapek and Prof. Jesus Crespo Cuaresma and published in the Oxford Bulletin of Economics and Statistics, presents significant findings in the field of fiscal multipliers. Based on an extensive study incorporating over 20 million multiplier estimates, the research highlights how different analytical approaches can significantly alter fiscal multiplier estimates—by up to 0.4—demonstrating the critical importance of methodological precision. Given the role of fiscal multipliers in evaluating the effectiveness of government spending, these insights are particularly relevant in the wake of the COVID-19 pandemic, as governments worldwide implement large-scale fiscal stimulus packages amid uncertainties regarding their impact. By explicitly accounting for various sources of uncertainty in multiplier estimation, the study has gained the attention of policymakers. Austria's Fiscal Advisory Council (Fiskalrat) engaged the authors to estimate fiscal multipliers for Austria, with findings presented at a high-profile conference of the Austrian National Bank, attended by experts from European central banks and fiscal institutions. Fiskalrat has since incorporated these multipliers into its policy analyses.

The study also led to further collaborative research. Beyond Austria, the research has sparked interest from the Czech Fiscal Council, which seeks to develop a comprehensive framework for fiscal multiplier estimation in the Czech Republic. By refining fiscal policy tools, the study enhances economic decision-making, ensuring more efficient public spending and contributing to sustainable economic growth. The result has contributed to the following SDGs: (8) Decent Work and Economic Growth; (16) Peace, Justice, and Strong Institutions.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Software	2023	Traffic accident analysis tools for the Police of the Czech Republic (KVASNIČKA, Michal, Štěpán MIKULA, Josef MONTAG and Peter BOLCHA)
Action plan	2023	Action plan for air quality improvement in Brno (JEDLIČKA, Jiří, Markéta DURNOVÁ, Radek KRONOVET, Vilém PAŘIL, Dominika TÓTHOVÁ, Michal STRUK and Ondřej MIKEŠ)
Action plan	2023	Sustainable Energy and Climate Action Plan – for the municipalities Blažovice, Hrušky, Kobylnice, Mokrý-Horákov, Moutnice, Pozoří, Vážany nad Litavou (TÓTHOVÁ, Dominika, Tomáš HRDLIČKA, Vilém PAŘIL, Michal STRUK, Aneta KRAJÍČKOVÁ, Sofia KRAJCÁROVÁ, Alžbeta FABRÍCIOVÁ, Tomáš CHORAZÝ and Michal NOVOTNÝ)
Software	2023	CROSEUS Cloud modul investice (KVAPIL, Miloslav, Kateřina ŠTASTNÁ, Viktor STRAKA, Vladislav BARWIOLEK, Petra KUPSKÁ, Ondřej ŠIMÍČEK, Petr NOVOTNÝ, Chačatur Kryštof POGOSJAN, Filip HRŮZA, Marie HLADKÁ, Petr VALOUCH, Vilém PAŘIL, Tomáš HRDLIČKA, Jakub PEJCAL, Tadeáš PALA a Jakub DANĚK)
Research Report	2023	Critical factors that will affect, whether passengers choose HSR for transport (KVIZDA, Martin)
Analysis	2022	OECD labour market analysis (MIKULA, Štěpán)
Journal Article	2022	Fiscal multipliers in a small open economy: the case of Austria (ČAPEK, Jan, Jesús CRESPO CUARESMA, Johannes HOLLER a Philip SCHUSTER)
Software	2022	Wrelay (ŽÁKOVÁ TALPOVÁ, Sylva, Petr SMUTNÝ a Jan ŽÁK)
Research Report	2022	Innovative approaches to optimal asset allocation (DEEV, Oleg, Štefan LYÓCSA and Tomáš PLÍHAL)
Software	2022	CapRate – calculator that utilizes market data to determine the capitalization rate for specified real estate values while considering their unique characteristics (VÁGNEROVÁ LINNERTOVÁ, Dagmar and Tomáš PLÍHAL)
Summary Research Report	2021	Vision of the future development of passenger and freight transport in the Czech Republic with special reference to the territory of the South Moravian Region (SEIDENGLANZ, Daniel, Monika JANDOVÁ, Tomáš PALETA, Vilém PAŘIL and Martin KVIZDA)
Research Report	2021	Governance of Migrant Integration in the Czech Republic: Monitoring report on progress towards the 2030 Agenda in relation to migration (GUZI, Martin, Lucie MACKOVÁ a Eva ČECH VALENTOVÁ)
Software	2021	Lost project knowledge COST calculator (ŽÁKOVÁ TALPOVÁ, Sylva, Petr SMUTNÝ, Jakub PROCHÁZKA a Jan ŽÁK)
Research Report	2021	D2.3-Circular business models evaluation reports (KLAPALOVÁ, Alena, Radoslav ŠKAPA, Radmila ŠTANGOVÁ a Gabriela VACEKOVÁ)

³⁰ Specify the specific type of result. Add rows as needed.

Research Report	2020	D2.2-Circular business model development and implementation plan (KLAPALOVÁ, Alena, Radoslav ŠKAPA, Malvina ROČI, Gabriela VACEKOVÁ, Cristina Maria PAIXAO DE SOUSA a Niloufar SALEHI)
Software	2020	Software application for creditworthiness models (HLADKÁ, Marie, Daniel NĚMEC, Jakub PEJCAL, Petr VALOUCH, Vladimír HYÁNEK and Dominik DVOŘÁK)
Software	2020	Software application for bankruptcy models (HLADKÁ, Marie, Daniel NĚMEC, Jakub PEJCAL, Petr VALOUCH, Vladimír HYÁNEK a Dominik DVOŘÁK)
Summary Research Report	2020	Using big data in forecasting the population transport behaviour (KVIZDA, Martin, Tomáš NIGRIN, Daniel SEIDENGLANZ, Zdeněk TOMEŠ and Vilém PAŘIL)
Software	2020	Decision support system for assessing mergers in markets with a homogeneous product and spatial differentiation (KVASNIČKA, Michal, Rostislav STANĚK and Ondřej KRČÁL)
Software	2020	Software for automatic transformation and visualization of open public sector data in the Czech Republic (HLADKÁ, Marie, Vladimír HYÁNEK, Dominik DVOŘÁK, Vilém PAŘIL, Jakub PEJCAL, František SVOBODA, Vojtěch MÜLLNER, Róbert SPÁL and Petr FLAJŠINGR)
Journal Article	2020	We just estimated twenty million fiscal multipliers (ČÁPEK, Jan and Jesus CRESPO CUARESMA in Oxford Bulletin of Economics and Statistics)
Research Report	2019	D 2.1 Demonstrator baseline and market characteristics report (KLAPALOVÁ, Alena, Radoslav ŠKAPA, Gabriela VACEKOVÁ, Jana ŠVECOVÁ, Radmila ŠTANGOVÁ et. al.)
Research Report	2019	State Tourism Policy Concept 2021+ (ŠAUER, Martin)

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Self-assessment:

Transfer of results into practice has been secured by the Technology Transfer Office of Masaryk University (TTO MUNI) since 2005. TTO MUNI is perceived as an institutional unit providing support and conditions for the practical application of university's research results. It provides services in technology/knowledge transfer (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralised, ensuring the necessary personnel, methodological and technical frameworks. TTO MUNI manages the intellectual property of MUNI and cooperates in its identification, protection and commercial exploitation (licensing, spinoffs, application consulting, contract research) following MUNI rules and standards. The TTO staff, within the framework of their agendas, are involved in areas that facilitate and lead to the delivery of R&D results at MUNI into practical use. This includes professional competencies in the field of intellectual property protection, licensing, legal support, as well as searching for application partners and negotiating conditions for cooperation.

However, economic research often produces specific models, policy recommendations, or statistical analysis rather than tangible products or patentable innovation. Since private and public users of economic research value applied, customized solutions rather than generalized outcomes, it follows that ECON MUNI usually monetizes economic insights by providing research services via projects or contract research instead of licensing. During the evaluation period, there was only once instance of selling a result in cooperation with the TTO MUNI, which will be described in the following paragraph. In general, the research results produced by ECON MUNI tend to describe current state of events and suggest future improvements, leading to low potential of technology transfer as it is understood in this chapter. Other sources of revenue are donations and partnership agreements with various companies (see table 3.5.1). Revenues provided by long-term partnerships, such as KMPG, PwC, Deloitte or UniCredit, are dedicated to support of all ECON MUNI's activities including R&D&I.

Software CROSEUS Cloud module Public Corporation Investments (2023)

The developed software application enables local public institutions to plan investments more effectively through automated assessments, ensuring compliance with economic criteria for public spending. Currently, many investments are planned and executed without thorough justification of their efficiency, effectiveness, and economy, often driven by emotions rather than strategic planning or budget forecasts. This software helps public entities allocate resources more efficiently, supporting economic recovery in line with EU strategies related to the pandemic. The software consists of two modules: (1) the Investment Repository compiles a database of various investment projects tailored to municipalities of different sizes; (2) the Investment Evaluation module provides analytical tools to assess costs, benefits, and the efficiency of investment plans. Unlike other solutions, which separately address municipal budgeting and cost-benefit analysis, this software integrates both within strategic urban planning. The project, within which the software was developed, was funded by a grant, with DYNATECH, Ltd as the recipient. The rights to further monetize the project have been passed on to DYNATECH via an Agreement on the use of the result.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Software CROSEUS Cloud module Public Corporation Investments via an Agreement on the use of the result between DYNATECH, Ltd and Masaryk University					20 / 0,8
Donation given by the company DYNATECH, Ltd				300 / 12	
Partnership Agreements (partnership with companies such as KMPG, PwC, Deloitte, UniCredit, E.ON etc.)	310 / 12	240 / 10	510 / 20	930 / 37	1 080 / 43

Total	310 / 12	240 / 10	510 / 20	1 230 / 49	1 100 / 43

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

During the evaluation period, science communication gradually became one of the long-term priorities of the Faculty of Economics and Administration. Significant strides in this area have been made, recognizing the vital role of science communication and popularization in bridging the gap between peer-reviewed research and the broader community. In this section, we would like to illustrate our commitment to effectively disseminating knowledge and fostering public engagement with scientific concepts, particularly within the fields of economics, public administration, business management and finance. Through a variety of initiatives, such as workshops and competitions for secondary-school students, activities of the MjUNI Junior University, presentations at popularization events, media appearances etc., ECON MUNI has cultivated an environment where academic research is made accessible and relevant to diverse audiences – from schoolchildren, to teenagers, to elderly people. By prioritizing transparency and intelligibility in our science communication efforts, the ECON MUNI's goal remains to empower individuals with the knowledge necessary to navigate and contribute to conversations that shape our economy and society at large.

The faculty's long-term endeavours in the area of science popularization build upon the previously established *Masaryk University Science Communication Strategy*. One of the key goals of ECON MUNI is the continuous education of our researchers in science communication. Their competences are strengthened through workshops lectured by science journalists and other science communication professionals as well as consultations with the employees of the Office for External Relations and Research and Projects Office. An emphasis on internal communication which proved to be essential for deepening cooperation and creating bonds among the departments and between the academic and non-academic staff has also been considered crucial.

Czech European Researchers' Night

Despite the rather "abstract" nature of their research, scientists from ECON MUNI regularly participate in the [Czech European Researchers' Night \(Noc vědců\)](#) – a free and widely accessible event aimed at popularising science and technology. It has been organized annually since 2005 upon the initiative of the European Commission. In 2019, the visitors had the opportunity to participate in an economic experiment, learn what is the nature of economic crises, how to apply principles of circular economy in their everyday lives and how not to waste resources that are important to them. Due to the pandemic, the event was held online in 2020 and 2021. In 2022, our researchers moved to the MUNI Bohunice Campus to reach more people and shared their knowledge on metropolitan cooperation. Circular and environmental economy as well as tourism and personal finances were among the topics represented during the 2023 edition of the event. In 2022, almost 1900 people visited the Czech European Researchers' Night location in Bohunice Campus. A year later, the number grew significantly – the campus location was visited by 3500 people which suggests the growing interest in science among the Czech public and indicates that our researchers' participation has been meaningful.

Festival of Science & Technology

Since 2022, the researchers from ECON MUNI have been a part of the three-day long [Festival of Science & Technology \(Festival vědy a techniky\)](#) – another science popularization event held annually in the city of Brno. Circular economics, environmental economics, management, regional economics and other topics have been introduced by our scientists during the two years of the faculty's participation. Worth mentioning is the presentation of the air quality research conducted in Brno and the South Moravia Region by the team of scientists from ECON MUNI and the RECETOX centre, during which the visitors viewed a real air pollution measuring station. This shows not only the societal relevance of the research, but also the importance of interdisciplinary cooperation between different faculties of the Masaryk University. It is estimated that the Festival of Science & Technology is visited by several thousand people each year.

MjUNI Junior University

[Junior University \(MjUNI\)](#) is a lifelong learning programme aimed at fostering curiosity and academic growth in children and young people aged 9 to 18. Launched in 2014, the programme offers a diverse range of educational experiences in various academic disciplines. ECON MUNI joined in 2015 and since then, it has played a central role in the success of MjUNI, helping to bridge the gap between the early learning and higher education. Enriching the programme with expertise in economics, finance and related fields, our scientists educated and entertained 155 children and teenagers in 2019 and 137 in 2020. In 2021 and 2022, the lessons did not take place in person but were supplemented by an online competition MjUNIon. In 2023, the programme returned to the ECON MUNI premises and reached the pre-pandemic participation with 153 children and young people attending the course. Sparking interest in academic subjects, fostering critical thinking and developing passion for learning are among the key benefits of the ECON MUNI's participation in the MjUNI programme. By providing easily accessible, entertaining and high-quality education, it helps cultivate the next generation of informed and engaged citizens, while also supporting the development of essential skills for their future academic and professional success.

Children Air Monitoring Brno (CIAiMon Brno)

The [Children Air Monitoring Brno \(CIAiMon Brno\)](#) study, conducted in early 2023 as part of the research project Monitoring and Measures to Improve Air Quality in Brno (2021-2024), exemplifies the faculty's commitment to public engagement in science. More than 150 children from 12 elementary schools helped to collect data about air quality in the city of Brno by wearing sensors on their backpacks for two weeks – one in winter and one in summer. The study provided valuable data on the children's pollution exposure both at school and home, revealing that while school environments showed no significant differences in air quality, individual households varied, often due to other factors such as smoking. The interdisciplinary team led by researchers from ECON MUNI and the RECETOX centre gave recommendations to schools on how to promote safer and healthier commuting options, while the parents received personalized reports. Engaging children and parents in this research fostered their scientific curiosity and environmental awareness. The pupils were empowered to design their own air quality improvement projects, making them active participants in real-world science. By involving the children and their parents, the research team helped to nurture future generations of informed and engaged citizens.

Exhibition "What we breathe in Brno"

As part of ECON MUNI's long-term focus on environmental economics and monitoring of air quality in collaboration with the RECETOX centre, an [exhibition](#) (only in Czech) showcasing results of the research project Monitoring and Measures to Improve Air Quality in Brno (2021-2024) was held in the Brno Urban Centre between 20 September and 20 October 2023. The exhibition, initially planned until 13 October but extended due to high public interest, highlighted key findings from air pollution monitoring using accredited mobile measuring stations and small portable sensors carried by schoolchildren. Moreover, a public lecture entitled "Air Pollution in Brno: Why Is It a Problem & How to Solve It?" held on October 11 further engaged the local community in discussions on practical solutions. By raising awareness of environmental issues and presenting

evidence-based answers, the exhibition not only educated the public but also cultivated dialogue among policy makers, researchers, and citizens.

Activities for secondary-school (high-school) students

During the evaluation period, ECON MUNI actively engaged secondary-school students through a variety of educational initiatives, helping them explore economics and prepare for future university studies. One such program is Touch ECON, which allows the participants to experience university life firsthand – they are invited to attend lectures, write seminar papers, and take exams, gaining valuable insight not only into economics, management, finance and other topics taught at the faculty, but also into academic expectations. Successful completion even offers the opportunity for admission to ECON MUNI without entrance examination.

For secondary-school students interested in economic issues, the competition Seminář ekonomických mozků provides an exciting challenge. This online contest tests participants' problem-solving skills in real-world economic scenarios. Finalists are invited to ECON MUNI, where they compete in person for valuable prizes, including the possibility of admission without entrance examination.

Another interdisciplinary opportunity is the Bohatství země competition, where teams analyse the economic viability and environmental impact of mineral resource extraction. Participants develop projects that are judged by a panel of experts, enhancing both their analytical and presentation skills. The best teams are rewarded with prizes and, again, a chance to enrol at ECON MUNI without the entrance examination.

Through these initiatives, we inspire secondary-school students to engage with economics, develop critical thinking, and explore future academic and career opportunities.

University of the Third Age (U3V)

The University of the Third Age (U3V) is an essential part of lifelong learning programs aimed at making academic knowledge accessible to seniors and individuals in post-productive age. Its core mission is to open the doors of the university to older generations, allowing them to deepen their understanding in fields that are often less accessible to them. As part of this initiative, researchers from ECON MUNI have actively contributed to science popularization by teaching specialized courses tailored to senior learners. One such course, Economics for Everyone, introduced participants to the fundamentals of economic thinking and the key principles governing the economy. Other courses focused on topics directly relevant to seniors, such as the factors influencing their economic situation or whether closing the economy was an appropriate response to the COVID-19 pandemic. By engaging elderly citizens in discussions on economic issues, U3V not only broadens their knowledge but also fosters critical thinking and informed decision-making, demonstrating the university's commitment to making scientific insights accessible to all generations.

Popularization lectures on current issues

Between 2019 and 2023, ECON MUNI organized a series of public lectures and discussions aimed at making scientific knowledge and expertise more accessible to society. These events focused on current and pressing topics and included esteemed guests from various fields and organizations. For instance, the 2019 conference titled 30 Years of Transformation of Czech Economy and Society answered questions such as whether the economic transformation fulfilled the initial expectations and how successful it has been. In 2021, the conference dedicated to the faculty's 30th anniversary was held, highlighting themes such as labour market transformation, current expectations of the university graduates and navigating the continuously changing world. Moreover, a panel discussion on the economic consequences of the war in Ukraine was held in March 2022, showing that ECON MUNI scientists are capable of analysing and commenting on urgent issues with an extensive impact on society. By inviting experts from various fields, the faculty fostered a dialogue between researchers, professionals and the public, encouraging critical thinking and informed discussion on key issues.

Media appearances

During the evaluation period, the faculty has consistently worked on strengthening its media presence through the efforts of the Office for External Relations, particularly by fostering relationships with local media outlets. This approach has allowed our researchers to share their expertise with the public and contribute to

the popularization of science. The number of media appearances by our scientists has varied over the past five years, reflecting both external circumstances and ongoing outreach efforts. In 2019, researchers participated in 39 media appearances, followed by a slight decline in 2020 (28) and 2021 (24), likely influenced by the COVID-19 pandemic. However, in 2022, the number of appearances significantly increased to 48, demonstrating a renewed emphasis on media engagement. In 2023, there was a decline to 20 appearances, indicating the need for further strategic efforts to maintain a strong media presence. Despite these fluctuations, ECON MUNI remains committed to promoting science and research through the media, ensuring that expert knowledge is accessible to the broader public.

Policy Reports Series

In 2022, ECON MUNI launched its first policy report in collaboration with the SYRI institute, marking the beginning of a new initiative aimed at translating academic research into actionable insights for policymakers and the public. The report, titled *Ukrainian Refugees Through the Eyes of Employers*, was authored by Assoc. Prof. Lucie Coufalová, Dr Luca Fumarco, and Assoc. Prof. Štěpán Mikula—all researchers from ECON MUNI and affiliated with SYRI. This publication served as the first step in establishing the [ECON MUNI Policy Reports Series](#) (in Czech only), a platform designed to provide evidence-based analyses on pressing economic and social issues. Following this initial success, the series officially expanded at the beginning of 2024, reinforcing the university's commitment to making research findings accessible and relevant beyond academia. By engaging with policymakers, businesses, and the wider public, the series contributes to the popularization of science and enhances the societal impact of economic research.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

The 2020 evaluation identified areas for improvement and provided several recommendations, which can be grouped into three key areas:

- *Faculty Research Strategy*: It was recommended to develop a faculty research strategy to prevent excessive dependence on external demand.
- *PhD Studies*: The high number of PhD programs and dropout rates may hinder ECON MUNI's overall development.
- *Contract Research and Life-Long Learning*: It was advised to establish sustainable and institutionalized life-long learning programs.

The Faculty of Economics and Administration has carefully considered these recommendations and has implemented targeted measures to address these challenges.

Ad 1) ECON MUNI has taken significant steps to develop a structured research strategy. As part of its commitment to long-term research development, ECON MUNI has formulated clear research aims and measures within its [Contract with the Rector's Office](#). The aims and measures reflect the recommendations of the first wave of the [Internal Research and Doctoral Evaluation \(IRDE\)](#) that has been conducted, establishing a systematic review process that will be repeated every five years to ensure continuous improvement. Currently, the Faculty is in the process of defining its main and strategic research topics, further strengthening its research focus and reducing dependence on external demand.

Ad 2) Merger of PhD programmes: The faculty management has decided to merge six existing PhD programmes—Economics, Economic Policy, Finance, Management, Public Economics, and Regional

Economics—into a single programme titled *Economics, Finance, and Management*. The new PhD programme has been approved by the Faculty Senate and Scientific Board and is expected to receive final approval from the Internal Evaluation Board in September 2025. The first cohort of students will be admitted in 2026. The consolidation aims to enhance the attractiveness and success rate of doctoral studies by more efficient admission process, ensuring consistent implementation of doctoral standards across economic disciplines, and fostering greater interdisciplinarity. Similarly, ECON MUNI has established Thesis Advisory Committees to enhance the quality of feedback, provide students with access to a broader range of expertise, and ultimately improve the success rate of PhD studies.

Ad 3) The Faculty has taken strategic steps to develop sustainable and institutionalized life-long learning programmes. To concentrate resources effectively on life-long learning, the Faculty has discontinued its distance learning programs. Instead, it has introduced and actively utilizes a system of micro-credentials. Micro-credentials are short, specialized learning modules that allow individuals to gain specific skills and knowledge in a flexible and targeted manner. These modules are designed to support continuous professional development and can accumulate over time, providing learners with recognized certification while meeting the evolving needs of the labour market.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
MUES Research Seminar Series	3.2	https://mues.econ.muni.cz/
Young Economists' Meeting	3.2	https://yem.econ.muni.cz/
DiCiM project	3.3	https://www.dicimproject.eu/
ReCiPSS project	3.3	https://www.recipss.eu/
New Mobility project	3.3	https://www.itregep.cz/en/new-mobility-project
Monitoring and Measures to Improve Air Quality in Brno	3.3	https://airbrno.econ.muni.cz/en
Centre of environmental research project	3.3	https://www.muni.cz/en/research/projects/56587
Development of advanced tools for traffic accident analysis for	3.3	https://www-muni-cz.translate.goog/en/research/projects/53767? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr_pto=wapp

the Czech Police project		
Interactive map of the non-profit sector	3.3	https://mapaneziskovek.cz/english/
FINTECH project	3.3	https://www.muni.cz/en/research/projects/43446
SYRI	3.3	https://www.syri.institute/
Action plan for air quality improvement in Brno	3.4	https://airbrno.econ.muni.cz/en/action-plan
Traffic accident analysis tools for the Police of the Czech Republic	3.4	https://trafficacc.econ.muni.cz/
Decision support system for assessing mergers in markets with a homogeneous product and spatial differentiation	3.4	https://ucnmuni-my.sharepoint.com/:u:/g/personal/847_muni_cz/Eef0uNfp-zZlKj_OjO5edAB562YBEuZKAn-PTRXy1TKAA?e=2jyRjm
Software application for NGO's creditworthiness models	3.4	https://fikane-cz.translate.google/?_x_tr_sl=cs&_x_tr_tl=en&_x_tr_hl=cs&_x_tr_pto=wapp
We just estimated twenty million fiscal multipliers (journal article)	3.4	http://dx.doi.org/10.1111/obes.12351
Czech European Researchers' Night	3.6	https://www.nocvedcu.cz/en
Festival of Science & Technology	3.6	https://www.festivalvedytechniky.cz/

MjUNI Junior University	3.6	https://mjuni.cz/
Children Air Monitoring Brno (CIAiMon Brno)	3.6	https://airbrno.econ.muni.cz/en/about-project/measuring-the-air-with-children
Exhibition “What we breathe in Brno”	3.6	https://urbancentrum.brno.cz/vystavy/jak-se-dycha-v-brne-aneb-mas-sajnu-o-luftu-ve-statlu/
ECON MUNI Policy Reports Series	3.6	https://www.econ.muni.cz/vyzkum/econ-muni-policy-reports-series
Contract with the Rector’s Office	3.7	https://www.econ.muni.cz/media/3813418/kontrakt_econ_muni-translated-en.pdf
Internal Research and Doctoral Evaluation (IRDE)	3.7	https://researchevaluation.muni.cz/institutional-evaluation/internal-research-and-doctoral-studies-evaluation-irde-2022

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Informatics

FORD: 1 - Natural sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

Faculty of Informatics at Masaryk University (FI MUNI, [1]), established in 1995 as the first IT faculty in the Czech Republic, has a strong background in basic and interdisciplinary research, as well as long-established collaboration with the commercial and public sectors.

Faculty's vision covers four main aspects: 1) being the top educational institution that is comparable with the renowned institutions worldwide, 2) conducting internationally recognized basic and applied research in selected strategic areas and thus contributing to the society's development, 3) being an institution that is attentive to the needs of its employees and that creates a friendly and pleasant working environment, 4) being the main strategic partner for collaborators at institutions in both public and private sector.

Traditionally, the faculty is renowned for producing high-profile **graduates** in all educational levels (BSc., MSc., Ing., Ph.D.) which is confirmed by the high success ratio of their applicability in the commercial sector, but also by the subsequent research careers of our Ph.D. graduates at prestigious universities (Harvard, Purdue, Penn State, etc.). As the faculty's **academic staff** is conducting research in many diverse areas of informatics on an international level (see Section 3.2), we have a large portfolio of research projects in both **basic and applied research**, with interdisciplinary and collaborative aspects and societal impact (see Sections 3.3, 3.4). A significant portion of the research activities are tightly connected with the **collaboration with industry partners** (realized via the Association of Industrial Partners [2]) and the production of software solutions (see Section 3.5) and we also pay specific attention to the popularization of research outcomes and making them more approachable by general audience (see Section 3.6). One unique aspect worth highlighting is the

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

connection between **traditional IT education and art**, realized through the Studio of Graphics Design and Multimedia [3]. In this way, students can extend their knowledge through artistic aspects and also conduct interdisciplinary artistic research. The members of the Studio regularly contribute to RUV (Register of Artistic Outputs of the Czech Republic) and the number of their contributions is comparable to those of humanistically oriented faculties of MU. Further details about our research activities and outcomes can be found in Sections 3.3 and 3.4.

Regarding the **size**, the Faculty of Informatics is one of the smaller faculties at Masaryk University. Like many technically oriented educational institutions, it faces an imbalance in **gender ratio**, especially among academic staff and students. However, we strongly encourage women to conduct their studies and possibly further research careers, as we have very positive experiences with mixed collaborative groups of students and researchers. This is very visible, especially in groups tightly collaborating within research laboratories at our faculty. Therefore, we are actively **encouraging women** to engage in faculty activities and leading roles and are also tightly collaborating with the Czechitas non-profit organization [4], which was established about 10 years ago by our graduates and throughout the years, many of our students and graduates have been acting as lecturers there. Czechitas helped not only to make IT more accessible to women but also opened the door to many women who subsequently started their studies at our faculty.

The academic staff consists mainly of professors, associate professors, assistant professors (87 FTE in total), and other researchers (47 FTE) who are mostly conducting research within funded projects. A high number of research personnel are also involved in teaching (79 FTE). A significant portion of researchers are also early career ones (25 FTE). The technical and economy personnel currently consist of 10 FTE, with most women in these positions. In summary, in the 2019-2023 period, we evidenced a steady increase in personnel, and we want to keep this trend in the future as well. The overall strategy is to increase the academic staff of the faculty by two extra members each year, to ensure not only the growth but also to follow new trends in the quickly evolving IT field.

When looking at the **age distribution** in the given categories, it follows an expected trend of having most assistant professors between 30 and 50 years, most associate professors between 40 and 50 years, and full professors over 40 years (with one exception under 40). What is interesting to mention is that the other research personnel consist of many young researchers, many of them under 29. This evidences the high involvement of our Ph.D. students in research activities connected with funded research, where the students are also financially supported by the projects. Another interesting aspect is that researchers involved in teaching are in the 30-50 category, which supports our strategy to involve researchers that are very active in research in teaching and thus not only transferring the latest research outcomes to the students but also enabling close contact with the students who can become part of the research teams already in very early stages of their studies.

When comparing the age distribution in 2019 and 2023, there aren't any significant changes. We are aware of the fact that due to historical reasons, we currently have many associate professors in the 40-50 age group, but the number of assistant professors in the 30-40 age group is significantly smaller. Thus, as already mentioned, our hiring strategy for the upcoming years aims to mitigate this issue.

Regarding **student numbers** in the given period, the number of Bachelor students is quite stable, even when we consider that the period highly overlaps with COVID-19. Interestingly, we can see a growth in Master students, which can be also a consequence of newly developed study programs (two in the given period). The faculty also supports **lifelong learning**, although not in the form of

specific courses. These students can attend any of the courses offered to our undergraduate students by the faculty. However, in the 2023-24 academic year, thanks to the governmental support of these activities, we designed four new courses that are specifically tailored to the needs of lifelong learning. In 2025, we also newly introduced a concept of so-called “theme packages” comprising a set of courses focusing on a specific topic (e.g., AI or programming). When passing the package, the student will obtain a certificate.

[1] <https://www.fi.muni.cz/index.html.en>

[2] <https://www.fi.muni.cz/for-partners/index.html.en>

[3] <https://agdm.fi.muni.cz/en>

[4] <https://www.czechitas.cz/en>

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	15,6 / 1,0	15,2 / 1,0	14,2 / 1,0	14,3 / 1,0	16,4 / 1,0	19,0 / 1,0
Associate Professor	23,8 / 3,8	25,8 / 4,5	25,7 / 5,4	24,7 / 5,5	26,1 / 5,5	37,0 / 6,0
Assistant Professor	15,1 / 0,0	14,3 / 0,1	17,5 / 1,0	19,5 / 1,0	19,9 / 1,3	31,0 / 2,0
Assistant	0,0	0,0	0,0	0,0	0,0	0,0
R&D Personnel ³	0,0	0,0	0,0	0,0	0,0	0,0
Researchers in other categories ⁴	21,2 / 6,4	27,8 / 8,8	27,9 / 8,7	33,0 / 11,0	34,0 / 10,6	47,0 / 16,0
Technical and economic staff ⁵	2,2 / 1,2	2,6 / 1,6	6,2 / 4,5	6,3 / 4,3	7,5 / 5,5	10,0 / 8,0
Scientific, research and development staff involved in teaching activities	59,2 / 5,6	59,3 / 3,1	61,2 / 7,9	62,7 / 7,7	66,3 / 8,2	79,0 / 10,0
Early career researchers ⁶	18,8 / 7,7	16,7 / 3,2	17,2 / 3,4	15,8 / 2,5	12,9 / 1,1	25,0 / 9,0
Total ⁷	77,9 / 12,4	85,7 / 16,0	91,5 / 20,6	97,8 / 22,8	103,9 / 23,9	144,0 / 33,0

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	6	0	1	1	5	0	4	0
Associate Professor	0	0	5	2	15	1	3	1	1	0	3	0
Assistant Professor	0	0	8	0	5	0	1	0	0	0	0	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ⁹	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁰	24	7	19	3	8	4	2	0	1	0	2	0
Technical and economic staff ¹¹	0	0	0	0	2	1	1	1	0	0	0	0
Scientific, research and development staff involved in teaching activities	3	1	19	3	26	1	5	2	6	0	7	0
Early career researcher ¹²	5	1	23	3	1	1	0	0	0	0	0	0
Total ¹³	24	7	32	5	36	6	8	3	7	0	9	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	1	0	4	0	4	0	2	1	7	0
Associate Professor	0	0	1	0	21	4	3	1	4	1	1	0
Assistant Professor	0	0	7	1	11	1	1	0	0	0	0	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ¹⁵	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁶	33	13	28	4	10	5	2	1	0	0	1	0
Technical and economic staff ¹⁷	0	0	3	2	4	3	1	1	0	0	0	0
Scientific, research and development staff involved in teaching activities	1	1	10	2	40	5	8	1	6	2	8	0
Early career researcher ¹⁸	0	0	13	2	0	0	0	0	0	0	0	0
Total ¹⁹	33	13	40	7	50	13	11	3	6	2	9	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	1365	245	1349	236	1394	231	1367	239	1414	235	3555	620
Master's ²⁰	568	118	604	106	659	115	746	125	856	147	1819	325
Doctoral	98	21	90	16	96	20	89	26	94	25	174	41
Lifelong Learning Courses	7	0	3	0	8	3	4	2	5	1	27	6
Total	2038	384	2046	358	2157	369	2206	392	2369	408	5575	992

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes.											
	2019		2020		2021		2022		2023		Total	
Undergraduate	3/0	0/0	4/0	2/0	4/0	2/0	4/0	2/0	4/0	2/0	4/0	2/0
Master's	6/3	0/0	6/3	0/0	7/3	1/0	7/3	1/0	8/3	1/0	8/3	1/0
Doctoral	1/1	0/0	1/1	0/0	1/1	0/0	1/1	0/0	1/1	0/0	1/1	0/0
Lifelong Learning courses	0	0	0	0	0	0	0	0	0	0	0	0
Total	10/4	0/0	11/4	2/0	12/4	3/0	12/4	3/0	13/4	3/0	13/4	3/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics	2,5	Basic Research	92,1
	1.2 Computer and information sciences	84,1	Basic Research	
	1.3 Physical sciences	1,4	Balanced basic and applied research	
	1.4 Chemical sciences	0,3	Basic Research	
	1.5 Earth and related environmental sciences	0,2	Basic Research	

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	1.6 Biological sciences	2,9	Basic Research	
	1.7 Other natural sciences	0,7	Basic Research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	2,1
	2.2 Electrical engineering, Electronic engineering, Information engineering	1,8	Balanced basic and applied research	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering	0,3	Basic Research	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	0,1	Basic Research	0,5
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences	0,2	Basic Research	
	3.4 Medical Biotechnology	0,2	Applied Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	1,4	Basic Research	4,2
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education	0,3	Balanced basic and applied research	
	5.4 Sociology	0,2	Basic Research	
	5.5 Law	0,5	Balanced basic and applied research	
	5.6 Political science	0,5	Basic Research	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications	1,3	Balanced basic and applied research	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	1,1
	6.2 Languages and Literature	0,4	Basic Research	
	6.3 Philosophy, Ethics and Religion	0,5	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)	0,1	Basic Research	
	6.5 Other Humanities and the Arts	0,1	Basic Research	
Total		100%	-	100%

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

Our researchers are highly active in the **international research community**, which is evidenced by numerous publications with international collaborators, invitations to give a talk at international conferences and other venues or invitations of inspiring researchers to our faculty, serving in editorial and organizational boards, or being recognized for their research achievements through a variety of awards. In the following tables 3.2.1 to 3.2.5, we are listing selections of these achievements, but we believe that it is worth describing them in a broader context and scope on the following lines.

The first table, 3.2.1, lists several representatives of the wide portfolio of platforms where the performance and outcomes of our researchers were appreciated in the given time period. The selection of these representatives was made with the diversity of **award** types, the awarding institutions, as well as the research areas we are covering, and are highly successful there. This list is far from exhaustive, also in the sense of the research areas in which our researchers have significant achievements and are recognized by the international communities for that. Notable highlights include best paper and honorable mention awards at conferences, such as ACM CHI, SIGCSE, SISAP, ICTAC, ACM SIGIR, IACR CHES, or LICS. Our researchers are also very successful in prestigious competitions: we can name SV-COMP where the team of Prof. Strejček won several medals in the given period, including the overall victory.

Except for the international awards and achievements, we also highly value the recognition from our alma mater, Masaryk University, which annually assesses the performance of its researchers across all faculties and awards those with the most outstanding results. Our faculty is traditionally highly successful in this competition, where we are compared with outstanding researchers in prestigious areas of, for example, natural sciences. In the given time span, our researchers obtained the following awards: MUNI Rector's Award for Long-Term Excellent Results in Research (3x), MUNI Scientist Awards (9x), and MUNI Innovation Awards (5x).

In Table 3.2.2, summarizing the participation of our academics in **editorial boards of international scientific journals**, we followed the same strategy in the selection of 10 representatives. We hope that the list evidences the broad span of research areas. However, the list of the involvement of our researchers in editorial boards is way longer. Another important note is that the service to the scientific community by Prof Král' was recognized in the form of obtaining the AMS and SIAM Fellows. It is also worth mentioning that the community service activities encompass not only journal editorial boards but also the involvement in the steering and organizational committees of top conferences that help to actively engage in the current trends and evolution of the corresponding

areas, but it also helps to get our faculty to the radar of researchers and students worldwide. We believe that this is one of the strategies to attract interesting foreign candidates for studies and academic positions, which remains one of our challenges. To increase the visibility of our faculty, we are also **organizing research conferences and workshops** in Brno. An example can be the EG VCBM 2019 workshop [1] or ELMI 2019 conference [2].

Another evidence of the international recognition of our academic staff is the **invitations to give a talk** at foreign institutions or conferences. Selected representatives of such invitations are summarized in Table 3.2.3. Again, the span of areas where our researchers were recognized via invited talks is very broad, as well as the nature of the venues and the target audiences. It spans from keynote talks at conferences, invited talks at research seminars and workshops (Dagstuhl, Shonan), to invited lectures at the student conferences and summer schools (e.g., Bio+MedVis School [3], AMBIA [4], or CESCg [5]). In total, for the given period we collected over 70 records of invited talks from our researchers.

The faculty also strongly encourages the academics to **invite internationally recognized experts** in their respective fields to give a talk at the faculty. For this purpose, we have the format of an Informatics Colloquium [6], a weekly event that targets the whole academic staff of the faculty, as well as Ph.D. students (who can get credits for attendance). However, also undergraduate students are welcome. The colloquium serves as the primary platform for invited talks, as for many years, it has the same time schedule and thus all academics can easily schedule their attendance. Table 3.2.4. highlights several guests that we had the honor to welcome to our faculty between 2019 and 2023. It should be also noted again that this particular part of the research activities was highly influenced by the travel bans and further limitations during the COVID-19 pandemic.

The last Table 3.2.5 summarizes another important measurable aspect of our success in our international research efforts. It is the involvement of our researchers in the **evaluation of national and international programme calls**. In the given period, our researchers were involved in several evaluations of the European projects via the European Research Council calls, but also other foreign funding agencies (Research Council of Canada, TMF Norway, Severo Ochoa, and María de Maeztu Spain, National Science Centre Poland, APVV Slovakia, French National Research Agency, German Research Foundation, Israel Science Foundation, WWTF Austria). On the **national level**, our researchers are very successful in being elected to the evaluation panels of the Czech Science Foundation (GACR), the primary funding source of basic research in the Czech Republic. Our researchers are also often involved in the evaluation of research projects within the regular or special calls of Czech ministries (e.g., Ministry of the Interior or Ministry of Education, Youth and Sports).

[1] <https://conferences.eg.org/vcbm2019/>

[2] <https://www.elmi2019.eu/>

[3] <https://biomedvis.github.io/2021/>

[4] <https://ambia.fi.muni.cz/2020/>

[5] <https://cescg.org/>

[6] <https://www.fi.muni.cz/research/colloquium/index.html.en>

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
doc. Ing. Pavel Čeleda, Ph.D., doc. RNDr. Jan Vykopal, Ph.D. et al.	2021 Innovation Radar Prize (Disruptive Tech for KYPO Cyber Range Platform)	European Commission
prof. RNDr. Daniel Král, Ph.D., DSc.	Fellow of the American Mathematical Society, 2020 Class	American Mathematical Society
doc. Petr Švenda, Ph.D., Marek Sýs Ph.D.	Best Paper Award at Conference on Cryptographic Hardware and Embedded Systems	IACR CHES 2020 Program Committee
RNDr. Valdemar Švábenský, Ph.D., doc. RNDr. Jan Vykopal, Ph.D., doc. Ing. Pavel Čeleda, Ph.D.	Best paper - 51st ACM Technical Symposium on Computer Science Education (SIGCSE '20)	ACM SIGCSE
prof. RNDr. Jan Strejček, Ph.D.	Best paper award at ICTAC 2019	ICTAC 2019 Program Committee
doc. RNDr. David Šafránek, Ph.D. RNDr. Samuel Pastva, Ph.D.	Best tool paper award -- 22nd International Conference on Computational Methods in Systems Biology (CMSB 2024)	CMSB 2024 Program Committee
prof. RNDr. Jan Strejček, Ph.D.	Number of medals in the SV-COMP/TEST-COMP competitions, including one overall victory	SV-COMP/TEST-COMP organised at TACAS
RNDr. Vladimír Míč, Ph.D., prof. Ing. Pavel Zezula, CSc.	Best Paper Award, SISAP 2020	SISAP 2020 Program Committee
prof. RNDr. Antonín Kučera, Ph.D.	MU Rector's Award for Long-Term Excellent Results in Research, Silver Medal of MU, Masaryk University	Masaryk University
prof. RNDr. Michal Kozubek, Ph.D.	MU Rector's Award for Long-Term Excellent Results in Research 2022	Masaryk University

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
doc. RNDr. Martin Maška, Ph.D.	IEEE Transactions on Medical Imaging, 0278-0062
Mgr. Tomáš Foltýnek, Ph.D.	International Journal for Educational Integrity, 1833-2595
prof. PhDr. David Šmahel, Ph.D.	Cyberpsychology, 1802-7962
prof. RNDr. Václav Matyáš, M.Sc., Ph.D.	International Journal of Information Security, 1615-5262
prof. RNDr. Antonín Kučera, Ph.D.	Theoretical Computer Science, 0304-3975
prof. RNDr. Daniel Král, Ph.D., DSc.	Journal of Graph Theory, 0364-9024
doc. Mgr. Bc. Vít Nováček, Ph.D.	Acta Informatica Pragensia: Journal of Applied Informatics, 1805-4951

doc. Mgr. Hana Rudová, Ph.D.	Journal of Scheduling, 1094-6136
doc. RNDr. Martin Maška, Ph.D.	BMC Bioinformatics, 1471-2105
prof. RNDr. Daniel Král, Ph.D., DSc.	European Journal of Combinatorics, 0195-6698

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
prof. RNDr. Daniel Král, Ph.D., DSc.	Analytic Representations of Large Graphs	27th British Combinatorial Conference	2019
RNDr. Jan Byška, Ph.D.	Visualization of Molecular Data: Current Methods and Future Challenges	UT Austin Portugal Applied Visualization Workshop	2019
Lukasz Michal Chmielewski, Ph.D.	Tutorial: Attacking Real-World Crypto With Side-Channel Analysis	International Conference on Security, Privacy and Applied Cryptographic Engineering SPACE	2022
doc. RNDr. Jan Sedmidubský, Ph.D.	Content-Based Processing of Human Motion Data	Institute of Information Science and Technologies (ISTI-CNR)	2022
prof. RNDr. Michal Kozubek, Ph.D.	Metrics and Benchmarking in BioImage Analysis	NEUBIAS Academy Defragmentation Training School	2022
RNDr. Miloš Jakubíček, Ph.D.	The end of lexicography? Can ChatGPT outperform current tools for post-editing lexicography?	Towards AI-Aided Human-Supervised Linguistics (AIAL)	2023
Mgr. Tomáš Foltýnek, Ph.D.	Challenges of Generative Artificial Intelligence for Research Integrity	ENRIO Congress, Sorbonne	2023
doc. Mgr. Bc. Vít Nováček, Ph.D.	Curing Cancer with Knowledge Graphs (and other Outrageous Ideas)	Knowledge Graphs and Semantic Computing Speaker Series at the University of Illinois Urbana-Champaign	2023
doc. RNDr. Barbora Kozlíková, Ph.D.	Chromoskein: 3D representation of chromatin structure	4DGenomics, Milan	2023
prof. RNDr. Antonín Kučera, Ph.D.	Asymptotic Analysis of Probabilistic VASS Programs	16th International Conference on Verification and Evaluation of Computer and Communication Systems	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Ing. Tomáš Mikolov, Ph.D.	Facebook AI Research	Recent progress in AI research	2019
Prof. Donald E. Knuth	Stanford University	Computer Programming as Art – Views and responses to any related questions and comments	2019
Prof. Anton Nekrutenko	Penn State	Addressing computational challenges of global health emergencies with community-supported systems	2022
Prof. Stanislav Živný	Oxford	Power of convex relaxations in discrete optimisation	2022
Prof. Dra. Maria Luján Ganuza	Universidad Nacional del Sur, Argentina	Lossless Multidimensional Visualization	2022
Assoc. Prof. Jana Tůmová	KTH Stockholm	Formal methods for robot planning	2023
Prof. Dr. Dirk Beyer	LMU Munich	Benchmarking in Computer Science and Competition in Software Verification	2023
Assoc. Prof. Louis Esperet	CNRS Grenoble	Universal graphs and labeling schemes	2023
Prof. Dr. Peer Kröger	University of Kiel	Learned Index Structures for Nearest Neighbor Search Problems	2023
Prof. Phil Newton	Swansea University	Evidence-Based Learning, Teaching, and Assessment	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
prof. RNDr. Michal Kozubek, Ph.D.	Synergy Grant Call	ERC	2019
prof. RNDr. Antonín Kučera, Ph.D.	Member of ERC Advanced Grant Panel Computer science and informatics (PE6)	ERC	2019, 2021, 2023

prof. RNDr. Daniel Král, Ph.D., DSc.	ERC Consolidator Grant PE1 Mathematics panel (chair)	ERC	2023
doc. Ing. Václav Oujezský, Ph.D.	MSCA Postdoctoral Fellowships	Horizon Europe: Marie Skłodowska- Curie Actions	2023
prof. PhDr. David Šmahel, Ph.D.		National Research Council Canada	2019
prof. RNDr. Petr Hliněný, Ph.D.		Trond Mohn Research Foundation, Norway	2022
prof. RNDr. Michal Kozubek, Ph.D.	ERC CZ Program Scheme	Ministry of Education, Youth and Sports	2022
prof. RNDr. Jiří Barnat, Ph.D.	P103 panel chair	Czech Science Foundation	2023-
doc. RNDr. Petr Matula, Ph.D.	P202 panel member	Czech Science Foundation	2019-22
prof. RNDr. Daniel Král, Ph.D., DSc.	P202 panel chair, head of OK2	Czech Science Foundation	2021-23

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

Self-assessment:

Large Discrete Structures (ERC. H2020) – prof. RNDr. Daniel Král', Ph.D., DSc.

The Large Discrete Structures (LADIST) project was a research initiative funded by the European Research Council (ERC) under a Consolidator Grant (ERC-CoG-2014). Led by principal investigator Daniel Král', the project ran from 2015 to 2021. Initially hosted at another institution, LADIST was coordinated by Masaryk University from September 2018, and was conducted in collaboration with Jagiellonian University and the University of Warwick.

The project integrated multiple scientific disciplines to develop novel methods for analyzing and approximating large graphs and other discrete structures and to apply the developed methods to solve specific open problems. It combined elements of theoretical computer science, combinatorics, mathematical analysis, discrete optimization, and logic, creating an interdisciplinary framework for studying the asymptotic behavior of large-scale systems. Specifically, the project advanced the recently emerged theory of combinatorial limits by developing new insights into the structure of limit objects and by proposing a robust theory bridging sparse and dense cases. The analytic methods from the theory of combinatorial limits were used to analyze possible asymptotic behavior of large graphs, and they were applied in conjunction with structural arguments to provide solutions to specific problems in extremal combinatorics. The obtained insights were also combined with methods from discrete optimization and logic to provide new algorithmic frameworks. Additionally, it aimed to reconcile the differences between sparse and dense graphs, contributing not only to fundamental research but also to broader applications in big data, network analysis, and other complex systems.

By addressing fundamental challenges in mathematics and theoretical computer science, LADIST contributed to the broader field of large-scale data analysis and computational applications. The project aligns with the mission of the Faculty of Informatics at Masaryk University by fostering excellence in research, strengthening international collaboration, and advancing theoretical foundations for solving complex computational problems.

MUNI AWARD in Science and Humanities 1 (GAMU MASH) – prof. RNDr. Daniel Král', Ph.D., DSc.

The MASH project, funded by the Masaryk University Grant Agency, focuses on attracting excellent researchers by offering conditions that encourage long-term collaboration with Masaryk University and the production of top-tier scientific results. The grant aims to bring outstanding scientists to MU by providing stable funding, office and laboratory facilities, administrative support, and the opportunity for habilitation or professorship.

Led by Prof. Král', the MASH grant expands the research topics of his ERC LADIST grant while also addressing selected topics in discrete mathematics and theoretical computer science. In its first two years, the project focused on extremal combinatorics, quasi-randomness of combinatorial structures, the use of sparsity in algorithm design, and graph coloring problems.

The project has also advanced the international visibility of the Faculty of Informatics through key initiatives, including the resumption of the Algomant network, the organization of DIMEA Days 2022, and the reintroduction of the student internship program. These activities foster international collaboration and create a stimulating research environment for postdoctoral and doctoral students.

The MASH project contributes significantly to the strategic objectives of FI MU, including strengthening research excellence and international prestige. In the international evaluation of FI MU,

the DIMEA laboratory, where the project is implemented, received high praise, and its personnel expansion was recommended.

Models, Algorithms, and Tools for Solving Adversarial Security Problems (US Army) – prof. RNDr. Antonín Kučera, Ph.D.

The project led by prof. Kučera focused on developing algorithmic support for designing automatic patrolling systems, where a limited number of mobile security units (patrollers) protect a given set of vulnerable targets. Traditional models often operate under simplified assumptions, such as perfect intrusion detection or unlimited energy capacity for patrollers, which do not align with real-world conditions. Therefore, the goal of this project was to create new mathematical models and optimization methods that account for a broader range of relevant factors—such as limited energy resources, incomplete information, the presence of dangerous zones, and dynamically changing environments. The research was structured into four main areas: 1) designing a formal model for patrolling systems with a wide range of optimization criteria, 2) developing and implementing efficient algorithms for strategy synthesis in patrolling games, 3) designing methods for automatic adaptation of patrolling strategies in response to environmental changes, and 4) implementing a simulation platform for patrolling games, enabling experimental validation of the proposed strategies.

Funded by the U.S. Army, the project was carried out at the Faculty of Informatics of Masaryk University, which provided the necessary infrastructure and expertise. The research team leveraged its experience in formal methods, machine learning, and strategy optimization, combining mathematical modeling with artificial intelligence algorithms. The project's output included not only scientific publications at leading AI conferences (e.g., AAAI, IJCAI, AAMAS) but also software for generating and simulating patrolling strategies, which were made publicly available on GitHub. The project aligned with the long-term strategy of the Faculty of Informatics in the research of autonomous systems, formal methods, and AI applications. Its results will be applicable not only in security-related domains but also in broader contexts involving autonomous agents and robotic systems.

Cyber Security Network of Competence Centres for Europe – CyberSec4Europe (H2020) – prof. RNDr. Václav Matyáš, M.Sc., Ph.D.

CyberSec4Europe was a research-based consortium of 43 participants from 21 EU Member States and Associated Countries. The project received support from over 40 public administrations, international organizations, and key associations, positioning itself as a pilot for a European Cybersecurity Competence Network. It tested governance structures inspired by best practices, including CERN, and contributed directly to key EU Directives and Regulations such as GDPR, PSD2, eIDAS, ePrivacy, and the EU Cybersecurity Act.

The project addressed 14 cybersecurity domains, 11 technology areas, and 9 crucial vertical sectors, advancing cybersecurity certification, skills development, and ENISA's role. It played a key role in EU cybersecurity policy, with 26 ECSO participants active in all six ECSO Working Groups, leading subgroups and contributing to the ECSO Board of Directors and the Cybersecurity Public-Private Partnership Board.

CyberSec4Europe integrated expertise from computer science, cryptography, law, and policy-making, bridging academic research and industry needs. Its participants contributed to over 100 cybersecurity projects, tackling challenges in digital infrastructure, finance, smart cities, healthcare, and

transportation. Demonstration cases applied research outcomes to real-world cybersecurity issues, strengthening governance and policy implementation.

The project developed a roadmap and recommendations for a sustainable Network of Competence Centres, ensuring long-term impact. Masaryk University and other institutions enhanced interdisciplinary collaboration, connecting cybersecurity research with data protection and digital governance. By focusing on cutting-edge cybersecurity research and policy alignment, CyberSec4Europe supported the Faculty of Informatics' strategy to contribute to technological innovation and European cybersecurity resilience.

By combining policy alignment, interdisciplinary expertise, and practical applications, CyberSec4Europe strengthened Europe's cybersecurity landscape, contributing to both academic research and real-world cybersecurity advancements.

BioMedAI TWINNING (HEU, Twinning) – doc. RNDr. Tomáš Brázdil, Ph.D.

The growing demand for sophisticated clinical diagnostics is exceeding current diagnostic capacities. Semi-automated AI systems offer a potential solution by accelerating the diagnostic process. However, most academic AI solutions are opaque, difficult to test and certify, often lack reproducibility, and are insufficiently connected to clinical practice.

To address these challenges, Masaryk University (MU) and the Masaryk Memorial Cancer Institute (MMCI) have partnered with the Medical University of Graz (MUG) and Technische Universität Berlin (TUB) to establish BioMedAI, a research project fostering collaboration between computer scientists and clinical experts to develop explainable and trustworthy AI technologies. The AP partners bring expertise in processing large-scale medical data, interactive machine learning with human-in-the-loop approaches, and AI validation in healthcare.

The project is funded by Horizon Europe under the call in Cluster 1 Health and focuses on training computer science researchers at MU and clinical experts at MMCI in developing explainable AI methods, validated on high-quality medical data. Key activities also include thematic workshops, virtual training, and two summer schools focusing on basic research in explainable AI methods for medical image and clinical data processing and management of sensitive medical data in compliance with regulatory standards.

Additionally, BioMedAI will enhance the presence of explainable AI in healthcare by training a PR manager to communicate research findings to stakeholders and improving project management skills at MU and MMCI to secure EU and international grants.

The Faculty of Informatics at MU, in collaboration with the Institute of Computer Science, implements the project activities at Masaryk University. BioMedAI aligns with the faculty's strategy by supporting cutting-edge AI research, interdisciplinary collaboration, and practical applications in healthcare. By bridging computer science and clinical practice, the project strengthens MU's role in developing trustworthy AI solutions for medical diagnostics.

Augmented Social Play (ASP): smartphone-enabled group psychotherapeutic interventions that boost adolescent mental health by supporting real-world connection and sense of belonging (HEU) – Priv.-Doz. Dipl.-Ing. Dr. Simone Kriglstein

This project, led by associate prof. Kriglstein, advances Augmented Social Play (ASP) an innovative digital intervention integrating smartphones to enhance real-world group psychotherapeutic

experiences. By combining creative storytelling, Augmented Reality (AR), and evidence-based psychology, ASP fosters belonging, reduces stigma, and strengthens social connections, addressing mental health challenges exacerbated by digitalization and the Covid-19 pandemic.

A proof-of-concept (TRL 3) validated ASP's core pillars: (1) shared fictional narratives and roleplay; (2) smartphone-guided cooperative gameplay; (3) implicit psychoeducative learning; (4) safe spaces for complex discussions; and (5) accessibility via entry-level smartphones. Now progressing to TRL 5/6, ASP #1 will be co-developed with young people across multiple countries, focusing on fostering belonging during adolescence and addressing mental health perceptions.

The intervention will be implemented in schools in Portugal, Serbia, and the UK, evaluated for efficacy, cost-effectiveness, and scalability. Masaryk University (MU), as the project coordinator, leads interdisciplinary research integrating psychology, game design, and digital technologies. The project is conducted in collaboration with Karl Landsteiner University (KL Universität), Universidade do Algarve, University College Dublin, Academico Torres Vedras, and Norges Teknisk-Naturvitenskapelige Universitet, along with five associated partners.

The Faculty of Arts and Faculty of Informatics at MU played a key role in developing the intervention framework and collaborating with academic, industry, and arts partners. This work aligns with MU's mission to develop impactful, scalable interventions through cross-disciplinary collaboration.

Cyber-security Excellence Hub in Estonia and South Moravia (CHESS) (HEU,Widera) – prof. RNDr. Václav Matyáš, M.Sc., Ph.D.

The Cyber-security Excellence Hub in Estonia and South Moravia (CHESS), led by Prof. Matyáš, is establishing a center that integrates leading cybersecurity institutions from both regions. By leveraging their strengths, the project fosters research and innovation (R&I) collaboration to address key European cybersecurity challenges. CHESS is conducting a comprehensive needs analysis and formulating a joint cross-border R&I strategy, supported by pilot projects that strengthen ties between academia and industry. The project serves as a preparatory action for future investments, conceptualizing and pre-planning demonstrators and large-scale initiatives.

Beyond strategic development, CHESS implements supporting activities such as staff exchange, training, mutual learning, technology transfer, and public outreach. It formalizes the Cybersecurity Ecosystem across South Moravia and Estonia, bringing together key stakeholders to tackle critical IT and cybersecurity challenges. Research initiatives and demonstrators focus on societal cybersecurity challenges, strengthening joint R&I cooperation and validating research outcomes. The project ensures the exploitation of all outputs, particularly pilot project results, serving as a foundation for larger initiatives and commercial applications.

While addressing the full spectrum of cybersecurity, CHESS prioritizes six key areas: Internet of Secure Things, Security Certification, Verification of Trustworthy Software, Blockchain, Post-Quantum Cryptography, and Human-centric Aspects of Cybersecurity. The project significantly contributes to the Faculty of Informatics' (FI MU) research strategy, reinforcing its leadership in cybersecurity and fostering interdisciplinary and international collaboration.

Masaryk University coordinates the project in collaboration with Brno University of Technology, Tartu Ülikool, Tallinn University of Technology, Jihomoravské inovační centrum, Red Hat Czech, CyberSecurity Hub, Riigi Infosüsteemi Amet, CYBERNETICA AS, GUARDTIME OU, Národní úřad pro kybernetickou a informační bezpečnost (NUKIB), and MTÜ Eesti Infoturbe Assotsiatsioon.

The Centre for Excellence in Cybersecurity (C4e) – doc. Ing. RNDr. Barbora Bůhnová, Ph.D.

The Centre for Excellence in Cybersecurity (C4e) was an interdisciplinary research initiative addressing both technical and non-technical aspects of cybersecurity. Its research focused on three key areas: securing critical information infrastructures through simulation, verification, and predictive analysis; cybersecurity simulation, threat analysis, and education; and cybersecurity law, cybercrime, and cyber defense.

From April 2018 to June 2023, C4e, funded by the OP RDE program, investigated real-world challenges in building a resilient digital society. The centre concentrated on cybersecurity capacity building, governance, and the resilience of critical infrastructures. Given the complexity of these issues, C4e adopted an interdisciplinary approach, integrating expertise from computer science, management, law, security studies, and social sciences.

The centre's research was structured into three strategic directions. The Cybersecurity Capacity Building focused on developing tools and methods for training cybersecurity professionals at all management levels. Critical Infrastructure Resilience addressed methodologies to enhance security and resilience in critical infrastructures. Cybersecurity Governance and Regulation examined regulatory frameworks and strategic instruments at organizational, national, and international levels.

C4e's work reinforced the strategic priorities of the Faculty of Informatics at Masaryk University, fostering strong interdisciplinary collaboration with other faculties and institutions, particularly the Faculty of Law and the Institute of Computer Science. This cooperation also enabled the integration of technical and legal perspectives in cybersecurity research, ensuring a more comprehensive approach to tackling cybersecurity challenges.

By bridging applied and fundamental research, the centre contributed to advancing cybersecurity knowledge and supporting a more secure digital environment. Publications and research outputs can be accessed here [1].

Integrated Spectrometric System for the Release of Radioactive Waste into the Environment (Technology Agency of the Czech Republic) – doc. RNDr. Zdeněk Matěj, Ph.D.

The project, co-led by Associate Professor Matěj, aimed to develop a new integrated spectrometric system combining a digital multi-channel analyzer (MCA) and peak analysis into a single device, fully integrable into the detection units under development. These detection units were designed for use in spectrometric measurement systems monitoring the release of radioactive waste into the environment. The device incorporated algorithms for peak spectrum analysis and measurement evaluation, providing results in terms of activity or specific activity units. The digital spectrometric system for the release of radioactive waste into the environment was intended primarily for nuclear medicine facilities, radiopharmaceutical manufacturers, nuclear installations, and research institutes.

The growing demand for such devices was particularly evident among radiopharmaceutical producers and nuclear medicine laboratories. The project was implemented in collaboration with the company VF, with the Faculty of Informatics at Masaryk University as a key partner. The faculty played a crucial role in developing analytical algorithms and ensuring system integration. The research was funded by the Technology Agency of the Czech Republic (TAČR) and contributed to the faculty's strategic objectives by fostering applied research and interdisciplinary collaboration.

Visual Analysis of Protein-Ligand Interactions (GAČR) – doc. RNDr. Barbora Kozlíková, Ph.D.

This research project represents one of many successfully obtained and solved projects supported by the Czech Science Foundation (GAČR). This DFG-GAČR project serves as a strong example of international cooperation between the University of Tübingen, Ulm University, and FI MU. In the Czech part of the project, Kozlíková was the main PI of the project. Thus, the project contributed to the overall faculty strategy of conducting interdisciplinary and international research. The project outcomes were evaluated by GAČR as excellent.

The project focused on designing novel approaches to the visual analysis of interactions between molecular structures, particularly between proteins and small ligand molecules that can enter the inner protein environment and perform a chemical reaction there. The potential for such a reaction is influenced by the geometric properties of interaction partners, but also by the physico-chemical ones, which highly increases the complexity of analyzing the possibility of such a reaction. Therefore, visualization can aid the process of such an analysis by visually communicating combinations of these parameters. Interactive exploration and manipulation further enhance the understanding of this very complex problem.

The project contributed by designing several novel approaches, published in prominent visualization and biochemical journals and venues, that helped the biochemists to better understand the properties that play a crucial role in assessing the probability of protein-ligand interactions. By teaming with leading experts in biochemical visualization in Tübingen and Ulm, we designed and implemented prototypic tools that can be further extended and adopted by biochemical research teams.

[1] <https://cerit.fi.muni.cz/en/c4e-research>

Table 3.3.1 Projects supported by public funds

In the role of beneficiary -						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
EC -European Research Council (Belgium)	Large Discrete Structures (12/2015 -12/2021)	-	7 363 CZK / 290 €	-	5 199 CZK / 205 €	-
US Army (the USA)	Models, Algorithms, and Tools for Solving Adversarial Security Problems (05/2021 - 04/2024)	-	-	-	4 066 CZK / 160 €	2 632 CZK / 104 €
EC - Horizon Europe (Belgium)	Cyber-security Excellence Hub in Estonia and South	-	-	-	-	14 247 CZK / 562 €

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

	Moravia (CHESS) - (1/2023 -12/2026)					
EC - Horizon Europe - MSCA GF (Belgium)	Borel combinatorics and Approximations (08/2023 -09/2025)	-	-	-	-	2 966 CZK / 117 €
Czech Science Foundation	Visual Analysis of Protein-Ligand Interactions(03/2028 -12/2020)	1 031 CZK / 41 €	1 031 CZK / 41 €	-	-	-
Ministry of Education, Youth and Sports of the Czech Republic through Grant Agency Masaryk University	MUNI AWARD in Science and Humanities (01-2019 -12/2024	5 000 CZK / 197 €	5 000 CZK / 197 €	5 000 CZK / 197 €	2 000 CZK / 79 €	5 000 CZK / 197 €
Ministry of the Interior of the Czech Republic	-	-	7 030 CZK / 277 €	12 137 CZK / 479 €	14 237 CZK / 562 €	15 342 CZK / 605 €
Czech Science Foundation	-	16 722 CZK / 660 €	16 976 CZK / 670 €	16 171 CZK / 638 €	10 928 CZK / 431 €	9 270 CZK / 366 €
Technology Agency of the Czech Republic	-	8 819 CZK / 348 €	25 348 CZK / 1 000 €	28 902 CZK / 1 140 €	23 618 CZK / 932 €	439 CZK / 17 €
Ministry of Education, Youth and Sports of the Czech Republic	-	11 050 CZK / 436 €	11 477 CZK / 453 €	11 970 CZK / 472 €	13 922 CZK / 549 €	18 682 CZK / 737 €
Total		42 622 CZK / 1 681 €	74 225 CZK / 2 928 €	74 180 CZK / 2 926 €	73 971 CZK / 2 918 €	68 578 CZK / 2 705 €
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
EC - Horizon Europe (Belgium)	BioMedAI TWINNING (11/2022 -10/2025)	-	-	-	7 538 CZK / 297 €	-
EC - Horizon Europe (Belgium)	Augmented Social Play (ASP) (09/2023 -08/2027)	-	-	-	-	3 833 CZK / 151 €

²⁷ Ibid.

EC - Horizon 2020 (Belgium)	Cyber Security Network of Competence Centres for Europe - CyberSec4Europe (02/2019 -12/2022)	5 611 CZK / 221 €	2 473 CZK / 98 €	1 782 CZK / 70 €	-	-
EC - Horizon 2020 (Belgium)	AMASS - Architecture-driven, Multi-concern and Seamless Assurance and Certification of Cyber-Physical Systems((04/2016 -03/2019)	337 CZK / 13 €	-	-	-	-
EC - Horizon 2020 (Belgium)	Advanced VR, immersive serious games and augmented reality as tools to raise awareness and access to European underwater Cultural heritage(11/2016 - 01/2020	-	-	837 CZK / 33 €	-	-
EC - Horizon 2020 (Belgium)	European Digital UniverCity - Research and Innovation with and for Society (02/2021 -02/2024)	-	-	-	-	460 CZK / 18 €
EC - Horizon Europe (Belgium)	RES-Q Registry for Stroke Care Quality upgrade for stroke care improvement (11/2022 -10/2026)	-	-	-	-	2 374 CZK / 94 €
Ministry of Education, Youth and Sports of the Czech Republic	The Centre for Excellence in Cybersecurity (C4e)	10 600 CZK / 418 €	8 536 CZK / 337 €	8 828 CZK / 348 €	10 995 CZK / 434 €	20 958 CZK / 827 €
Technology Agency of the Czech Republic	Integrated Spectrometric System for the Release of Radioactive Waste into the Environment	-	608 CZK / 24 €	633 CZK / 25 €	608 CZK / 24 €	-
International atomic energy agency (Austria)	IAEA - CRP - Measurement of neutron leakage from 18O(p,n) reaction	-	-	-	507 CZK / 20 €	507 CZK / 20 €
Ministry of the Interior of	-	3 546 CZK / 140 €	3 796 CZK / 150 €	2 098 CZK / 83 €	5 321 CZK / 210 €	5178 CZK / 204 €

the Czech Republic						
Czech Science Foundation	-	6 948 CZK / 274 €	6 196 CZK / 244 €	4 215 CZK / 166 €	3 798 CZK / 150 €	7 504 CZK / 296 €
Czech Health Research Council (AZV)	-	-	-	654 CZK / 26 €	1 679 CZK / 66 €	2 071 CZK / 82 €
Technology Agency of the Czech Republic	-	3 102 CZK / 122 €	4 830 CZK / 191 €	5 181 CZK / 204 €	5 702 CZK / 225 €	7 090 CZK / 280 €
Ministry of Culture Czech Republic	Identification and Permanent Documentation of Cultural, Landscape, and Settlement Memory of a Municipality – A Case Study of Lost Settlements in Moravia and Silesia	518 CZK / 20 €	715 CZK / 28 €	572 CZK / 23 €	459 CZK / 18 €	-
Ministry of Education, Youth and Sports of the Czech Republic	-	11 259 CZK / 444 €	11 015 CZK / 435 €	10 457 CZK / 413 €	10 745 CZK / 424 €	5903 CZK / 233 €
Ministry of Industry and Trade of the Czech Republic	-	1 512 CZK / 60 €	1 724 CZK / 68 €	-	853 CZK / 34 €	-
Total		43 433 CZK / 1 713 €	39 893 CZK / 1 574 €	35 257 CZK / 1 390 €	48 205 CZK / 1 902 €	55 878 CZK / 2 204 €

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Technology Agency of the Czech Republic	Methodology and Technology for the Creation of Specialized Thesauri and Dictionaries for the Needs of Developing the National Infrastructure for Spatial Information	1316 CZK / 52 €	842 CZK / 33 €			
TESCAN Brno, s.r.o.	Design of algorithms for image marker detection using mathematical morphology)				100 CZK / 3,9 €	
ALVAO s.r.o.	PoC application					180 CZK / 7,1 €
Siemens AG	KYPO Cyber Range Platform and CRYTON tool					709 CZK / 28 €

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

Total	1316 CZK / 52 €	842 CZK / 33 €		100 CZK / 3,9 €	889 CZK / 35,1 €

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

Software system to create and publish New Encyclopaedia of Czech Online

The software system for the development and publication of the New Encyclopaedic Dictionary of the Czech Language [1], originated at our faculty, has brought a fundamental change in the way dictionaries are created in modern lexicography. This software system facilitates the creation of an encyclopedic dictionary by an extensive team of authors, offering features such as rich text formatting or incorporation of multimedia resources. The system provides tools that enable control of the encyclopedic dictionary creation process, including the editing and review of chapter texts. Additionally, the software supports data export for the publication of the printed book and facilitates subsequent updates to the texts. The resulting data are disseminated to the general public through a user-friendly and open web-based system. The system's ability to reference descriptions of specific terms has led to its adoption in the presentation of study materials for linguistic disciplines. The system has consistently garnered significant traffic, with an average of over 100,000 pages visited per month and a total of more than 9 million page views by 4 million users since its inception. This high volume of engagement serves as a testament to the system's popularity and utility in various academic and research contexts within and beyond the Czech Republic, including countries such as Slovakia, Germany, China, or Poland. The system was developed at the Natural Language Processing Centre of FI MU under the direction of Aleš Horák and Adam Rambousek. The system has been awarded the MUNI Innovation Award in 2021. Gender dimension and sustainability are not relevant in this project.

Vis4School project

The "Vis4School" project [2] aims to enhance visualization literacy among secondary school students (aged 13-19) using digital learning materials. The focus of the project, also financially supported by the Weave GACR scheme (project no. GF22-06357L), is on time-oriented data visualization through educational games, videos, and comics, in comparison with classic textual descriptions. This project

²⁹ See Terms definition.

addresses the growing need for students to effectively interpret visualizations in subjects such as mathematics, physics, informatics, or geography. For this purpose, between 2022 and 2023 qualitative semi-structured interviews with 15 teachers (9 Austrian and 6 Slovak) and analysis of 54 school textbooks were conducted with the goal to get an overview about the use of data visualizations in school education, and how they are integrated into teaching practices and materials. Furthermore, we conducted two workshops with young people (one with 28 students aged 9-11 and one with 12 students aged 13-15) to explore how students construct, present, and interpret visualizations. The results of the workshops should inform further research and the design of didactic materials. The results from the interview with the teachers, analysis of the schoolbooks and workshops with young people influenced our design decision process for the development of alternative learning material approaches, such as educational games and comics. In 2024 we started the evaluation with the first learning materials approaches with focus on the task to learn to interpret data visualizations with six school classes (and one class for pre-testing). In 2025 we plan to evaluate further learning material approaches with focus on constructing data visualizations with classes. Our long-term goal is providing an overview of alternative learning methods such as educational games and comics, with their pros and cons which can be used in classrooms in addition to the traditional learning materials, such as textbooks, to make the learning process more engaging for young people. Gender dimension and sustainability are not relevant in this project.

Testing of detection tools for AI-generated text

Research was conducted within the European Network for Academic Integrity (ENAI), specifically the Technology and Academic Integrity working group. ENAI is an association of over 50 higher educational institutions (including Masaryk University) and several national quality assurance agencies from Europe and beyond. The activities, especially those leading to scientific publications, then help shape educational environments in many countries and the whole of Europe. Tomáš Foltýnek from FI MU, a co-author of the study, is president of the ENAI Board, leader of the Technology and Academic Integrity working group, and significantly contributed to the study in all its phases.

This result presents the first study on the detection tools of AI-generated text that followed a rigorous methodology in all steps – creation of the document set, conducting the experiments, and evaluation of results. An international team of nine experienced researchers from different subject areas ensured the study did not suffer from biases related to the researchers' backgrounds.

The study on the effectiveness of AI-generated text detectors was very timely, and the preprint [3] received significant attention:

- Our results were cited by the leading plagiarism detection company Turnitin [4]
- There was an article in the MIT Technology Review summarizing our results [5]
- Nature article on Fabrication and errors in the bibliographic citations generated by ChatGPT cites our results [6]

The broad impact of our results on the educational sector, which underlines the social relevance of this study, is substantiated by the following documents and other sources which cite the study:

- University of Manchester's AI Teaching Guidance [7]
- University of Oxford, Centre for Teaching and Learning [8]
- University of Massachusetts, Amherst, Center for Teaching & Learning [9]

- University of Kentucky [10]
- Oakland University, Center for Excellence in Teaching and Learning [11]
- Southern African Regional Universities Association [12]

Gender dimension and sustainability are not relevant to this project.

GaitQualityAnalyzer

GaitQualityAnalyzer [13] is a system for analyzing the quality of human gait. The system manages human subjects along with their gait style recorded in different time periods in the form of motion capture data. The main objective is to provide the functionality for searching for similar movement patterns on the level of gait cycles and assessing the quality of the retrieved patterns. This enables determining whether a subject performs better or worse after some circumstance (e.g., underwent surgery). The system provides a web-based graphical interface that allows doctors to easily follow selected gait characteristics and the progress of patients over time. The system integrates the following two crucial components, which can be easily replaced in the future if needed. First, the similarity of movement patterns is modeled using a learned LSTM recurrent neural network on selected attributes of rotation angles and moment power or using an alternative handcrafted approach that compares gait cycles based on user-defined attributes to provide a certain degree of explainability. Second, the quality of movement patterns is assessed using the sophisticated Gait Deviation Index or using an alternative handcrafted approach comparing the differences between specific rotation angles of a given subject and subjects defined by a doctor as a norm.

The entire software helps doctors better target the treatment of children suffering from cerebral palsy disease. At the Children's Hospital in Brno, doctors see the main benefits in the ability of: (1) rapidly identifying previously treated patients with the most similar gait patterns as a newly examined patient and thus comparing their treatment with the treatment planned for the new patient, (2) assessing gait quality of a given patient automatically over time to monitor the impact of applied treatments, and (3) comparing detailed differences of gait styles of selected patients based on many spatio-temporal characteristics. The system was also published in the following publication [14].

GaitQualityAnalyzer was developed in collaboration with the Children's Hospital at the University Hospital Brno within the GAMU project entitled "Improving Treatments in Cerebral-Palsy Children using Artificial Intelligence" [15] and the hospital took care of the ethical approval at their committee. The patient data were anonymized, and we were working with the skeletal models only, so it was impossible to recognize specific people in the data.

Vehicle routing solver

We have designed and implemented an advanced vehicle routing solver to address a complex real-world freight transportation problem with a wide range of operational constraints. The solver is actively used by the company Wereldo.com on a daily basis to optimize logistics and enhance efficiency. It is currently responsible for planning routes for a fleet of approximately 20 vehicles, efficiently handling around 250 transportation requests daily.

Our solution, featuring artificial intelligence methods, is built on metaheuristic algorithms, enabling scalable and adaptable route optimization that allows growth with the company's increasing

transportation demands. By leveraging algorithmic routing, the solver significantly reduces the workload on dispatcher personnel.

Beyond operational efficiency, our system contributes to sustainable logistics by generating route plans that minimize travel distances and fuel consumption, ultimately leading to lower emissions and a smaller environmental footprint. These optimizations not only align with sustainability goals but also drive cost savings for the company while enhancing its competitiveness in the market.

The initial version of our solver, developed in collaboration with Wereldo.com, is detailed in our joint publication, which can be accessed here [16].

Gender dimension and sustainability are not relevant in this project.

Personalized recommendations of learning activities in online learning environments

The algorithm, developed within the given time period by the team of Assoc. Prof. Radek Pelánek, was described in detail in a research journal publication "Personalized recommendations for learning activities in online environments: a modular rule-based approach" [17]. The research presents a general framework for building a recommendation system for learning activities and also a specific realization of the algorithm with an evaluation. The algorithm combines data from multiple sources (e.g., student activity, teacher-provided data, domain taxonomy, prerequisite relations, and content difficulty) to recommend learning activities tailored specifically to a particular student. The proposed algorithm is used in the "Umíme to" learning platform [18], which tens of thousands of students use on a daily basis. More than 1700 schools in Czechia have a paid license for this platform; the platform also has Slovak and Polish versions. The designed algorithm has been applied since 2023 and is used prominently within the platform (e.g., showing practice recommendations on the homepage). The proposed framework is a modular rule-based approach, which can be adapted to various learning settings; the research result is thus relevant also to other online learning environments (such as Khan Academy and Duolingo), which are used by millions of students.

Gender dimension and sustainability are not relevant in this project.

Improving usability of constant-timeness analysis tools for better timing attack mitigation

Timing attacks are among the most devastating side-channel attacks on cryptographic implementations, allowing attackers to remotely retrieve secret material such as cryptographic keys, sometimes even over the network. While these attacks are well-understood in theory and in principle not hard to mitigate, they still affect cryptographic libraries, despite significant tooling available to mitigate them.

Our research contributed to the awareness of the importance of mitigating timing attacks in both the cryptographic developer community and the academic community. We tried to understand the reasons for this gap by conducting a survey with 44 developers of 27 prominent open-source cryptographic libraries. Our work showed that the usability of tools for mitigating timing attacks and developer awareness of them are the main culprits for their lack of use. The participants gave positive feedback, 35 of them asked to be sent our results and 33 agreed to future contact. To follow up, we conducted a user study examining the usability of these tools with 24 graduate students from 6 universities in 4 countries.

Example of positive feedback from the real-world usage of our research outcomes is a tweet from Yolan Romailier, co-founder of Randamu, which is a leading provider of cryptographic RaaS

(Randomness as a Service) solutions [19]. Similarly, Daniel J. Bernstein, a leading cryptographer often points to the list of tools in his work [20].

The praised list of tools and methods to verify the absence of or detect constant time code issues is still actively maintained by the first author of the paper, Ján Jančár, at [21]. Furthermore, the site provides installation scripts and tutorials for a selection of these tools. Our user study has highlighted the need for both of these resources, as the tools themselves are often only research prototypes with arcane installation procedures and many lack proper documentation, which would enable ordinary developers to use them.

Gender dimension and sustainability are not relevant in this project.

KYPO Cyber Range Platform

The KYPO Cyber Range Platform (KYPO CRP) software reduces costs and accelerates the preparation and execution of cybersecurity training and exercises. KYPO CRP supports the full cycle of cybersecurity exercises and hands-on training, including preparation, execution, and evaluation. The adaptive gaming module automates the analysis of participant actions, adjusting task difficulty for personalized skill development. The software leverages interactive tools that provide trainees and instructors with quick insights into the dynamics of cybersecurity games. Player behavior is automatically monitored during training and then visualized.

The software was developed as part of the project “Research of New Technologies to Increase the Capabilities of Cybersecurity Experts – VI20202022158”, for which Masaryk University was the principal investigator. KYPO CRP won the “Disruptive Tech Innovation” category in 2021 for its open-source cybersecurity training platform, which addresses Europe’s cybersecurity skills gap (European Commission’s 2021 Innovation Radar Prize). The software has been utilized in the H2020 project CONCORDIA (830927) and the HEU project CHESS (101087529) to support advanced cybersecurity training and upskilling efforts across Europe.

The KYPO CRP supports the broader societal need for more efficient, adaptive, and scalable cybersecurity training. The software has been employed in teaching students at Masaryk University and for outreach. It is regularly used for the Czech National Cybersecurity Competition (Kybersoutěž), as well as for providing summer school training to the top participants in preparation for the European Cyber Security Challenge. Additionally, cybersecurity training exercises have been prepared for both national and international audiences – including government entities, industry, and academia.

The software is built on years of experience in cybersecurity. It benefits from a strong partnership with the Czech National Cyber and Information Security Agency (NÚKIB), enhancing both its technical rigor and real-world relevance. Moreover, the software is available as open source at [22]. It is unique, allowing other institutions and organizations to adopt and use it for hands-on cybersecurity training, further expanding its impact.

Gender dimension and sustainability are not relevant in this project.

Smart Cities methodologies

Researchers in the Laboratory of Service Systems (SeSLab) have been for a long term involved in conceptualizing materials and methodologies for Smart Cities, particularly those focusing on ICT.

Among the most significant outputs of this activity are the Smart Cities Concept for the Czech Republic and its Implementation Plan.

A notable result of this long-term activity is the creation of the RESEARCH CENTER FOR A RESILIENT, SMART, INNOVATIVE, AND SUSTAINABLE SOCIETY (CESMOD) project. Experts from SeSLab are involved in research activities that aim to create information and data support to promote the implementation of the Smart Concept at the levels of municipalities, regions, and the state. The primary function of this platform is to connect existing information sources, thus obtaining a completely new quality of information processing in this area. SeSLab collaborates on this result with other laboratories within the Faculty of Informatics at Masaryk University, specifically with the DISA, Sitola, and NLP groups. Tools of machine learning and artificial intelligence are used to manage the extensive platform, with the human factor playing a conceptual rather than a maintenance role.

The activities of SeSLab and the CESMOD project have a significant social impact, mainly due to:

- Building an innovative environment and sustainability of solutions for cities and municipalities through data-driven decisions.
- Supporting the public sector in innovations, especially through so-called innovation brokers and innovation agencies in regions.
- Increasing municipalities' and regions' quality of life and resilience, supported by specific data and metrics.
- Supporting transparency and openness of data.
- Supporting Smart Concept managers and the Ministry of Regional Development (MRD) in formulating data-driven strategic and implementation documents.

Gender dimension and sustainability are not relevant in this project.

Software solutions for nuclear research

The results achieved by the EmLab laboratory team from 2020 to now primarily consist of functional prototypes and software. The research outcomes are applied, for example, in the form of an ionizing radiation detector for mixed neutron and gamma-ray fields. One such success is the development of the SGN-02 intelligent gamma and neutron dose rate probe [23] in collaboration with the company VF Nuclear [24]. This device has already been deployed at several locations for dose rate monitoring at nuclear reactors in the Czech Republic.

As part of the development of the NGA-01 device, which was also created in cooperation with VF, several software tools have been developed for precise neutron spectrum measurements. These tools are mainly used for data processing and evaluation in experimental measurements at LR-0, LVR-15, VR-1, and AKR-02 (TU Dresden). The results obtained using this device and software serve as a foundation for benchmark measurements of effective cross-sections of various materials (e.g., Cu, Fe, etc.). These precise results contribute to the validation of simulation tools and nuclear data libraries.

The applied outcome of these tools primarily consists of newly supplied and validated data for nuclear data libraries managed by the IAEA (International Atomic Energy Agency). These libraries are essential for the simulation and design calculations of new nuclear facilities (nuclear reactors, particle accelerators, etc.). The long-term collaboration with the IAEA attests to the quality of the functional prototype designs and computational software tools.

Based on these results, our team also collaborates with MIT (Boston) on the validation of new simulation software tools using the Monte Carlo method—OpenMC. As part of this collaboration, we regularly organize an international workshop with the participation of foreign experts from Germany (TU Dresden), the USA (MIT), and Austria (IAEA).

Gender dimension and sustainability are not relevant in this project.

- [1] www.czechency-org.translate.google/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=en-US&x_tr_pto=wapp
- [2] <https://vis4schools.fhstp.ac.at/en>
- [3] <https://arxiv.org/abs/2306.15666>
- [4] <https://www.turnitin.com/blog/european-study-helps-emphasise-need-to-rethink-ai-writing-and-assessment>
- [5] <https://www.technologyreview.com/2023/07/07/1075982/ai-text-detection-tools-are-really-easy-to-fool/>
- [6] <https://www.nature.com/articles/s41598-023-41032-5>
- [7] <https://documents.manchester.ac.uk/display.aspx?DocID=70286>
- [8] <https://www.ctl.ox.ac.uk/beyond-chatgpt>
- [9] <https://www.umass.edu/ctl/how-do-i-address-suspected-student-misuse-genai-tools>
- [10] <https://advance.uky.edu/faculty-guidelines>
- [11] <https://oakland.edu/cetl/teaching-resources/teaching-tips/2024/04/Building-Generative-AI-Literacy-First-Steps-for-Faculty.php>
- [12] <https://sarua.africa/thumbs-down-for-generative-ai-text-detection-tools/>
- [13] <https://disa.fi.muni.cz/demo/gaitqualityanalyzer/>
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- [20] <https://blog.cryp.to/20240803-clang.html>
- [21] <https://crocs-muni.github.io/ct-tools/>
- [22] <https://kypo.muni.cz/>
- [23] <https://www.vfnuclear.com/en/products/86/smart-gamma-and-neutron-detector>
- [24] <https://www.vfnuclear.com/en>

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Service/prototype	2020-now	The sec-certs project: https://sec-certs.org
Analysis/workshops	2023-now	The Augmented Social Play project https://www.augmentedsocialplay.com/
Software	2023	DYSLEX platform https://pedagogika.phil.muni.cz/en/research/dyslex

³⁰ Specify the specific type of result. Add rows as needed.

Patent	2019	Method of displaying tactical data from military command and control systems and their presentation in three dimensions
Prototype software	2023-now	OnkoRadce https://app.onkoradce.cz/
Prototype/method	2022-now	Vis4Schools project https://vis4schools.fhstp.ac.at/en
Software	2020-now	KYPO Cyber Range Platform https://crp.kypo.muni.cz/
Software	2022-now	GaitQualityAnalyzer https://disa.fi.muni.cz/demo/gaitqualityanalyzer/
Software	2021-now	Vehicle routing solver
Spin-off	Since 2014, reported results in the given period	Umime to https://www.umimeto.org/
Software	Since 2017, reported results in given period	New Encyclopaedia of Czech Online https://www.czechency.org/
Study	2023	Testing of detection tools for AI-generated text
Survey	2021	What Cryptographic Library Developers Think About Timing Attacks https://crocs-muni.github.io/ct-tools/
Methodology	2023	Smart Cities methodologies
Software/prototype	2020-now	EmLab in nuclear research

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

The faculty of Informatics, Masaryk University, by large depends on the **Technology Transfer Office** (TTO) of Masaryk University, founded in 2005. TTO provides services in technology/knowledge transfer to all faculties (departments] and its key activities are methodologically and substantively centralized, ensuring the necessary personnel, methodological, and technical frameworks. The TTO unit manages the intellectual property of the university and cooperates in its identification, protection and commercial exploitation (licensing, spinoffs, application consulting, contract research) following the university rules and standards. The TTO staff, within the framework of their agendas, are involved in areas that facilitate and lead to the delivery of R&D results at the university to practical use. This includes professional competencies in the field of intellectual property protection, licensing, legal support, as well as searching for application partners and negotiating conditions for cooperation. TTO develops a functional environment for technology transfer by a diverse mix of activities. Some target the academic community, e.g., student training, workshops, round tables, and TT Day. Others are aimed at the general or professional public, especially building long-term partnerships in the field of applied research.

The typical users of results created by the faculty are:

- Employees and students of academic institutions, secondary education schools. This mostly covers the Information System (IS) for education institutions supporting their administration processes as well as teaching activities.
- Scientists and doctoral students at research organizations, R&D staff in commercial companies. This covers the use of SW prototypes as open source or public web applications, but also licensed SW.
- General public. This refers to the Online New Encyclopedia of Czech or Theses.cz.
- Professionals in IT or other fields based on specific SW framework or application. Here, we aim at developers at commercial companies (sec-certs, pedagogical-psychological counseling centers (Dyslex platform), and municipality (Smart City Methodology), in particular.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

- Journalists, investigative public. Specific cases of verifying graduation certificates, graduation theses in their contributions and quality and plagiarism (Theses.cz and satellite projects).

New uses are sought actively by direct connection (Dyslex, Umíme to, Smart City), targeted marketing campaign (IS), or passively on faculty social media channels and web pages.

Commercialization of research results is mostly left to the decision of individual researchers, however, respecting the processes institutionalized in TTO (IP protection).

Umíme.to

Being a spin-off company focusing on teaching SW used in more than 1700 schools in Czechia. Since the concept of tutoring system is unique so new users are found by “spread the word” among school principals. There are multiple language mutations (in learning content), namely Slovak, Polish and Ukrainian, new users are gathered by positive references through Slovak, Polish families. The case of Ukrainian is specific due to the war refugees.

Vehicle routing solver

Implementing AI techniques into transportation planning is new and may attract many cargo forwarding companies ranging from small ones (tens of vehicles) to global ones. Currently, this activity is done in cooperation with Wereldo.com and in the form of PoC applied at small scale (20 vehicles). The development and research activities are also supported by projects from the European Regional Development Fund and Ministry of Industry and Trade. Here, commercialization can happen in two possible ways: selling licenses and sharing income with Welredo.com or creating a joint spin-off. Finding users may be supported by the Association of Road Transport Operators – ČESMAD Bohemia.

GaitQualityAnalyzer, Dyslex

These application-oriented results are in the medical domain where its commercialization may not only depend on institutions and centers (hospitals, aftercare centers, pedagogical-psychological counseling centers) but also on legislative restrictions. For example, Dyslex technology has the potential to diagnose dyslexia early and inexpensively using regular smart devices at home. If this were the case, mobile platform stores would be used as distribution channels and recommended by staff in hospitals and specialized centers.

Table 3.5.1 lists **funds received from non-public and non-grant sources** and cover **cooperation with industrial partners** (RedHat, Association of Industrial Partners) which were in turn used to support doctoral studies or student research projects within faculty labs and research teams. Income from Information systems for education (Theses, Odevzdej, IS) forms the majority of the funds, but it should not be marginalized from the impact of such systems on population of university students – it passively motivates students not to plagiarize (Theses, Odevzdej). These funds are reinvested in further development of the systems and also in testing new features internally to optimize administrative processes related to teaching. The profit from Education in cybersecurity (training professionals in reacting to security incidents and analyzing the roots and setting counter measures) is used to innovate the exercises to keep the high standards and upgrade HW and SW simulators.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Vzdělávání v oblasti kyberbezpečnosti (Education in cybersecurity)	1.713,8 CZK / 67,6 €	424,7 CZK / 16,7 €	3.114,5 CZK / 122,9 €	1.930 CZK / 76,1 €	4.378 CZK / 172,7 €
Red Hat - podpora doktorského studia a rozvoje odborných znalostí a praktických dovedností vybraných studentů doktorského studia (support of doctoral studies and development of professional knowledge and practical skills of selected doctoral students)	450 CZK / 17,7 €	300 CZK / 11,8 €	720 CZK / 28,4 €	600 CZK / 23,7 €	700 CZK / 27,6 €
Pořádání vědeckých konferencí (GUARANT-IELMIE, TSD, atd.) (Organization of scientific conferences (EATCS, TSD, SPW, EuroVis, etc.))	1.325 CZK / 52,3 €	359,3 CZK / 14,2 €	-	514,9 CZK / 20,3 €	81,1 CZK / 3,2 €
Sdružení průmyslových partnerů (Association of Industrial Partners)	6.400 CZK / 252,5 €	6.167,8 CZK / 243,3 €	6.031,7 CZK / 237,9 €	4.815 CZK / 189,9 €	5.953,6 CZK / 234,9 €
Information System (IS), Theses.cz, Odevzdej.cz	9.561,3 CZK / 377,2 €	9.018,5 CZK / 355,8 €	9.796,7 CZK / 386,5 €	12.153,8 CZK / 479,4 €	14.535,4 CZK / 573,4 €
Total	19.450,1 CZK / 767,3 €	16.270,3 CZK / 641,8 €	19.662,9 CZK / 775,7 €	20.013,7 CZK / 789,4 €	25.648,1 CZK / 1011,8 €

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

The Faculty of Informatics at Masaryk University has long been committed to the **popularization of research, development, and innovation (R&D&I)**, systematically working to raise awareness of informatics and related disciplines. Popularization activities are an integral part of the faculty's strategy, facilitating effective **communication** between the academic community, students, prospective applicants, and the general public. Through these initiatives, the faculty not only presents the results of its research but also **inspires young talents** to pursue further studies and engage with the scientific community.

The significance of these activities lies in several **key aspects**. The faculty considers it essential to enhance public understanding of the role of informatics in modern society, demonstrate practical applications of research, and make informatics accessible to non-experts. Through lectures, workshops, competitions, festivals, and other outreach activities, the faculty fosters discussions on

scientific topics, highlights current technological trends, and engages a broad spectrum of participants—from high school students and their teachers to industry professionals. Maintaining active engagement with students and the academic community is one of the faculty's primary goals. These efforts not only cultivate interest in the latest developments in informatics but also strengthen the connection between research, education, and industry. Popularization activities serve as a bridge between research laboratories and the public, demonstrating that informatics is not just an abstract theoretical discipline but a dynamic field with direct impact on everyday life.

The Faculty of Informatics organizes a wide range of **outreach events** targeting different audiences. It offers specialized courses for high school students, such as Embedded Systems and Python, to encourage interest in technical disciplines. It actively participates in national science communication events such as the Researcher's Night, where interactive demonstrations introduce visitors to current research topics. The faculty also hosts its own competitions and initiatives, such as InterLos and the Correspondence Seminar in Informatics, which challenge students to develop logical reasoning and programming skills. The faculty further connects informatics with other disciplines through events such as the Prototype Festival, where students showcase artistic and technological projects, and the Film Festival, which provides a creative platform for exploring technology-related themes. Significant attention is also given to artificial intelligence and education, as demonstrated by the AI 4 Talents initiative, where high school students and their teachers gain insights into real-world AI applications. Through these and other activities, the faculty continuously fosters interest in informatics, builds bridges between science and practice, and contributes to an open and informed society. The following section presents ten of the faculty's most significant science communication activities from 2019 to 2023.

2019-2023 Researchers' Night

The Faculty of Informatics actively participates in the annual Researchers' Night [1], an event dedicated to popularizing science and making research accessible to the public. Each year, our laboratories, along with researchers and students, prepare engaging activities tailored to the event's central theme. Visitors can experience interactive demonstrations, engaging workshops, and insightful presentations that showcase cutting-edge research in informatics. The faculty's contributions include hands-on experiments, AI-powered applications, cybersecurity insights, and programming challenges, designed to inspire curiosity among participants of all ages. The event provides a unique opportunity for the public to step inside research labs and witness firsthand how informatics shapes our daily lives. Faculty members and students are actively involved, offering expert explanations and guiding participants through various experiments. The event is coordinated by the Department of External Relations, ensuring a diverse and dynamic program every year. By opening its doors to the community, the faculty aims to bridge the gap between academia and the general public, encouraging future generations to explore the world of computer science.

2019, 2021, 2022 Prototype Festival

Prototype Festival [2] is a unique event that merges art, science, and technology, providing a platform for students and researchers to showcase their innovative projects. Students from the AGD+M laboratory, led by Associate Professor Helena Lukášová, present their work, combining artistic expression with technological advancements. The festival attracts a diverse audience, including academics, industry professionals, and the general public, offering a glimpse into the intersection of

creativity and cutting-edge technology. Participants explore interactive installations, experimental media, and digital art that challenge traditional boundaries. The event includes exhibitions, performances, and workshops where visitors can engage with creators and gain insights into the creative process. Festival Prototype fosters interdisciplinary collaboration, encouraging students to push the limits of technology-driven art. By participating, students not only showcase their work but also gain valuable experience in presenting their ideas to a broader audience.

2019-2023 Embedded Systems course for high school students

Twice a year, the Faculty of Informatics hosts an Embedded Systems course [3] designed to introduce high school students to the world of microcontrollers and embedded programming. Under the guidance of Associate Professor Zdeněk Matěj, participants gain hands-on experience with microcontrollers and their peripherals, learning to program them using the C language. The course, organized by the EmLab laboratory, provides students with a solid foundation in embedded programming, allowing them to develop their own small-scale projects. Thanks to support from the Ministry of Education, Youth, and Sports, the program is completely free for students, making it accessible to those interested in expanding their programming skills. Each session includes theoretical lessons, practical exercises, and individual projects that enable students to apply their newly acquired knowledge in real-world scenarios. The course fosters creativity and problem-solving, equipping students with skills highly valued in the field of computer engineering. The interactive nature of the course encourages collaboration and independent thinking, making it a valuable learning experience for aspiring programmers.

2019-2023 Correspondence Seminar in Informatics

The Correspondence Seminar in Informatics (KSI) is a year-long competition designed to challenge and engage high school students with a passion for computer science. Organized by students of the Faculty of Informatics, the competition consists of problem-solving tasks that test participants' logical thinking, algorithmic skills, and programming abilities. Throughout the year, students tackle various challenges remotely, receiving feedback and guidance to help them improve. The best-performing students are invited to a week-long final workshop, where they collaborate with peers, attend lectures from experts, and work on advanced programming problems. Additionally, the seminar hosts two one-day competitions that allow students to test their skills in a timed environment. The competition serves as an excellent stepping stone for students interested in pursuing studies in informatics, providing them with a solid foundation in problem-solving and algorithmic thinking. By engaging in this program, students not only enhance their technical abilities but also become part of a community of like-minded individuals who share a passion for computing.

2019-2023 InterLos

InterLos [4] is an intense five-hour online logic and programming competition open to teams from high schools, universities, and the general public. Participants tackle challenging problems that test their analytical thinking, creativity, and teamwork. The competition features tasks ranging from cryptographic puzzles and mathematical riddles to advanced programming challenges. Teams must strategically allocate time and resources, solving as many problems as possible within the given timeframe. InterLos is organized by students from the Society of Friends of Nordic Wildlife, ensuring a dynamic and engaging experience. The event attracts a wide range of participants, from casual

puzzle enthusiasts to experienced programmers, creating a vibrant and competitive atmosphere. The online format allows teams to join from anywhere, making it accessible to a global audience. With a strong emphasis on problem-solving and collaboration, InterLos provides a unique opportunity for participants to develop their logical reasoning skills while having fun.

2019-2023 Film Festival FI MU

The Faculty of Informatics hosts an annual film festival [5] that showcases short films created by students from high schools and universities across the Czech Republic and Slovakia. The festival features two main award categories: the Audience Award and the Jury Award, ensuring a diverse selection of winning films. What makes this festival unique is that it is almost entirely student-organized as part of the PV174 course (previously PV113). Students take on various roles, from managing PR and technical logistics to designing visuals, producing trailers, and maintaining the festival's website. Additionally, filmmaking courses (PV113 and PV110) allow students to create their own films, guiding them through the entire production process—from concept development and scriptwriting to filming, editing, and post-production. The festival takes place at multiple locations in Brno, with screenings divided into three blocks: two competitive screenings and a bonus screening. Audience members actively participate by voting for their favorite films, with the results announced in an exciting closing ceremony. The festival is a celebration of student creativity, collaboration, and storytelling, providing a platform for aspiring filmmakers to share their work with a broader audience.

2020-2023 Python Course for high school students

The Python Course for high school students [3] is an annual educational program designed to introduce young learners to the world of programming in an accessible and engaging way. Organized by students of the Faculty of Informatics, the course provides participants with hands-on experience in Python, covering fundamental concepts such as variables, loops, and functions. Students are encouraged to apply their knowledge through practical exercises, culminating in the development of their own games and interactive applications. Initially held as an in-person course at the faculty, the program transitioned to an online format, allowing for broader participation. The course is completely free, making it accessible to all students interested in coding. The interactive nature of the lessons ensures that participants not only learn to code but also develop problem-solving skills and logical thinking. By the end of the course, students gain the confidence to tackle more advanced programming challenges. The course serves as an excellent starting point for those considering a future in computer science, offering them a strong foundation in one of the most widely used programming languages in the world.

2022/2023 Mjuni

Mjuni [6], the junior university of Masaryk University, provides children and teenagers aged 9 to 18 with the opportunity to experience what it's like to be a university student. The program introduces young learners to the academic environment, allowing them to explore different scientific disciplines through engaging lectures, hands-on workshops, and guided research activities. Participants have access to cutting-edge research facilities and interact with prominent scientists and university students. The program spans multiple faculties and specialized research centers, offering Saturday morning classes and research excursions. Each session is designed to spark curiosity and deepen

knowledge in natural sciences, technology, and humanities. Upon completing the program, participants receive a diploma signed by the university's rector, symbolizing their academic achievement. The Faculty of Informatics contributes to Mjuni by providing workshops and presentations that introduce young learners to key topics in computer science, such as programming, artificial intelligence, and cybersecurity. The program fosters a love for learning and encourages students to pursue further education in STEM fields. By immersing students in a real academic setting, Mjuni inspires the next generation of researchers, engineers, and scientists.

2022, 2023 AI 4 Talents

AI 4 Talents [7] is a one-day event designed for high school students and their teachers, offering an in-depth introduction to artificial intelligence and its real-world applications. Organized by the Faculty of Informatics in collaboration with the Faculty of Information Technology at Brno University of Technology and Brno.AI, the event is part of the broader "Dny AI" (AI Days) initiative. The program, held at VIDA! Science Center, includes expert lectures, interactive quizzes, panel discussions, and hands-on workshops led by AI researchers and industry professionals. Topics covered range from neural networks and image recognition to ethical considerations and AI's impact on society. A highlight of the event is the social robot Pepper, which engages participants in discussions about human-robot interaction. Additionally, students and teachers have the opportunity to meet representatives from leading technology companies and research institutions, gaining insights into the latest AI developments. The event provides a unique opportunity for young talents to explore AI through real-world examples and practical applications. By fostering interest in AI and digital technologies, AI 4 Talents helps prepare the next generation of innovators and researchers in artificial intelligence.

2023 CTU Open

In 2023, the Faculty of Informatics hosted a regional round of the prestigious ACM ICPC programming competition [8], bringing together top student programmers from across the Czech Republic and Slovakia. The contest was held for three-member teams, each of which had access to only one computer and had to solve as many algorithmic problems as possible within a limited time. Participants could program in C, C++, Java, or Python, tackling tasks ranging from logical puzzles to complex mathematical computations. The best-performing teams from the Faculty of Informatics had the opportunity to advance to the Central European Regional Contest (CERC), which took place in December 2023 in Ljubljana, Slovenia. CTU Open remains an excellent opportunity for students to refine their programming skills, experience teamwork under pressure, and compete against the best young programmers in the region. Beyond the competition itself, students gain valuable exposure to problem-solving techniques and have the chance to network with experts from academia and industry, paving the way for future professional opportunities.

[1] https://www.fi.muni.cz/app/news?feed_id=title&archive=1&id=3182&lang=en

[2] <https://www.prototypbrno.cz/en/archiv/>

[3] <https://www.fi.muni.cz/cooperation/secondary-school-activities/index.html.en>

[4] <https://interlos-fi-muni-cz.translate.goog/? x tr sl=cs& x tr tl=en& x tr hl=en-US& x tr pto=wapp>

[5] <https://festival.fi.muni.cz/en/archive/>

- [6] https://mjuni-cz.translate.google/? x tr sl=cs& x tr tl=en& Xtr hl=en-US& x tr_pto=wapp
 [7] https://www-em-muni-cz.translate.google/udalosti/15716-akce-ai-4-talents-prilakala-nekolik-desitek-uchazecu? x tr sl=cs& x tr tl=en& x tr hl=en-US& x tr_pto=wapp
 [8] https://www.fi.muni.cz/app/news?feed_id=1&archive=1&id=3191&lang=en

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

The evaluation of our faculty in the previous evaluation period was very positive. Among the aspects discussed in the final report was the **revenue from the contract research**, where we are following a similar trend and the income from this source is still increasing. We highly perceive the growing interest in **company-oriented research and studies**, which we are trying to reflect in the study programs (newly established Software Engineering Master study program) and also on the Ph.D. level where our students are conducting research in close collaboration with a company (an exemplary field in this is cybersecurity). Our researchers are also more and more participating in the TACR (Technology Agency of Czech Republic) applied research projects that require active collaboration with companies. However, we perceive that the highly dynamic evolution of the industry and its needs have to be reflected also in the possible modes of collaboration with the industrial partners via the Association of Industrial Partners. Therefore, one of our goals for the upcoming period is to revise these options and **broaden the collaboration with industry**.

One aspect that was highlighted in the report was the **limited visibility in the international research community**. We believe that in this regard, our researchers are well integrated in the relevant international research communities. They are involved in many editorial roles, are evaluating proposals for international funding agencies, are regularly invited to give talks at conferences and foreign institutions and are inviting experts for a research stay at our faculty. In the tables, we had a chance to list only a small subset of our outcomes in these activities. We hope that the committee will positively evaluate these efforts.

The report contained a note about potential **capitalization of commercial success** in cybersecurity and NLP in public outreach activities. In this direction, we just obtained funding from Google.org company that aims to educate and train students from MU in cybersecurity training for different target groups. These students will transfer these into practice by training selected communities around them (e.g., seniors, various communities). This effort opens completely new possibilities for social impact and building relationships with new potential collaborators.

Similarly, the report commented on limitations in our **publication culture** and suggested awarding high-impact journal and conference publications over others. Although to a certain extent, this was already partially implemented in the previous period, we further strengthened the importance of such publications. The quality of publication venues is mirrored in the yearly departmental evaluation of academics that judges their research performance. Here the researchers are strongly encouraged to publish at top venues by gaining higher scores that to a certain extent also influence the salary for the upcoming year. Also, the doctoral students are

motivated to publish at top venues by getting an extra scholarship for that. In 2023, we further strengthened this motivation by significantly increasing this scholarship. One of the immediate steps that we will conduct is the revision of the evaluation criteria to reflect the dynamic changes of our research field. This is also one of the items we defined in the so-called “Contract – Strategy for research and doctoral studies” between the faculty and the rector of MU, where the faculty representatives agreed on several actions that will be completed by 2027.

The report also commented on the **organizational structure** at our faculty, namely regarding the flexibility in forming and disbanding research groups. We agree that this concept works very well but where we currently see space for improvement is better communication between these groups to identify topics for possible collaboration. Therefore, we are now introducing **regular presentations of research groups** at the Informatics Colloquium series, which is traditionally attended by academics and Ph.D. students. Thus, we believe that it is an ideal platform to communicate the research of individual groups to colleagues and hopefully spark future collaborations.

The report also mentioned an unclear **relationship between our faculty and ICS**, as it was not clear why these two institutions are separated. The situation in the past was mostly for historical reasons and we completely understand the misunderstanding and unclear distinction between them. Therefore, since 2023, when the new dean of the faculty was elected, they started with his team of vice-deans to work on a memorandum of collaboration between the faculty and ICS. The distinction between these two institutions should be now much clearer, as the primary goal of ICS in the past years is to act as a service provider for other faculties and university institutions. However, as the experience and knowledge of ICS members is crucial mostly in applied research conducted at the faculty, the memorandum is clearly setting the rules for such collaboration mode. We believe that in this way, we will set up a healthy relationship and environment that encourages our future collaboration.

Another aspect mentioned in the report was the missing **strategy for outreach of the faculty to other academic units across campus**. In this regard, we still have plenty of space for improvement. Our researchers regularly collaborate with researchers at other faculties within funded projects and long-term connections are there. However, we are still missing a strategy to find new possible collaborations and it is one of the plans of the new faculty leadership to establish that. We hope that significant personal strengthening of our outreach department in 2023 will help us to reach this goal as well. However, there is already one success that we can mention here: the newly established Bioinformatics bachelor study program, which came from the interdisciplinary collaboration with the Faculty of Science.

The final topic commented on in the report was the **graduation rate and time of our Ph.D. students**. This is a big topic that resonates across the whole university and in our strategic plan, we are seriously considering that. Our immediate steps are to better listen to the needs of our students and more intense communication between the supervisors and the doctoral board and faculty leaders. However, this problem requires deeper analysis and subsequent development of a strategy to mitigate this issue, and we will be intensely working on that in the next period.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
Faculty webpage	3.1	https://www.fi.muni.cz/index.html.en
Association of Industrial Partners	3.1	https://www.fi.muni.cz/for-partners/index.html.en
Studio of Graphics Design and Multimedia	3.1	https://agdm.fi.muni.cz/en
Czechitas	3.1	https://www.czechitas.cz/en
EG VCBM workshop	3.2	https://conferences.eg.org/vcbm2019/
ELMI conference	3.2	https://www.elmi2019.eu/
Bio+Med+Vis Spring School	3.2	https://biomedvis.github.io/2021/
AMBIA school	3.2	https://ambia.fi.muni.cz/2020/
CESCG student conference	3.2	https://cescg.org/
Informatics Colloquium FI MU	3.2	https://www.fi.muni.cz/research/colloquium/index.html.en
C4e project details	3.3	https://cerit.fi.muni.cz/en/c4e-research
Software for New Encyclopaedic Dictionary of the Czech Language (via Google Translate)	3.4	New encyclopedic dictionary of Czech
Vis4School project	3.4	https://vis4schools.fhstp.ac.at/en
AI generated text preprint	3.4	https://arxiv.org/abs/2306.15666
Turnitin company assessment	3.4	https://www.turnitin.com/blog/european-study-helps-emphasise-need-to-rethink-ai-writing-and-assessment
MIT Technology review	3.4	https://www.technologyreview.com/2023/07/07/1075982/ai-text-detection-tools-are-really-easy-to-fool/

Nature supporting article	3.4	https://www.nature.com/articles/s41598-023-41032-5
University of Manchester's AI Teaching Guidance	3.4	https://documents.manchester.ac.uk/display.aspx?DocID=70286
University of Oxford supporting study	3.4	https://wwwctl.ox.ac.uk/beyond-chatgpt
University of Massachusetts supporting study	3.4	https://www.umass.edu/ctl/how-do-i-address-suspected-student-misuse-genai-tools
University of Kentucky supporting study	3.4	https://advance.uky.edu/faculty-guidelines
Oakland University supporting study	3.4	https://oakland.edu/cetl/teaching-resources/teaching-tips/2024/04/Building-Generative-AI-Literacy-First-Steps-for-Faculty.php
Southern African Regional Universities Association supporting study	3.4	https://sarua.africa/thumbs-down-for-generative-ai-text-detection-tools/
GaitQualityAnalyzer	3.4	https://disa.fi.muni.cz/demo/gaitqualityanalyzer/
GaitQualityAnalyzer publication	3.4	https://www.muni.cz/en/research/publications/2237998
GAMU project	3.4	https://www.muni.cz/en/research/projects/54467
Vehicle routing solver publication	3.4	https://link.springer.com/chapter/10.1007/978-3-031-30035-6_3
"Personalized recommendations for learning activities in online environments: a modular rule-based approach" publication	3.4	https://link.springer.com/article/10.1007/s11257-024-09396-z
"Umime to" webpage (via Google Translate)	3.4	We can do it - Online practice of school curriculum

Project usage evidence	3.4	https://x.com/AnomalRoil/status/1514145149772869636
ct-tools webpage	3.4	https://crocs-muni.github.io/ct-tools/
Supporting document	3.4	https://blog.cr.yp.to/20240803-clang.html
KYPO platform	3.4	https://kypo.muni.cz/
Supporting document	3.4	https://www.vfnuclear.com/en/products/86/smart-gamma-and-neutron-detector
VF Nuclear company	3.4	https://www.vfnuclear.com/en
Researchers' Night	3.6	https://www.fi.muni.cz/app/news?feed_id=title&archive=1&id=3182&lang=en
Prototype Festival	3.6	https://www.prototypbrno.cz/en/archiv_
Courses for high-school students	3.6	https://www.fi.muni.cz/cooperation/secondary-school-activities/index.html.en
Interlos (via Google Translate)	3.6	INTERNET LOGIC COMPETITION InterLoS
Film festival	3.6	https://festival.fi.muni.cz/en/archive/
Mjuni (via Google Translate)	3.6	MjUNI.cz
AI 4 Talents (via Google Translate)	3.6	The AI 4 Talents event attracted hundreds of applicants Events em.muni.cz
CTU Open	3.6	https://www.fi.muni.cz/app/news?feed_id=1&archive=1&id=3191&lang=en

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Social Studies

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment:

The Faculty of Social Studies of Masaryk University (FSS) develops areas of excellence that enable it to be an important Czech and Central European centre of social science research and education that, at the same time, actively formulates social goals and enters the public debate. The basic objectives of the FSS are to consolidate this excellence and set out on the path to achieving the level of a solid European respected workplace. The FSS consists of **seven departments** (i.e., Department of Environmental Studies, Department of International Relations and European Studies, Department of Media Studies and Journalism, Department of Political Science, Department of Psychology, Department of Social Policy and Social Work, and Department of Sociology) and **three research institutes** (i.e., Interdisciplinary Research Team on Internet and Society, International Institute of Political Science, and Psychology Research Institute).

The FSS strives to be an educational institution that attracts motivated and talented applicants, uses innovative teaching methods in the education process, supports gifted students, and actively prevents academic failure at all levels of study. It is adapted to students with specific requirements and students are encouraged to use the services of the MUNI's Support Centre for Student with Special Needs (Teiresiás). The FSS offers a challenging and high-quality education characterised by an emphasis on interdisciplinarity, sustainability, and social responsibility. **The FSS strives for a high degree of internationalization**, both in teaching and research. It offers a wide range of English-taught degree programmes from undergraduate to doctoral level across social science disciplines. Students in all programmes can choose from a wide range of English language courses. The FSS thus aims to be an attractive educational institution for applicants from partner universities as well. Moreover, **the studies have a strong practice-oriented component** realized through the collaboration with experts from practice and through internships. This ensures that the education follows latest trends and that the FSS's graduates can easily apply their knowledge and skills in practice.

The FSS is committed to conducting impactful research on pressing societal and technological issues, fostering internationally recognized scholarship and promoting international cooperation, advancing interdisciplinary research, and discovering practicable solutions to current society's problems. It is active and successful in grant competitions, including excellent and competitive grant schemes. An integral part of this vision is also intensive training of early career researchers in doctoral and postdoc positions, who are fully involved in grant and research activities at the FSS. The FSS also has its own research and project support office that assists researchers in grant preparation and management.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

The FSS conducts research in many social science disciplines. The main areas of research, reflected also by the existence of the FSS's three specialised research institutes, include research in political science, international relations and security, research in psychology, and interdisciplinary research in the field of the Internet and society. In addition, the FSS conducts research in the areas of sociology, social policy and social work, media and journalism, sociology, and environmental issues. Current FSS's research topics include, for instance, behavioural addiction, aging population, impacts of the use of information and communication technologies, security in the Middle and Eastern Europe, climate crisis, and others. In the future, the FSS intends to pursue interdisciplinary research on topical issues even more than today.

The FSS is a socially active institution that enters important societal and regional debates in the areas of its expertise. It seeks to improve the quality of public dialogue, promotes active and responsible citizenship, and cultivates the public space. The FSS's contribution to the society manifests itself in the cooperation with European and Czech institutions, schools, the non-profit sector, and professional organisations in the areas of education, cyber security, energy security, social policy, and the environment. Research findings produced at the FSS not only have an international impact but also help to address current societal issues. Apart from basic research, the FSS has also several flagship applied-research projects that have impacted the field substantially (see sections 3.4 and 3.5). Furthermore, the FSS benefits the society through expert analyses, research reports, and certified methodologies. It also publishes several professional journals, including Cyberpsychology: Journal of Psychosocial Research on Cyberspace; Czech Journal of Political Science [Politologický časopis]; Social Studies [Sociální studia]; Psychotherapy [Psychoterapie]; and Testforum [Testforum].

In terms of full-time equivalents, the FSS has employed 18 full professors, 41 associate professors, 70 assistant professors, 5 assistants, 35 researchers in other categories, and 77 persons in the technical and economic staff in 2023. Staff numbers have been stable in most staff categories over time. There has been a steadily growing number of researchers participating in teaching activities, which ensures the integration of the latest research findings into teaching and supports a close interconnection between research and teaching. As research in social sciences seldom requires special equipment or facilities, the R&D Personnel category is empty in the case of the FSS. **The staff's age structure is adequate and well-spread across the continuum, ensuring continuous development of the FSS.** There had been a positive trend in changes in the composition of the workforce between 2019 and 2023, which shows a substantial increase in the number of employees under 29 years of age. This shift indicates an increasing involvement of younger staff in research, which is a prerequisite for a sustainable research program. **Another positive aspect is the increase in the proportion of women in almost all categories, suggesting a positive trend towards gender equality.** This development is key not only to ensure equal representation but also to promote diversity and inclusion, which can contribute to a more balanced work environment.

The FSS has offered 13 undergraduate, 13 Master's, and 15 doctoral programmes (five doctoral programmes are English counterparts of the Czech ones), as well as three lifelong learning courses. The number of programmes has remained stable during the reporting period. About half of them are professional study programmes. During the reporting period, 7,562 students studied at the FSS, including 4,144 undergraduate; 3,040 Master's; and 366 doctoral students.

 Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	15.8 / 0.5	16.3 / 0	15.5 / 0	15.3 / 0	18.4 / 1.0	18 / 1.5
Associate Professor	36.5 / 10.2	37.7 / 11.0	40.5 / 12.6	42.9 / 14.0	40.7 / 15.5	41 / 15.6
Assistant Professor	71.3 / 30.0	69.6 / 28.5	68.4 / 29.3	69.9 / 33.0	70.3 / 31.7	69.4 / 31
Assistant	1 / 0	1 / 0	3.3 / 1.0	3.5 / 2.1	4.7 / 2.8	4.7 / 2.8

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

R&D Personnel ³	0	0	0	0	0	0 / 0
Researchers in other categories ⁴	22.3 / 7.9	27.7 / 9.3	27.4 / 12.9	31.3 / 16.9	34.9 / 21.7	35.5 / 22
Technical and economic staff ⁵	71.5 / 53.8	74.8 / 57.2	74.8 / 57.2	75.5 / 58.0	77.3 / 59.3	77.4 / 59.5
Scientific, research and development staff involved in teaching activities	133.7 / 44.9	133.6 / 44.4	140.4 / 48.5	146.8 / 56.7	148.3 / 56.6	147.4 / 56.6
Early career researchers ⁶	4.0 / 3.0	5.0 / 4.0	4.3 / 3.0	5.2 / 4.2	3.1 / 3.1	3.1 / 3.1
Total ⁷	355.9 / 150.1	365.6 / 154.3	374.4 / 164.4	390.3 / 184.7	397.5 / 191.5	

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	7	0	4	0	6	0	1	1
Associate Professor	0	0	9	1	23	7	7	3	1	0	0	0
Assistant Professor	0	0	43	24	30	11	8	1	0	0	1	0
Assistant	0	0	1	0	0	0	0	0	0	0	0	0
R&D Personnel ⁹	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁰	11	4	23	10	3	1	0	0	1	0	0	0
Technical and economic staff ¹¹	6	2	30	24	27	20	11	10	5	3	1	0

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

Scientific, research and development staff involved in teaching activities	1	1	59	28	67	20	19	4	5	0	3	1
Early career researcher ¹²	0	0	3	2	0	0	1	1	0	0	0	0
Total ¹³	18	7	168	89	157	59	50	19	18	3	6	2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	8	0	5	0	8	1	0	0
Associate Professor	0	0	10	3	19	8	16	6	0	0	0	0
Assistant Professor	0	0	32	20	36	14	8	1	2	1	1	1
Assistant	4	2	3	2	0	0	0	0	0	0	0	0
R&D Personnel ¹⁵	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁶	31	23	28	12	5	1	1	0	0	0	1	0
Technical and economic staff ¹⁷	14	9	21	15	33	25	9	8	5	5	0	0
Scientific, research and development staff involved in teaching activities	4	2	50	29	72	25	31	8	12	2	1	1
Early career researcher ¹⁸	1	1	2	2	1	1	0	0	0	0	0	0
Total ¹⁹	54	37	146	83	174	74	70	23	27	9	3	2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	1,609	997	1,630	1,029	1,776	1,114	1,861	1,187	1,976	1,234	4,144	2,508
Master's ²⁰	1,008	714	1,108	779	1,190	858	1,135	802	1,160	807	3,040	2,150
Doctoral	202	109	195	94	187	97	167	95	159	91	366	205
Lifelong Learning Courses	4	3	6	4	4	3	1	0	1	0	12	10
Total	2,823	1,823	2,939	1,906	3,157	2,072	3,164	2,084	3,296	2,132	7,562	4,873

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes.											
	2019		2020		2021		2022		2023		Total	
Undergraduate	13/1	0/0	13/1	0/0	11/1	0/0	11/3	0/0	11/3	0/0	13/3	0/0
Master's	13/8	0/0	13/8	0/0	13/8	0/0	13/8	0/0	13/8	0/0	13/8	0/0
Doctoral	13/6	0/0	15/10	0/0	15/9	0/0	15/9	0/0	15/9	0/0	15/10	0/0
Lifelong Learning courses	2/0	0/0	2/0	0/0	2/0	0/0	1/0	0/0	1/0	0/0	3/0	0/0
Total	41/15	0/0	43/19	0/0	41/18	0/0	40/20	0/0	40/20	0/0	44/21	0/0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	1,1
	1.2 Computer and information sciences	0,6	Balanced basic and applied research	
	1.3 Physical sciences		Zvolte položku.	

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	1.4 Chemical sciences		Zvolte položku.	
	1.5 Earth and related environmental sciences	0,5	Balanced basic and applied research	
	1.6 Biological sciences		Zvolte položku.	
	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering		Zvolte položku.	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	0,2	Basic Research	1,2
	3.2 Clinical medicine	0,5	Basic Research	
	3.3 Health sciences	0,5	Basic Research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	17	Basic Research	95,8
	5.2 Economics and Business	2,8	Basic Research	
	5.3 Education	2,4	Basic Research	
	5.4 Sociology	21	Basic Research	
	5.5 Law	1,8	Basic Research	
	5.6 Political science	31,8	Basic Research	
	5.7 Social and economic geography	4	Basic Research	
	5.8 Media and communications	10,5	Basic Research	
	5.9 Other social sciences	4,5	Basic Research	
6. Humanities and the Arts	6.1 History and Archaeology	1	Basic Research	1,9
	6.2 Languages and Literature	0,1	Basic Research	
	6.3 Philosophy, Ethics and Religion	0,6	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)	0,2	Basic Research	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

The FSS is actively taking its place within the international research community and is well established and recognized within this community. **The academic staff is vigorously participating in professional association**, both nationally and internationally. They are actively taking place in international workshops and are **often invited for guest lectures** at foreign universities and research institutions in European and other countries. These engagements contribute to strengthening the FSS' academic presence and allow its researchers to exchange knowledge, methodologies, and best practices with leading experts in their respective fields. The recognition of the FSS enables them to actively collaborate with their international colleagues on publications and international research projects.

In the context of involvement in the international community, the FSS has multiple memberships in international societies, which enables its researchers to participate in international events and workshops and allows them to network with other international researchers. This further allows them to participate in excellent international research.

The academic staff of the FSS is recognized for their expertise and excellence in contributing not only to the research community but also to society at large. This effort **was acknowledged through numerous awards**, which further underscore the importance and quality of the research done by the FSS' researchers (see table 3.2.1). Two awards were international (provided by American Psychological Association and University of Alaska-Anchorage), the remaining awards were national, yet some of them can be considered excellent (e.g., winning the competition of the Technology Agency of the Czech Republic).

Furthermore, thanks to the high quality and excellence of the FSS' researchers and their networks, the academic staff serves the research community by actively **participating in the editorial boards** of 29 scientific international journals, which further enhances the international recognition of the FSS' researchers and the FSS itself. Their involvement in editorial boards extends beyond reviewing and editing manuscripts; it also positions them as key figures in shaping the direction of research within their disciplines. In table 3.2.2, we present only those editorial board memberships that belong to the leading journals in the respective fields. These editorial board memberships indicate the recognition of the FSS' staff as world-class experts.

The FSS' researchers are highly recognized within the research community, which enables them to collaborate with foreign universities and research organizations and institutions worldwide. This recognition makes them **sought-after speakers at foreign institutions**. During the reporting period, they gave **45 invited lectures** at foreign institutions. Examples provided in table 3.2.3 represent those delivered at the universities that received ranking among the top 500 (more than half ranked in the top 200) according to the World University Rankings 2024.

The FSS is actively taking its role in **inviting prestigious and excellent scientists from international research community**, which further enables and highlights the international recognition of the FSS. This strengthens the cooperation between the FSS's researchers and renowned international scholars, creating further opportunities for collaboration. In turn, these partnerships further enhance the recognition of the FSS within the global research community. The invited lecturers are usually excellent and prestigious researchers, who are concerned with the main FSS's research topics and usually present about current societal and political issues. Examples provided in table 3.2.4 were selected from a list of 29 of such lectures by foreign scientists. We selected those delivered by experts from the universities ranked among the top 400 universities according to the World University Rankings 2024.

The FSS' academic staff members are actively participating in research evaluation and are regularly **included in the evaluation of both national and European projects**, which enables not only higher international recognition of themselves,

but of the FSS as well. As demonstrated in table 3.2.5, six members participated in evaluating Horizon Europe grants, others took part in evaluating national grants in foreign grant agencies and Czech grant agencies, such as the Czech Science Foundation.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
Doc. Mgr. et Mgr. Hana Macháčková, Ph.D.	Award for Distinguished Early Career Professional Contributions in Media Psychology & Technology, 2022	American Psychological Association Division 46 (Society for Media Psychology & Technology)
Doc. Miriam Matejova, Ph.D.	E. Tower Endowment for Canadian Studies (2020)	University of Alaska-Anchorage
Doc. PhDr. Šárka Portešová, Ph.D.	Absolute winner of the 2023 Technology Agency of the Czech Republic Awards	Technology Agency of the Czech Republic
Prof. RNDr. Hana Librová, CSc.	Řád Tomáše Garrigua Masaryka 2. třídy [The Order of Tomáš Garrigue Masaryk, 2nd Class]	The President of the Czech Republic
Doc. Mgr. Bohuslav Binka, Ph.D. Doc. PhDr. Jan Činčera, Ph.D.	Special award for support of the congress industry 2020-2021	Prague Convention Ambassador Program
Prof. JUDr. PhDr. Miroslav Mareš, Ph.D.	Memorial Badge of the Military Intelligence for the essential contribution to the education of the MI-(VZ)staff	Military Intelligence, Czech Republic
Doc. Mgr. Pavel Pospěch, Ph.D.	Main Prize of the Czech Sociological Society	Czech Sociological Society

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
Prof. PhDr. Petr Macek, CSc.	European Psychologist, 1016-9040 Emerging Adulthood, 2167-6968
Prof. Mgr. Tomáš Řiháček, Ph.D.	Psychotherapy, 0033-3204 Psychotherapy Research, 1050-3307
Prof. Martin Kreidl, Ph.D.	European Journal of Population, 01686577 Sociology Compass, 17519020
Doc. Miriam Matejova, PhD	Environment: Science and Policy for Sustainable Development, ISSN 0013-9157
Prof. Bernadette Nadya Jaworsky, Ph.D.	Cultural Sociology, 1749-9763
Doc. Mgr. Monika Brusenbauch Meislová, Ph.D.	Journal of International Relations and Development, ISSN 1408-6980
Dr. Werner Binder	European Journal of Cultural and Political Sociology, 2325-4815
Doc. Mgr. Petr Ocelík, Ph.D.	Central European Journal of International and Security Studies, ISSN 1802-548X
Doc. PhDr. Iva Šmídová, Ph.D.	NORMA – International journal for masculinity studies, ISSN 1890-2138

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Dr. Werner Binder	Social Meanings of Artificial Intelligence: The Case of AlphaGo	Yale University	2020
Prof. PhDr. Tomáš Sirovátka, Ph.D.	Summer school – lecture stay	University Leuven	2022, 2023
Doc. Mgr. Petr Ocelík, Ph.D.	Skeptics' strategies in media coverage of climate change: A case of the Czech Republic	University of Bern	2019
Doc. Mgr. Eva Šlesingerová, Ph.D.	Persons, Things and Emotions/Encounters of Social Robotics and Autism Diagnosis	Vienna University	2023
Doc. Mgr. Lukas Blinka, Ph.D.	Online sex addiction and other addictive behaviours	Trinity College Institute of Neuroscience, University of Dublin, Ireland	2022
Prof. Martin Kreidl, Ph.D.	Adult children's union type and contact with mothers: Does the observed association reflect a causal effect?	Centre for Population Change St. Andrew's University, UK	2022
Mgr. Martin Jirušek, Ph.D.	Ukraine and Russia: Geopolitics and the security situation in CEE	Elliot School of International Affairs, George Washington University, Washington, DC, USA	2022
Doc. PhDr. Jan Činčera, Ph.D.	Environmental and sustainability education: The question of power	Bayreuth University	2022
Prof. PhDr. Petr Macek, CSc.	Enlightened trust and life experience of youth in changing (Czech) society	Institute of Psychology and Education, University of Neuchâtel, Switzerland	2023
Mgr. Péter Szabó, Ph.D. M.A.	Historical ecology: Why and how to connect the natural sciences and the humanities	NOVA University Lisbon and Center for Functional Ecology, University of Coimbra, Portugal	2020

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Dr. William Allen	University of Oxford, UK	Text and Content Analysis	2020
John Bullock, Ph.D.	Northwestern University, USA	Contemporary Partisan Politics in the USA	2019
Dr. Benjamin Martill	University of Edinburgh, UK	Britain and the European Union	2022
Prof. Sonia Livingstone	London School of Economics, UK	Risk and opportunities: Update of the theoretical model	2019
Prof. Jochen Peter	University of Amsterdam, NL	Media effects theories: DSMM	2019
Patrícia Rossini, Ph.D	University of Glasgow, UK	Disinformation, Distrust, and Protests: Democratic	2023

		Backsliding and the 2022 Presidential Election in Brazil	
Prof. Jaime Delgadillo, Ph.D.	University of Sheffield, UK	Why are some cases not on track?	2022
Prof. Bruce Johnson	University of Arizona, US	Sharing experience with program design in EE (co-facilitation of the seminar)	2023
Prof. Dr. Hubert Heinelt	Technische Universität Darmstadt, DE	Transnational solidarity in the EU	2022
Prof. Mario Diani	University of Trento, IT	Detecting social movements within collective action fields	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Prof. PhDr. David Šmahel, Ph.D.	Reviewer ERC Grants/ Horizon Europe	European Research Council	2021
Mgr. Péter Szabó, Ph.D. M.A.	ERC Starting Grant/ Horizon Europe	European Research Council	2021, 2023
Prof. JUDr. PhDr. Miroslav Mareš, Ph.D.	Public call for the (co)financing of research projects in 2023 / Slovenian core funding grants/ ARIS research programmes	ARIS – Slovenian Research and Innovation Agency	2023
Prof. Martin Kreidl, Ph.D.	HORIZON-MSCA-PF/ Horizon Europe	European Research Executive Agency	2022
Doc. Mgr. Eva Šlesingerová, Ph.D.	HORIZON-MSCA-IF, PF/ Horizon 2020, Horizon Europe	European Research Executive Agency	2020, 2021, 2022
Prof. Steven Saxonberg, Ph.D.	The Research Foundation – Flanders	National Fund for Scientific Research (NFWO/FNRS), Belgium	2019, 2020, 2021, 2022, 2023
Doc. PhDr. Pavel Navrátil, Ph.D.	HORIZON-MSCA-IF, PF/ Horizon 2020, Horizon Europe	European Research Executive Agency	2019, 2020, 2021, 2022, 2023
Doc. Mgr. Petr Ocelík, Ph.D.	Member of the selection committee for the ERC project/ Horizon Europe	European Research Council	2021
Prof. PhDr. Holzer Jan, Ph.D.	Political Science	National Science Centre, Poland	2022, 2023
Doc. PhDr. Věra Stojarová, Ph.D.	Program for Excellent Projects of Young Researchers (PROMIS)	Serbian Academy of Sciences, Serbia	2020, 2021, 2022, 2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

(1) Youth Skills (acronym: ySKILLS, EU H2020, 870612, 2020-2023). The project aimed to enhance and maximize the long-term positive impact of the ICT environment on various aspects of children's well-being by fostering resilience through the development of digital skills. It adopted a holistic, child-centric approach to examining how internet use affects children's rights, including participation, access to information, freedom of expression, education, play, and protection from harm. The ySKILLS consortium comprised 16 European partners (15 universities, led by KU Leuven) actively working toward the project's objectives. To achieve these goals, ySKILLS brought together leading international research centres specializing in media studies, communication sciences, youth research, psychology, pedagogy, law, educational neuroscience, and sociology. Researchers from MUNI played a key role, leading the work package focused on the integration of theories and methods towards a new theoretical model. The most significant output, coordinated by Prof. Smahel from FSS, was the report *Theoretical Integration of ySKILLS: Towards a New Model of Digital Literacy*. Co-authored by top-ranked researchers such as Mascheroni, Livingstone, Helsper, and van Deursen, this report synthesized findings from various ySKILLS deliverables, unveiling their theoretical implications. The team developed a new theoretical model in which digital literacy mediates the relationship between antecedents and consequences, placing digital literacy—rather than digital skills—at its core. Within ySKILLS, FSS researchers collaborated within a fully international team, publishing in top-ranked journals such as *New Media & Society*. They also provided evidence-based recommendations for policy and practice based on the project's findings. ySKILLS thus contributed to the FSS' mission by promoting international and excellent research on precession societal and technological issues.

(2) Enlightened trust: An examination of trust and distrust in governance – conditions, effects and remedies (acronym: EnTrust, EU H2020, 870572, 2020-2024). The project aimed to enhance our understanding of the dynamics of trust and distrust in public administration, communication with authorities, and interpersonal relationships. The project was coordinated by the University of Siegen (Germany) and involved teams from Denmark, Poland, Italy, Serbia, Greece, and Czechia (FSS). It brought together experts from psychology, political science, sociology, media studies, and social work. The project was based on the idea that trust and distrust were shaped by the actions, competition, and negotiation of a range of actors across different spheres of social life and needs to be explored at the individual, social, and societal level. The FSS's team contributed their expertise on the development of trust in authorities and institutions from early adolescence to adulthood. The team conceived and implemented qualitative research on the conceptualization of trust and mistrust. Furthermore, using an experiment design, they investigated how factors such as transparency of justification, predictable framework, and citizens' votes affect trust. They found that the thematization of mistrust and distrust in a developmental perspective was characterized by more complex answers and more nuanced conceptions of trust with increasing age. Adults (30+) were more likely to consider context and past experiences and were more tolerant of missteps. The EnTrust thus contributed to the FSS's mission by promoting international research on an essential societal issue.

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

(3) Critical exploration of media-related risks and opportunities for deliberative communication: Development scenarios of the European media landscape (acronym: MEDIADELCOM, EU H2020, 101004811, 2021-2024). The project was coordinated by University of Tartu (Estonia) and included 17 institutions from 14 European countries (Czechia, Austria, Bulgaria, Croatia, Germany, Greece, Hungary, Italy, Latvia, Poland, Romania, Slovakia, Sweden, and Belgium). It contributed to the enhancement of European integration, social cohesion and, consequently, Europeanization. Informed decision making in contemporary democratic societies was being challenged by current political, technologic, and economic developments. The consortium argued that European political and cultural spaces evolved best if specific policies enhance the conditions for deliberative communication. The consortium also worked out an innovative methodology enabling the assessment and forecast of the risks and opportunities for deliberative communication emerging in the process of media transformation in 2000-2020. Before this project, there was no holistic approach to media related risks and opportunities; studies and data on media were dispersed, restricting the evaluation of risks and opportunities for deliberative communication in European countries; there were no evidence-based holistic scenarios for prognosing media development in European societies. Building on the project's findings, the authors proposed that proactive media governance would frame the reactive media policies that inevitably accompany any crisis. A proactive media governance requires the establishment of a media monitoring system in the Member States to detect emerging risks and to continuously analyse the resilience of society's communication culture. Key outputs included two comparative research reports, two edited monographs, articles, and popularization outputs. The project thus contributed to the FSS' mission by promoting international research on solving a pressing socio-political issue.

(4) The generations and gender programme preparatory phase project (EU Horizon Europe CSA INFRA, 101079357, 2022-2026). This ongoing project aims to enhance the excellence and long-term sustainability of the Generations and Gender Programme (GGP) – a large-scale research infrastructure on population and family dynamics that has been included in the ESFRI roadmap of large research infrastructures since 2021. Within this project, the GGP intends to establish itself as a permanent research infrastructure with its own legal entity (European Research Infrastructure Consortium, ERIC), so that it can continue to respond effectively to demands for data on individual life trajectories, families, gender roles, and relationships between generations that help societies respond to major societal challenges and achieve greater demographic resilience. The project brings together 15 international partners - including leading research universities and research institutes in the area of demographic change from the Netherlands, France, Germany, Poland, Hungary, Austria, Croatia, Estonia, Lithuania, Norway, Spain, and Sweden – along with their governmental representatives. Locally, the project contributes to the FSS's mission to achieve high societal relevance and impact especially in the area of data-based policy-making aiming to achieve higher demographic resilience that has been highlighted as one goal in the Czech Government's "Strategy for Family Policy." The project contributed to the establishment of closer cooperation with relevant Czech ministries (education, social affairs) and other data producers. These connections will be further cultivated to produce periodical updates of the "Report on the Family," as well as of the "Strategy for Family Policy". The project thus contributed the FSS' mission by establishing the FSS as a strong and internationally visible centre of social sciences.

(5) Decision making of aspiring (re)migrants to and within the EU: The case of labour market-leading migrations from Asia (acronym: AspirE, EU Horizon Europe CL2, 101095289, 2023-2025). The project was coordinated by Université libre de Bruxelles (Belgium) and involved institutions from selected Southeast and East Asian countries (China, Japan, the Philippines, Thailand, and Vietnam) and several EU member states (Belgium, Czechia, Finland, Germany, Italy, and Portugal) to explore migration aspirations and decisions. The project examined how migration regimes in both the origin and destination countries shaped aspiring migrants' behaviours and policies. It sought to understand why individuals chose to migrate or stay and how their decisions evolved over time. The project employed mainly qualitative and participatory methods, including policy analysis, expert interviews, social network mapping, video diaries, and focus groups. Its key objectives included assessing how mobility policies consider migrants' behaviours, identifying drivers of migration intentions, and analysing the temporality of mobility decisions. Practically, the project aimed to provide insights for EU migration policies, ensuring they better reflected migrants' needs and reduced irregularity and precarity. The project fostered intensive collaboration among international research teams. Joint presentations with the Vietnamese team and a co-authored chapter with the German team highlighted a strong partnership within the project. The project also prioritized the development of early career researchers through training sessions and mentorship opportunities, strengthening their expertise in migration studies and qualitative research methods. The project aligned with the FSS's mission by promoting academic excellence and international cooperation. It enhanced high-quality research through interdisciplinary collaboration and contributed to the global dialogue on migration. The project's findings support evidence-based policymaking, reinforcing the FSS's commitment to impactful, internationally recognized scholarship.

(6) Robots, Computing the Human, and Autism/Cultural Imaginations of Autism Diagnosis and Emotion AI (CSF EXPRO, 23-05692X, 2023-2027). This ongoing project addresses one of today's critical challenges – human-robot interaction.

It focuses on the development of affective computing and social robotics, which emerged in the 1990s, with one of its first application domains being autism treatment. Through critical discourse analysis, archival research, and expert interviews, the project examines the cultural metaphors and codes that have shaped the perception and application of social robotics and affective computing in this field. Key findings provide deeper insights into how these technologies not only reflect but also shape our understanding of human embodiment, agency, social inequalities, and medical treatment. The project's outcomes hold significant application potential by contributing to public discussions on the societal impact of autism, the ethical implications of affective computing, and the broader consequences of integrating social robots into healthcare and therapy. By advancing interdisciplinary research on pressing societal and technological issues, the project contributes to the FSS's mission of fostering critical engagement with digitalization, medicine, and ethics. In alignment with the strategic goals of FSS, it enhances the understanding of how emerging technologies shape human interaction and societal structures. By examining the intersection of technology, social sciences, and cultural studies, the project strengthens the FSS's commitment to innovative and socially responsible research with real-world implications.

(7) *Modelling the future: Understanding the impact of technology on adolescents' well-being* (acronym: FUTURE, CSF EXPRO, GX19-27828X, 2019-2023). The aim of FUTURE, conducted in collaboration with the Faculty of Informatics, was to develop a complex evidence-based theory depicting the impacts of technology usage on the physical, psychological, and social well-being of adolescents aged 11 to 18. The project resulted in 33 studies using advanced methods (longitudinal studies, experiments, and real-time assessments) to uncover how digital technologies impact adolescents' psychological, social, and physical well-being. Additionally, the project produced software for experience sampling research (EMA) and applied innovative machine learning techniques to identify online risks for adolescents. FUTURE produced high-impact research, including 8 articles in D1 and 10 articles in Q1 journals. Findings of the project challenge simplistic narratives. First, the impact of technology is not uniform – some adolescents experience increased stress from smartphone use, while others do not. For instance, searching for health information online increased anxiety only in those already prone to it. Second, what matters most is how technology is used, rather than overall time spent on screen. Third, different aspects of well-being are affected in different ways—while digital technology influenced adolescents' physical self-worth, it had no measurable impact on their social skills. The FUTURE project also yielded results with significant practical applications: (1) a close partnership with the non-profit organization Replug (OnFine), (2) collaboration with VOS.health on developing a research-based app designed to improve well-being, and (3) the EU Kids Online 2020 report resulting from this project that had a major impact across Europe, playing a crucial role in shaping European policies aimed at creating a safer online environment for children. The project thus contributed to the FSS' mission by fostering interdisciplinary and internationally impactful research on one of the current pressing issues.

(8) *A life course perspective on the GENdered PATHways of Social exclusion in later life, and its consequences for health and wellbeing* (acronym: GENPATH, TA CR ERA-NET-GENDER-NET Plus, TJ03000002, 2019-2022). This international project was coordinated by FSS and included teams from Austria, Ireland, Sweden, Spain, Israel, and Norway. The project exemplifies the importance of the international cooperation and support for women in academic management positions. It focused on the issue of social exclusion from relationships and the problem of different forms of loneliness, which it explored not as a problem of particular population groups but as a gendered life course phenomenon. The FSS's staff presented the project's results in 11 scientific and 13 popularizing publications. On top of publishing scientific papers on the heuristic model of the key concept and methodological challenges, the results also added important talking points about the social effects of the COVID-19 pandemic on older adults and their social exclusion from social relationships/loneliness. The team paid special attention to the broad dissemination of the results to influence the public debate about loneliness. The project also aimed to broaden the understanding of the topic among specialised groups with high potential for multiplier effect, for instance, social service providers and educators. For example, the educational ready-to-use material "How to deal with loneliness (not only) in older age: Pressing issues of our time" remains to date the only lecture presenting the issue, and 1200+ views (as of February 2025) prove a continuous interest in the project results. The consortium partners continue to cooperate also after the project completion, both in project and academic cooperation, including international PhD program (HOMeAGE project). The project thus contributed to the FSS' mission by internationally embedded and impactful research delivering practicable solutions to current society's problems.

(9) *National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks* (acronym: SYRI) was established in 2022 as a part of the Exceles programme. SYRI was built with the idea of massive strengthening of the institutional linkage and multidisciplinary scientific collaborations between MUNI, Charles University, and institutes of the Academy of Sciences of the Czech Republic. The Institute conducts research and collects data on social processes that accompany crisis and risk situations such as pandemics, often offering early warnings of emerging social problems and risks. FSS leads the "Law and Governance" research group and participates in others, including "Communication, Risk, and Uncertainty," "Social Resilience," "Health System Effectiveness," and "Polarization and Populism." SYRI's main added value

is its robust and interdisciplinary nature (combination of fields and disciplines such as Law, Political Science, Education, Demography, Public Health, Communication Studies, Psychology, and Economics). SYRI's goal is thus not just to produce excellent science by publishing in international journals (100+ Q1 and Q2 publications to date), but to move information towards stakeholders to support evidence-based governance. An example is a series of seminars in the lower and upper chambers of the Czech Parliament on several rather neglected, yet wicked problems (palliative care, amalgamation of small municipalities, and polarization), in the organization of which the FSS actively participated. The project also aims to actively cultivate Czech research and academic culture in areas such as gender aspects, academic work-life balance, training of junior researchers through its own mentoring programme, public communication, inter-institutional and international networking, and regular international evaluation by its own ISAB. The FSS's researcher's achievements have been well covered in media. The project thus contributed to the FSS' mission by making the FSS (and MUNI) a strong and visible centre of social sciences and by advancing practicable solutions to current society's problems.

(10) Partnership changes in older age (GA20-25752S, 2020–2022) was a national grant that aimed to address a research gap regarding generational changes in experiences with later-life relationships. Specifically, the project explored how increasing life expectancy impacts later-life partnerships and sexuality by extending the time spent in long-term relationships and bringing forth the issue of “grey divorce” and re-partnering at older age. By employing various methodological approaches, the project described the characteristics of long-term partnerships among older adults and examined the quality of relationships formed later in life. The results challenged the traditional view that long-term relationships in later life are solely a reflection of success, introducing a new model for understanding the mechanisms that keep couples together as they age. The project also revealed that opting for diverse relationship forms can support re-partnering in older age. Establishing a Living-Apart-Together (LAT) relationship in later life emerged as a meaningful and resourceful alternative – rather than an inferior option – to cohabitation or marriage. The project's findings advanced our understanding of how ageing interacts with relationship quality by disentangling factors such as societal expectations, coping resources, and the perception of time — all of which shape relationship stability in later life. The project also placed a strong emphasis on an often-taboo and overlooked topic—sexuality and its role in later-life relationships—offering healthcare professionals a nuanced perspective on how to address the relationship and sexual challenges faced by older adults. Beyond its practical applications, the project resulted in publications in top-ranked journals like the *Journal of Family Psychology* and *Archives of Sexual Behavior*. The project thus contributed to the FSS' mission by committing itself to impactful research on one of the pressing societal issues.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Grant Agency of Masaryk University - Interdisciplinary research projects (collaboration with Faculty of Law and Faculty of Informatics)	Manipulative propaganda techniques in the age of the internet (2017-2019)	505/20	-	-	-	-

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

Grant Agency of Masaryk University - Interdisciplinary research projects (collaboration with Faculty of Law and Faculty of Science)	ARCTIC Centre for Human-to-Environment Oriented Studies: Impact of Climate Change and Human Activities in the Arctic (2020-2025)	-	1,072/42	172/7	197/8	-
Grant Agency of Masaryk University – Support for Integration of Researchers After a Career Break	GAMU CAREER RESTART (2023-2024)	-	-	-	-	500/20
Czech Science Foundation (CSF) Standard projects	Projects in the implementation according to years: 25-21-13-16-26	23,867/942	21,756/858	15,007/592	18,142/716	40,332/1591
CSF EXPRO (collaboration with Faculty of Informatics)	19-27828X Modelling the future: Understanding the impact of technology on adolescent's well-being	6,102/241	8,036/317	8,088/319	8,104/320	6,406/253
CSF EXPRO (implemented at FFS 2021-2022)	21-28766X Expertise in authoritarian societies. Human sciences in the socialist countries of East-Central Europe (2021-2026)	4,390/173	7,081/279	-	-	-
CSF EXPRO	23-05692X Robots, Computing the Human, and Autism/Cultural Imaginations of Autism Diagnosis and Emotion AI (2023-2027)	-	-	-	-	4,105/162

CSF LA grant with FWF	22-37628L Comparative phenomenology of road accident causation (2022-2025)	-	-	-	1,257/50	2,362/93
CSF LA grant with ARRS	23-05059L Effects of digitalisation in (post) COVID-19 era on quality of life, and social inclusion of older adults (DIGOLD) (2023-2025)	-	-	-	-	1,901/75
CSF LA grant with FWF	23-06433K Emotions in political journalism: a cross country view (2023-2026)	-	-	-	-	1,407/56
Ministry of Defence	OWMASUN20180 1 Optimalizace zpravodajské činnosti a zpravodajských institucí v měnícím se prostředí [Optimizing intelligence activities and intelligence institutions in a changing environment] (2018-2020)	1,329/52	1,329/52	-	-	-
Ministry of Defence	OWMASUN20180 2 „Návrh systému indikátorů včasného varování pro možné krizové situace na Balkáně“ [Proposal for an early warning indicator system for possible crisis situations in the Balkans] (2018-2020)	1,215/48	1,215/48	-	-	-
Technology Agency of the Czech Republic (TA CR) THETA	TK01010208 Economic impacts of application of different technologies in	1,322/52	1,838/73	1,066/42	-	-

	low-carbon transformation (2018-2021)					
TA CR ERA-NET-GENDER-NET Plus	TJ03000002 A life course perspective on the GENDERed PATHways of Social exclusion in later life, and its consequences for health and wellbeing (2019-2022)	933/37	1,166/46	1,093/43	101/4	-
TA CR BETA	Projects in the implementation according to the years: 0-0-1-2-1	-	-	231/9	1,001/39	1,233/48
TA CR Environment for Life	SS03010221 Opportunities and barriers of socially and environmentally sustainable participatory housing in the Czech Republic (2021-2023)	-	-	2,693/106	2,754/107	2,757/109
TA CE ETA	Projects in the implementation according to years: 7-10-12-6-5	12,685/500	18,115/715	22,490/887	11,309/446	7,392/292
TA CR SIGMA (the program started in 2023)	4 projects started in 2023	-	-	-	-	5,119/202
Ministry of Interior BV III/1-VS	VI20172020094 Methodology for the forecast, early warning, and prevention of threats to Czech internal security from regional armed conflicts (2017-2020)	1,474/58	1,543/61	-	-	-
South Moravian Region	5SA14933 Unlocking the Potential of mHealth Technologies to Promote Behavioral Health and Active Aging in Czech Older	1,318/52	-	-	-	-

	Adults (2016-2019)					
ERASMUS+ KA2 Strategic partnership	Partnership for Dialogue on Degrowth and Socio-Ecological Transformation (2022-2023)	-	-	-	608/24	127/5
Visegrad grants	Sexual Knowledge and Expertise in Europe's East, before and after 1945 (2019)	253/10	-	-	-	-
The European Climate Foundation (2020-2021)	G-2005-60614 Climate Change in the Czech Mind 2020: In Times of the (Post-) Coronavirus Crisis	-	786/31 in total	-	-	-
The European Climate Foundation (2021-2022)	G-2105-62087 The Slovak Public and Climate Protection 2021	-	-	532/21	355/14	-
SRA Small Grants Program for COVID-19 Global Scholars (US)	SRA 2022 A Global Perspective on Promoting Wellbeing in Youth Affected by COVID-19 Fear, Anxiety, and Related Experiences: The Role of Positive Youth Development and Resilient Coping (2022-2023)	-	-	-	27/1	42/2
The EEA and Norway Grants	EHP-BFNU-OVNKM-2-080-01-2019 System Modelling in Czech and Norwegian Forestry (2019-2020)	216/9		-	-	-
Ministry of Education, Youth and Sports (MEYS) - Specific research programme	Projects in the implementation according to the years: 13-13-14-13-13; one-year projects	9,225/364	10,766/424	10,885/429	11,385/449	11,787/465

MEYS OP VVV/ PO2 (only FSS per year)	Development of research-oriented study programs at FSS (2017-2022)	1,484/59	147/6	160/6	358/14	-
MEYS/INTER-EXCELLENCE	Support of Czech participation in Programme Generations and Gender (2020-2022)	-	136/5	136/5	136/5	-
MEYS/INTER-EXCELLENCE	Support of Czech participation in Programme Generations and Gender (2017-2019)	113/4	-	-	-	-
MEYES OP VVV/PO2 (FSS part of MUNI) Postdoc2MUNI* (2020-2023)	Postdoc2MUNI (2020-2023)	-	222/9	1,333/53	1,111/44	-
MEYES OP VVV/PO2 (FSS part of MUNI)	Postdoc@MUNI (2017-2021)	2,838/112	1,282/51	-	-	-
MEYES OP VVV/PO2 (FSS part of MUNI)	MSCAfellow@MUNI (2018-2020)	1,494/59	623/25	-	-	-
MEYES OP VVV/PO2 (FSS part of MUNI)	MSCAfellow2@MUNI (2018-2022)	1,121/44	1,494/59	374/15	-	-
MEYES OP VVV/PO2	The Internal Grant Agency of Masaryk University (IGA MU) (2020-2023)	-	31/1	4,644/183	2,368/226	23/1
MEYES /NPO/EXCELS (FSS part of MUNI) (2022-2025, 43 294 TCZK for FSS)	The National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (abbreviated as SYRI) (2022-2025)	-	-	-	5,729/226	1,1797/465
MEYES OP JAK/PO1	MUNI4PhD (2023-2026)	-	-	-	-	827/33
Total		71,884/2,794	68,917/2,719	64,260/2,534	62,0574/2,467	98,094/3,871

In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Czech Science Foundation (CSA) Standard projects	Projects in the implementation according to years: 0-1-1-2	-	400/16	412/16	1,039/41	-
TA CR THETA	TK03010086 Development of technical-economic scenarios for transformation of the Czech heating sector (2020-2023)	-	222/9	499/17	478/19	218/8
TA CR BETA	TITSMZP804 Methodological framework for evaluation of environmental literacy in schools (2019-2021)	249/10	388/15	99/4	-	-
TA CR Environment for Life	SS05010134 Importance and protection of floodplains as an environment for the fulfilment of the landscape ecostabilisation function (2022-2024)	-	-	-	277/11	277/11
TA CE ETA	Projects in the implementation according to the years: 7-9-9-5-2	4,308/170	4,297/169	3,237/128	2,478/98	655/26
TA CR SIGMA (the program started in 2023)	3 projects started in 2023	-	-	-	-	767/30
Ministry of Culture NAKI III	semANT - Semantic Document Exploration (2023-2027)	-	-	-	-	398/16

²⁷ Ibid.

Ministry of Industry and Trade (OP PIK)	Development of an optimization model for the simulation of physical processes in European electricity and gas system (2020-2022)	-	368/14	750/30	753/30	-
Narodowej Agencji Wymiany Akademickiej (NAWA)	Migrants. Analysis of media discourse on migrants in Poland, The United Kingdom, Ukraine, Albania and Czech Republic (2018-2022)	612/24	118/5	-	-	-
Visegrad grants	Experience-sharing of V4 countries to promote media professionalism in reporting Georgia's European integration (2018-2019)	25/1	-	-	-	-
Visegrad grants	Urban Policy System in the Strategic Perspective - from V4 to Ukraine (2019-2021)	Only travel costs according to the needs	-	-	-	-
Visegrad grants	Supporting Decrease of Media Polarization in Georgia and V4 States (2023-2024)	-	-	-	-	50/2 in total
Visegrad grants	After the Solidarity Wave – Civic Engagement for Ukrainian Refugees from a Long-Term Perspective (2023-2024)	-	-	-	-	No budget for FSS, financed from the coordinator's budget
European Union (EU)	201002 EU Kids Online IV (2019-2020)	583/23 in total	-	-	-	-
EU H2020 CSA	Children Online: Research and	-	-	127/5	-	-

	Evidence (2020-2022)					
EU COST action (participation without budget for FSS)	Projects in the implementation according to the years: 2-3-3-2	-	-	-	-	-
EU H2020	691287 MEDEAS - Guiding European Policy towards a low-carbon economy. Modelling Energy system Development under Environmental And Socioeconomic constraints (2016-2019)	2,028/80	-	-	-	-
EU H2020	870572 Enlightened trust: An examination of trust and distrust in governance – conditions, effects and remedies (2020-2024)	-	9,050/357 in total	-	-	-
EU H2020	870612 Youth Skills (2020-2023)	-	5,095/201 in total	-	-	-
EU H2020	101004811 Critical Exploration of Media Related Risks and Opportunities for Deliberative Communication: Development Scenarios of the European Media Landscape (2021-2024)	-	-	3,904/154 in total	-	-
EU H2020- MSCA-ITN	859937 Interdisciplinary connectivity: Understanding and managing complex systems using connectivity science (2019-2023)	0	1,242/49	2,966/117	2,966/117	2,966/117

EU Horizon Europe CSA INFRA	101079357 The Generations and Gender Programme Preparatory Phase project (2022-2026)	-	-	-	995/39 in total	-
EU Horizon Europe MSCA DN	101073506 Advancing Research and Training on Ageing, Place and Home (2023-2026)	-	-	-	-	1,369/54
EU Horizon Europe	101095289 Decision making of aspiring (re)migrants to and within the EU: the case of labour market-leading migrations from Asia (2023-2025)	-	-	-	-	7,979/315 in total
European Climate Initiative	Exchange Group: Just transition in the European car industry (2020-2022)	-	152/6	17/0.7	6/0.2	-
ERASMUS+ TEMPUS	New teaching fields for the next generation of journalists (2020-2023)	-	-	431/36 in total	-	-
ERASMUS+ Partnerships for Digital Education	Virtual Education Readiness Semester – Adaptive Toolbox for an International Learning Experience (2021-2023)	-	-	608/24	380/15	253/10
ERASMUS + Jean Monnet Networks	101085773 The European Green Deal: Governing the EU's Transition towards Climate Neutrality and Sustainability (2022-2025)	-	-	-	101/4	355/14
ERASMUS+ KA2 Small-	HoDeKoProM - Perception of hoaxes,	-	-	-	-	608/24 in total

scale partnerships	disinformation, conspiracy and propaganda among young people (2023-2024)					
EEA and Norway grants	Establishing the concept of a BIO-region as a supporting network for biodiversity in the Czech landscape: Pilot research app. (2022-2024)	-	-	-	355/14	709/28
Total		7,805/308	21,332/841	13,050/531.7	8,833/349.2	16,604/655

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
EURICSE	Up-date of the mapping of social enterprises and their eco-system in Europe	212/8	56/2	-	-	-
Statutární město Brno	Project evaluation, document analysis, formulation of strategic goals, development of a draft Social Policy Concept, development of a survey, finalization of a draft Social Policy Concept	36/1	364/14	182/7	-	-
Město Veverská Bítýška	Processing of a study	-	-	-	178/7	-
Dobronauti	Implementation of a verification study of the preventive program	-	-	-	105/4	-
Město Znojmo	Processing of socio-demographic analysis	-	-	-	824/33	-
Jihomoravský kraj	Mapping of existing barriers and support systems for people with special educational needs to integrate into everyday life after leaving school	-	-	-	306/12	-
Dopravní podnik hl. města Prahy	Processing of studies	-	300/12	400/16	-	-
Total		248/9	720/28	582/23	1,413/56	0

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

Self-assessment:

(1) EU Kids Online 2020: Survey results from 19 countries (2020). The report examines the risks and opportunities of the Internet for children in Europe. It provides insights into children's Internet access, online activities, digital skills, and exposure to both risks and opportunities. Between 2017 and 2019, teams from the EU Kids Online network conducted a large-scale survey involving 25,101 children aged 9–16 across 19 European countries. More than 20 European universities contributed to this study, including top-ranked institutions such as KU Leuven, the London School of Economics (LSE), the University of Oslo, the Hans Bredow Institute, Università Cattolica del Sacro Cuore Milano, and others. The report was led by David Smahel and Hana Machackova from FSS. To date, it has been cited over 430 times in Web of Science and more than 1,100 times in Google Scholar. The sustainability of this line of study is supported by the strength of the EU Kids Online network, which has now initiated a new data collection effort in 2025 to produce another comprehensive international report. The EU Kids Online 2020 report has had a significant societal impact across Europe. Its findings have played a key role in shaping European policies aimed at creating a safer online environment for children. For instance, it was referenced in response to the European Commission's call for evidence for guidelines on protecting minors online under the Digital Services Act. Additionally, UNICEF Innocenti utilized the report's data to analyse children's exposure to hate messages and violent imagery on the Internet worldwide. The findings of this report were utilized by European policymakers and stakeholders to develop national policies aimed at enhancing children's online safety in various countries. The gender dimension was not relevant here.

(2) Experimental analysis of individual emotional reactions of cybersecurity experts to simulated cyber threats (2020). This report is one of the outputs of the research project called "Experimental research into individual responses to threats in cyberspace" (EXKYB, TL01000398-IP2, 2018-2021), funded by the Technology Agency of the Czech Republic (TAČR) and applied by the National Cyber and Information Security Agency (NÚKIB). The report presents results of experimental research conducted at the FSS during two tabletop exercises conducted in 2019 and 2020. These exercises were managed by the NÚKIB staff. Representatives of various institutions participated in the exercises, working in mixed teams. During these experiments, individual emotional reactions of cybersecurity experts to simulated cyber threats were examined. The main goal of the study was to determine whether and to what extent there are connections between the structure of the team, the self-assessment of their own performance (immediately after the exercise and after a time interval), and the expert assessment of their performance by the exercise administrators. Statistically significant differences were found between the assessment of the performance of participants from different participating institutions (specifically based on professionalism in the field of cybersecurity). The study also beneficially used scales for assessment and self-assessment of performance during the exercises. Gender statistics was included in the report. The main impact of the report was to improve the way in which tabletop exercises are carried out by NÚKIB. Based on the report, NÚKIB adapted the conditions of the teams during tabletop exercises aimed to the broader cybersecurity community. Strengthening inter-agency cooperation (e.g., military, law-enforcement, and university) was already included in the experiment itself. The report strengthened the resilience of Czechia against the cyberthreats.

(3) Research report on partnerships and parenthood (2022). This research report was developed within the "Improvement of data basis for development and evaluation of family policy" project (TL03000338, 2020-2023) as a background paper that will later serve – along with several other background papers – to structure the "Report on the Czech family" [Zpráva o rodině] that is regularly prepared before an update of the "Strategy for Family Policy" is developed. Thus, it will contribute to the shaping of an important policy document that has direct implication for Czech families, their functioning, and economic security. Selected results from the Report were also presented to a group of analysts from the Ministry of Labour and Social Affairs to highlight the main societal trends and illustrate how various data sources can be used for their analysis. This research report explicitly focused also on the gender dimension within families and households highlighting how family transitions and household organization were gendered. The report was prepared by FSS (contribution 30 %) in cooperation with two other Czech institutions, namely Charles University in Prague (contribution 20 %), and Research Institute for Labour and Social Research (contribution 50 %).

²⁹ See Terms definition.

(4) Invenio: Integration of subtests – Complex diagnostic system (2022). Invenio is a software system designed to assess primary school children's cognitive abilities. It consists of several tests, each targeting a specific cognitive ability. To obviate the limitations of traditional intelligence tests, such as test anxiety and potential lack of motivation in children, Invenio utilizes a game-based assessment approach. Each test is framed as a computer game, incorporating gamified elements such as simple narratives, comics, and sounds. At the same time, each test meets the requirements for a modern and dependable psycho-diagnostic method, including up-to-date norms, established and adequate psychometric parameters, and other aspects. Invenio consists of several software modules. This particular output, named "Integration of Subtests – Complex Diagnostic System," refers to the overarching module that unifies all the tests within the Invenio system. It was developed as part of the "Complex Screening Diagnostic System GIS" (TL01000494) project, funded by the Technology Agency of the Czech Republic, in collaboration with the Janáček Academy of Performing Arts. The primary goal behind developing Invenio was to develop a tool that could reliably and equitably identify gifted students, irrespective of their gender, socio-economic status, and other factors. As a result, it has the potential to offer significant benefits not only for the children themselves but also for the society. Moreover, the tests cover almost whole range of measured abilities, thus providing valuable insights into the cognitive profiles of all children, not just the gifted ones. After each child completes the tests, a report is automatically generated for parents, including the results and recommendations for nurturing the child's abilities. Currently, several hundred schools across Czechia are using the system to foster their students' education. This demonstrates the sustainability of the product and highlights its potential for further development.

(5) Parenting behind bars: The effects of parental incarceration on the child (2023) is a research report created as an output of the "Parenting behind bars" project (TL03000199, 2020-2023). Together with other outputs of this project, it has formed the basis for the Methodology for Cooperation between Social and Legal Child Protection Services and the Prison Service, soon to be published by the Ministry of Labour and Social Affairs with nationwide applicability. The report has significantly impacted practice, leading to a more systematic consideration of the specific needs of incarcerated parents' children by child protection social workers. The research has also driven the transformation of the prison system, which, as a primarily repressive institution, previously allowed contacts between children and incarcerated parents but did not consider parental roles from the child's perspective. The study has prompted revisions to contact conditions, adjustments to visitation policies, and strengthening of the psychosocial support, helping restore the rights of this vulnerable group. The findings have become a central pillar in discussions of the Government Commissioner for Human Rights' Working Group on Children of Incarcerated Parents and have led to the establishment of new working groups at the Ministry of Labour and Social Affairs and the Prison Service to develop systemic policy changes. The project's PI plays a key role in these reforms. The publication highlights gender differences in incarceration's impact. Maternal incarceration disrupts caregiving and raises foster care risk, while paternal incarceration is connected with economic instability and social disruption. The project thus applied a gender-sensitive approach to these issues. The findings are sustainable through their integration into policies for social workers, the prison system, and state administration. The upcoming English version of the book will expand its international impact. The FSS was the project leader and holds 100% share in the report.

(6) BACH: Achievement tests (2023) is an original Czech battery of psychological tests of reading, writing, and mathematical skills, developed as the primary outcome of the project named "BACH: The Development of Achievement tests," supported by the Technology Agency of the Czechia (TL02000268). MUNI co-owns the intellectual property in equal shares with the ProPsyco, s.r.o., company. The commercial distribution of the method will begin in 2025. BACH is designed for educational and clinical psychologists and special educators to examine youth aged 4.5 to 22 years and seniors aged 55 to 80. The standardization sample comprised 1,411 respondents and the tests are co-normed with the Woodcock-Johnson IV COG intelligence tests for youths and the TOMAL-SE memory test for seniors. BACH covers reading skills, written expression, morphological and phonological competence, and visual discrimination. The mathematics part includes pre-numerical and mathematical skills tests. The battery can be used, among other purposes, for the diagnostics of specific learning disabilities, particularly dyslexia and dyscalculia (including in secondary and university students), in the diagnostics of selected aspects of school readiness, and the examination of school failure in general. In the case of seniors, the tests can be used to assess cognitive disorders and in career counselling. We expect BACH to replace the currently used tests that have obsolete norms, obsolete content, or unsatisfactory psychometric properties. There is no other assessment method in Czechia with a similarly broad age range and wide applications. No other test is co-normed with IQ or memory tests, which enhances BACH's use. We expect that the application of the standardized test including the appropriate co-normation will improve the diagnosis of specific learning disorders, causes of school failure, career choices in children and adolescents, and memory deficits in the elderly.

(7) DeePsy: An application for routine process and outcome monitoring in psychotherapy and counselling (2023). DeePsy is a web application that allows psychotherapists to receive systematic feedback from their clients on their in-treatment

progress and perception of the treatment. It has been demonstrated by several meta-analyses that such feedback increases psychotherapy effects, enhances the working alliance, and reduces dropout. The application was developed in the “Deep learning in psychotherapy: Machine learning analysis of psychotherapy session recordings” (TL03000049) project carried out in collaboration with Brno University of Technology (BUT): MUNI and BUT have equal shares of ownership. The application is jointly operated by MUNI and BUT and is being actively used by psychotherapists, mainly in private practice. To date, over 1,500 psychotherapists have created a user account and used the application with over 20,000 clients. FSS provides workshops and supportive materials educating psychotherapists in how to use the application to enhance psychotherapy outcomes. FSS and BUT received several follow-up grants that will allow for the sustainability of the service. The team is also considering future commercialization of the application. Furthermore, since 2022 the application has been used in collaboration with the largest Czech health insurance company (Všeobecná zdravotní pojišťovna) to measure the outcomes of a brief psychotherapy intervention. Based on the data collected via DeePsy, the team has provided yearly reports (2022, 2023, 2024) to the health insurance company; these reports were essential for the company to continue a specific prevention program entitled “Increasing the availability of psychosocial support.” The use of the application has been also recommended by the Czech Association for Psychotherapist as a tool to enhance the quality of psychotherapy interventions. The gender dimension is reflected by implementing different norms for women and men in questionnaire data processing.

(8) FocusIS: Innovated software for data collection (2023). This software was developed within the “Development of multimode technique and application of this survey mode in areas of population, sociological, and marketing research” project (TA ČR TL02000152). The software allows for simpler and more organised data collection in mixed-mode research (i.e., using multiple modes of interviewing within one collection), but also in individual modes such as CATI, CAWI, and CAPI. The key features of FocusIS include a complete integrated system for mixed-mode data collection (in any combination of modes), automation of various activities (e.g., sending out questionnaire links and reminders, managing rewards, and calculating shared or separate quotas), maintenance of a database of cooperating respondents and a virtual switchboard allowing telephone operators to work from anywhere. The software benefits the society by increasing the quality of data collection by addressing methodological shortcomings of existing tools, implementing a more professional approach to respondents, and streamlining the data collection process. From the citizens’ perspective, the software offers a more accessible, simpler, and more pleasant experience of being interviewed within social science research. The gender dimension is considered by FocusIS through a more personalised approach to respondents and more sophisticated work with their categorisation and communication. FocusIS was developed in cooperation with the organization “FOCUS-Centre for social and marketing research.” Since FOCUS was the main driver of the development and the main user and administrator of the project, FOCUS owns 90% of the output, while MUNI owns 10%. The software is available to third parties for a fee and has been continuously used for the implementation of questionnaire surveys. Its sustainability is monitored through implementation reports.

(9) A broad definition and typology of elder abuse: The phenomenon of abuse, exploitation, neglect, and other inappropriate actions and treatment of older men and women (EAN). Methodology (2023). The publication (and the accompanying empirical material) is the first of its kind in Czechia. It presents the results of a unique study of the prevalence of the EAN phenomenon (i.e., elder abuse and neglect) and maps the complex network of relevant actors and their roles in addressing this large and so far overlooked problem. It is roughly estimated that up to 325,000 Czech seniors are affected by some form of EAN annually. The project team developed the first regional consensual definition of EAN, which was subsequently cited in a report by the Independent Expert on the enjoyment of all human rights by older persons Mrs. Claudia Mahler, submitted pursuant to UN Human Rights Council resolution 51/4 (A/HRC/54/26). The publication has been approved by the Ministry of Labour and Social Affairs and is used extensively in its activities, for instance in the training of regional social work methodologists and social services inspectors. The results of the study were presented to the Minister of Labour and Social Affairs, who, in response to the facts presented, set up the Working Group on Safety of the Older People. This group, in addition to parametric adjustments to the internal regulations of the Ministry, is working on a new senatorial bill to combat violence against the older people. The study is also cited in detail in the 2023 Report on the State of Human Rights in the Czech Republic. The FSS team continues to work continuously with the results of the study.

(10) A guide to current affairs in the EU for secondary schools (2023). This output is an innovative website aimed at high school students, providing them with a modern way to learn about contemporary topics related to the EU, for example the role of the state in the EU, migration, the Green Deal, structural funds, and the issue of hybrid threats. The website features a variety of interactive learning materials, including worksheets, methodological guides, short educational videos, and an online test. These resources have been carefully designed based on the latest didactic principles, making the learning experience both engaging and effective. The website enables students to actively engage with complex issues

concerning the EU, helping them gain more practical understanding of these topics. The content is structured in a way that allows students to learn at their own pace, with resources that encourage critical thinking and problem-solving. The worksheets and tests help students apply their knowledge, while the videos provide visual aids that make difficult concepts more accessible. In addition to the educational materials, the website includes a link to a research report that informs key government bodies about challenges encountered in teaching about the EU. This report offers important insights into the effectiveness of the teaching methods employed, highlighting areas in need of further development. The website not only provides valuable resources for students but also serves as a tool for teachers. By offering a comprehensive learning experience, the website and other project outputs contribute to improving the quality of education on the EU and foster greater awareness and understanding of the European Union in Czechia. The cornerstone of the project is its sustainability, which is manifested through cooperation with several Czech high schools that have committed to use the project output in their teaching.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Research report	2020	EU Kids Online Report 2020
Research report	2020	Experimental analysis of individual emotional reactions of cybersecurity experts to simulated cyber threats
Research report	2022	Research report on partnerships and parenthood
Software	2022	Invenio: Integration of subtests – Complex diagnostic system
Research report	2023	Parenting behind bars: The effects of parental incarceration on the child
Psychological test battery	2023	BACH: Achievement tests
Software	2023	DeePsy: Application for routine process and outcome monitoring in psychotherapy and counselling
Software	2023	FocusIS: Innovated software for data collection
Methodology	2023	A broad definition and typology of elder abuse: the phenomenon of abuse, exploitation, neglect and other inappropriate actions and treatment of older men and women (EAN). Methodology
Website	2023	A guide to current affairs in the EU for secondary schools

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

³⁰ Specify the specific type of result. Add rows as needed.

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

In transferring results into practice, **the FSS largely relies on the Technology Transfer Office (TTO MUNI)** that has been an integral part of MUNI since 2005. TTO MUNI provides services in technology/knowledge transfer (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralised, ensuring the necessary personnel, methodological, and technical frameworks. TTO MUNI manages the intellectual property of MUNI and cooperates in its identification, protection, and commercial exploitation (licensing, spinoffs, application consulting, and contract research) following MUNI rules and standards.

TTO MUNI supports cooperation between the scientific community and companies by building the university's internal environment and defining the internal rules. It initiates opportunities for introducing scientists to company representatives and finding resources for collaborative research. All this contributes to the mutually beneficial development and implementation of commercially interesting results of scientific work into everyday life.

TTO MUNI supports the development of a functional environment for technology transfer by a diverse mix of activities. Some target the academic community, such as student training, workshops, and round tables. Others are aimed at the general or professional public, building long-term partnerships in the field of applied research.

The TTO staff, within the framework of their agendas, are involved in areas that facilitate and lead to the **delivery of R&D results at MUNI into practical use**. This includes professional competencies in the field of intellectual property protection, licensing, and legal support, as well as searching for application partners and negotiating conditions for cooperation.

As a key player in the South Moravian Region, TTO MUNI collaborates closely with the South Moravian Innovation Centre and other institutions to support entrepreneurial initiatives, technology development, start-up growth, business incubation, and training programs in innovative entrepreneurship.

Cooperation with the application partners proceeds on multiple levels, including (i) joint grant projects of applied research, (ii) contract research according to the client's requirements, (iii) collaborative research funded from non-public sources, (iv) possibilities of internships and practice of students in companies, non-profit organizations, and public administration, and (v) close cooperation with the application partners on the preparation and implementation of educational programs.

Collaboration partners are identified (i) based on personal contacts with alumni of the FSS, (ii) through organizing professional workshops and roundtables on a specific topic, (iii) via the websites of the FSS and its departments offering

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

possible cooperation and demonstration of scientific results, and (iv) by organizing and participating in university-wide events aimed at the professional public, such as the Business Research Forum.

Below are examples of typical users of FSS's results.

(1) Ministries of the Czech government and government's offices use our research reports. For instance, the Ministry of Labour and Social Affairs used the 2022 "Research report on partnerships and parenthood," the 2023 "Parenting behind bars: The effects of parental incarceration on the child" research report, and the 2023 "A broad definition and typology of elder abuse" methodology. The National Cyber and Information Security Agency (NÚKIB) used the 2020 "Experimental analysis of individual emotional reactions of cybersecurity experts to simulated cyber threats" report.

(2) International nongovernmental organizations also use our research reports. For instance, UNICEF Innocenti utilized the 2020 "EU Kids Online 2020: Survey results from 19 countries" report's data to analyse children's exposure to hate messages and violent imagery on the Internet worldwide. The findings of this report were also utilized by European policymakers and stakeholders to develop national policies aimed at enhancing children's online safety in various countries.

(3) Primary schools are users of the Invenio software aimed at identifying gifted children. The research and development team has been cooperating intensively and for a long time with the application sphere, especially with primary schools and pedagogical-psychological counselling centres in the South Moravian Region. Altogether, 130 primary schools from the South Moravian Region (incl. 7000 children and 80 teachers) were involved in the process of screening pupils' abilities using this comprehensive diagnostic system. Another example of outputs aimed at schools and school children is the "A guide to current affairs in the EU for secondary schools" website.

(4) Psychotherapists use the DeePsy software developed and operated jointly by FSS and Brno University of Technology. The software is intended to enhance the benefits of psychotherapy and reduce client dropout and deterioration. Over 20,000 clients have already benefited from being included in the measurement of psychotherapy process and outcomes and providing systematized feedback to their psychotherapists.

(5) Private companies use our results. For instance, the FSS's staff created a detailed 64-page research report called "Validation study of the Dobrounauts prevention programme: Back in time" (2022) for the "Dobrounauts" private company that provided an independent analysis of the effectiveness of their prevention programme for primary school children to support their communication and conflict resolution skills. They found that the programme had a demonstrable and long-lasting effect on children's knowledge of appropriate conflict resolution strategies, but did not affect their self-esteem. This allowed the company to further develop their programme and disseminate it to other primary schools. This report is not listed among the examples provided in section 3.4 and table 3.4.1 because it was not connected to any grant, but it provides just another example of applied science conducted at the FSS.

There is only one instance of a commercialised result at the FSS – the Invenio software. Primary schools can purchase tests for their students through the MUNI Shopping Centre. Revenues obtained from this activity are reported in table 3.5.1. Determination of licensing conditions for the use of copyright works and the preparation of cooperation agreements are carried out in close cooperation with the TTO MUNI staff. The TTO MUNI staff is also consulted on all subsequent steps for further business development. The establishment of a spin-off company is planned in 2025.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Revenues from the sale of services - thousands CZK	11/0.4	13/0.5	10/0.4	35/1.3	482 /19
Total	11/0.4	13/0.5	10/0.4	35/1.3	482 /19

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant. *Maximum 500 words plus 200 words for each example given.*

Self-assessment:

The FSS is actively involved in the popularisation of science, especially by **organising conferences** aimed at both the professional and wider public across different social groups. Its other activities include regular public outreach by organising **debates, discussions**, and managing **websites** (e.g., NadaneDeti.cz), as detailed below. The FSS is also involved in **annual university-wide events** aimed at popularising science. Popular events include the Scientists' Night, which brings science to a wide range of people across disciplines and generations. Another such activity is MjUNI, the junior university, which consists of a series of learning Saturdays for children aged 8 to 18 years, where the FSS organises a programme for one Saturday. In this way, the FSS comprehensively presents the results of its research in all the areas of its expertise. Examples of R&D&I popularization and communication with the public are presented below.

(1) The International Energy Security Summer School in Telč (2019) offered lectures, expertise, and analysis of the main challenges and opportunities in the areas of oil, gas, and electricity infrastructure. Geopolitics, international politics, and EU energy policy were also discussed, with a special focus on Central and Eastern Europe. The Summer School took place from 3rd to 10th August with the participation of Czech and international experts on energy security. Invited speakers included internationally renowned experts such as James Henderson, Michael Kranhold, and Pedrag Grujicic. The event served as an invaluable platform for communicating cutting-edge energy security knowledge to a broader audience, fostering both academic exchange and practical insights for future professionals in the field.

(2) The 30 Years of Economic and Societal Transformation conference (2019), held at MUNI and co-organized by the FSS, focused on evaluating the societal and economic changes in Czechia since 1989. Experts from the Faculty of Economics and Administration, Law, and Social Sciences examined the successes and failures in various aspects of the transformation. The event was marked by key discussions on economic performance, legal continuity, and political change, featuring prominent speakers such as Václav Klaus and Ivan Mikloš. The conference provided a platform for reflection on the past three decades of Czech development.

(3) Czech Society Through the Lens of FSS MUNI (2023) – this conference was organized by the FSS to mark its 25th anniversary. In three thematic sessions, leading scholars from the FSS discussed pressing issues facing contemporary Czech society. The keynote speech was delivered by a sociologist and diplomat Magda Vášáryová. The thematic blocks focused on different age groups within Czech society: The youngest generation in a complex world, A distrustful society, and Undervalued old age.

(4) The Psychotherapy Symposium (2022) was the seventh conference of its kind organized and hosted by the FSS. Co-funded by the Technology Agency of the Czech Republic, it was designed for psychotherapists and other mental-health professionals. The Symposium focused on the crucial role of feedback in mental-health interventions, emphasizing its importance in enhancing effectiveness, building expertise, and advancing the field. In psychotherapy, obtaining timely and direct client feedback remains a challenge, often leading to delayed insights into the impacts of therapeutic interventions. This lack of immediate response makes the development of expertise in psychotherapy particularly demanding. During the symposium, participants explored key questions such as: How do we assess the effectiveness of our work? How do therapists gather feedback from clients? How do we train therapists to work with feedback? and more. The program featured both structured feedback methodologies and informal, intuitive approaches used in therapeutic practice. Through a series of lectures and workshops, leading Czech and international researchers and practitioners shared insights into feedback utilization in psychotherapy. Notably, the symposium hosted internationally recognized experts specializing in feedback-informed treatment, equipping attendees with evidence-based tools and practical strategies to enhance their professional growth.

(5) Participatory Housing conference (2023) was the final conference of the research project "Possibilities and Limits of Socially and Environmentally Sustainable Participatory Housing." The event, co-funded by the Technology Agency

of the Czech Republic and the Ministry of the Environment, played a key role in making research findings accessible to policymakers, professionals, and the general public. A major focus of the conference was communicating scientific knowledge in an engaging and practical manner. Researchers presented participatory housing concepts, existing models, and international case studies, illustrating how these ideas could be applied in the Czech context. The team also shared insights from theoretical studies, municipal collaborations, and fieldwork, including public workshops and a national survey on housing experiences. To support public understanding and local implementation, the research team introduced a *Municipal Guide* and a *Manual for Residents*, designed to make expert knowledge more accessible. Case studies from various municipalities demonstrated real-world applications. The concluding panel discussion invited experts, policymakers, and the audience to explore how participatory housing could be promoted through policy, legislation, and funding. The event fostered direct dialogue between researchers and the public, reinforcing the importance of science communication in shaping housing innovation.

(6) The 11th World Environmental Education Congress (2022), co-organized by the FSS, took place in Prague and across other locations in Czechia from 14th to 18th March, 2022, bringing together experts in environmental education and sustainable development. Originally scheduled for 2021, the event was postponed due to the COVID-19 pandemic. The event provided a platform for researchers, educators, and policymakers to exchange knowledge, share best practices, and discuss the future of environmental education on a global scale. Experts from the FSS' Department of Environmental Studies played a key role in the preparations, contributing to the development of the congress program. The Congress reinforced the importance of environmental education in addressing global sustainability challenges, emphasizing interdisciplinary collaboration and innovative teaching approaches. Furthermore, it fostered dialogue between academic institutions, government bodies, and civil society, promoting long-term strategies for integrating environmental awareness into education systems worldwide.

(7) The *nadanedeti.cz* (Gifted Children) **website** serves as a comprehensive resource for parents, educators, and professionals involved with gifted children. It offers a variety of materials aimed at identifying and nurturing exceptional talents. First, the website provides experts with access to scholarly articles, recommended books, and informative videos covering topics such as early signs of giftedness, effective teaching strategies, and the social-emotional needs of gifted children. Second, it provides access to diagnostic tools useful in identifying giftedness, including the Invenio system (see Section 3.5). Third, it serves as a parental support – recognizing the challenges parents may face, the website offers guidance on seeking professional advice and understanding the unique needs of gifted children. It also highlights common paradoxes parents encounter in raising gifted individuals. Fourth, the website fosters community engagement, for instance, via a Facebook group called “Nadané děti” (Gifted Children) that is available for those looking to consult with experts or connect with other parents of gifted children across Czechia. This platform facilitates the sharing of experiences, opinions, and the latest information in the field of giftedness. Overall, the website is dedicated to advancing the understanding and support of gifted children, providing valuable resources for their development and well-being.

(8) The *Fakescape* project, developed by political science students at the FSS, is an innovative escape game designed to educate high school students on media literacy and misinformation. The game, created under the guidance of FSS' experts Miloš Gregor and Petra Vejvodová, engages students in a series of tasks involving fact-checking, analysing headlines, and identifying manipulated images—all within a fictional narrative set before a 2028 presidential election. The initiative aims to make critical thinking and media literacy education both interactive and accessible. Fakescape builds upon the success of the earlier project “Zvol si info” [Choose your info], which promotes information literacy through lectures and the widely recognized book “Nejlepší kniha o fake news, dezinformacích a manipulacích!!!” [The best book on fake news, disinformation, and manipulation!!!]. By combining gamification with direct engagement in schools, Fakescape represents a powerful tool for combating disinformation. The project fosters critical thinking and equips young people with the skills needed to navigate today's digital landscape responsibly. It also ranked among the top three projects in the Gratias Tibi 2019 award in the under-30 category and among the top five in the SDGs Award 2019 in the Public Sector category.

(9) COVID-19: Psychological recommendations and advice for families with children, students and the public (2020) is a website developed by Dr. Zuzana Masopustová and colleagues at the FSS' Department of Psychology. The website provided psychological guidance and practical advice to help individuals navigate crisis-related challenges. Its key features include family support (articles on managing children's fears, discussing COVID-19, and maintaining connections with grandparents remotely), educational resources (recommendations for teachers on supporting students' psychological well-being and effective learning strategies), professional support (advice for frontline workers on communicating with children about the pandemic and addressing their concerns), and elderly assistance (guidance on supporting elderly family members to reduce isolation and anxiety). By making these resources widely accessible, the Department of Psychology

played a vital role in public education and well-being, demonstrating the importance of academic institutions in community support and science popularization.

(10) *The Unknown Society: Perspectives on Contemporary Czech Republic* (2021) is a book by Pavel Pospěch, an Associate Professor at the FSS' Department of Sociology. Recent events have significantly challenged much of what we thought we knew, yet this sense of disorientation can lead to valuable new perspectives. Social upheavals provide us with fresh ways to view the world around us. In his book, the author explores these perspectives, offering insights into the contemporary Czech society. The book integrates findings from sociological surveys, historical research, and philosophy, tackling seemingly simple questions and uncovering unexpected answers. The book encourages readers to see their own country with fresh eyes, challenging previously accepted truths and revealing new meaning in historical events and anomalies that once seemed random. From the perspective of science popularization, the book makes complex sociological concepts accessible to a broader audience, encouraging critical thinking and reflection on contemporary societal issues while fostering a deeper understanding of the Czech society.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

(1) The evaluators commented on a perceived imbalance between departments in their focus on teaching vs research and asked whether this was a strategic choice or an unintended consequence of historical circumstances. The FSS has three research institutes that embody its research priorities and expertise. Historically, they separated from their respective "sister" departments (e.g., the Psychology Research Institute separated from the Department of Psychology) to establish a firmer basis for the development of research excellence. However, the institutes remain in close collaboration with their "sister" departments, and it is common that an academic is employed part-time at a research institute and part-time at the respective department. Nevertheless, research is fully supported also at the departments that do not have their "sister" research institute.

(2) The evaluators noted that the FSS only rarely cooperated with the private sector, placed little emphasis on contractual research, and did not aim to establish any spinoff company. They also admitted that this was rather typical in the field of social sciences. During the reporting period, one of the projects (Invenio) reached a stage of development that allowed the FSS to sell the product to schools. In 2025, a spinoff company will be created to allow for further development and dissemination of the product to the public. Several examples of contract research activities are provided in table 3.3.2 and in section 3.5, which demonstrates that the FSS is becoming more engaged in cooperating with the private sector.

(3) The evaluators also recommended to search for further opportunities for applied research. Several examples of such project have been described in the 3.4 section including, for instance, the development of the FocusIS software, the DeePsy application, and the Methodology for Cooperation between Social and Legal Child Protection Services and the Prison Service. The FSS has thus successfully enriched the applied research portfolio and conducted research with clear positive impact in the society. The findings obtained from these projects have been successfully disseminated among wide public via research reports, dedicated websites, popularizing publications, media interviews, and other forms.

(4) The evaluators suggested increasing collaboration with other MUNI units, actively searching for external partners, and putting more emphasis on international cooperation. Several collaborations have been established with faculties within MUNI (e.g., Faculty of Informatics), academic institutions (e.g., Charles University and Brno University of Technology), Czech ministries (e.g., Ministry of Labour and Social Affairs and Ministry of the Environment), and other institutions (e.g., National Cyber and Information Security Agency and health insurance companies). International research collaboration research has become standard at FSS. We believe that the project examples provided in section 3.3 sufficiently illustrate that the FSS's staff maintains many long-term and fruitful collaborations with institutions both nationally and internationally.

(5) The evaluators also drew our attention to enhancing the international recognisability of the FSS and its members. The examples of the recognition by the research community we present in this report (see tables 3.2.1, 3.2.2, and 3.2.3)

include strictly external awards and the staff's membership in the editorial boards of renowned international journals (at least Q2 in the Web of Science or Scopus databases). Similarly, the invited lectures include only those presented at high-ranking universities. Although there is still much room for improvement, we feel that the FSS has already achieved some advancements during the reporting period.

(6) The evaluators recommended supporting outstanding units and individuals who are more likely to obtain prestigious awards. We have recently established a motivational programme that supports outstanding individuals and teams in applying for highly competitive international grants, such as ERC. We believe that this programme will allow our researchers to obtain these prestigious grants and, thus, further enhance the quality of research conducted at the FSS.

(7) The evaluators noted that gender issues should be considered, not only in terms of numbers, but also in terms of performance and achievements. As can be seen in table 3.2.1, in which the most prestigious awards are reported, and table 3.2.2, in which the most prestigious editorial boards memberships are summarized, the proportion of women was 50% and 40%, respectively. Indeed, women at the FSS received equal appreciation of their expertise by the international research community. Furthermore, the proportion of women among those who were promoted to associate or full professors has been increasing continually during the reporting period (25% in 2019, 33% in 2020, 33% in 2021, 33% in 2022, and 50% in 2023). The university also has a new Gender Equality Plan that has been approved for years 2025 to 2028 and that ensures that the FSS will continue its efforts to achieve gender equality.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
Media response to Šárka Portešová's award	3.2.1	https://vedanenisconfi-tacr-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp https://www.ceskenoviny-cz.translate.google/zpravy/2435552? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Hana Macháčková' award	3.2.1	https://div46amplifier.com/2022/12/14/online-anonymity-as-a-continually-challenging-concept-in-media-psychology/ https://div46amplifier.com/fall-winter-2022-issue/
Bohuslav Binka & Jan Činčera – press release	3.2.1	https://www.pragueconvention.cz/file/8996/pr_ambassador-awards-evening-2022_08092022.pdf
Youth Skills' project website	3.3.1	https://irtis.muni.cz/research/projects/yskills
Enlightened trust: An examination of trust and distrust in governance – conditions, effects and remedies (EnTrust) project website	3.3.1	https://www.muni.cz/en/research/projects/49827
Critical exploration of media-related risks and opportunities for deliberative communication: Development scenarios of the European media landscape (MEDIADCOM) project website	3.3.1	https://www.muni.cz/en/research/projects/56887
The generations and gender programme preparatory phase project website	3.3.1	https://www.muni.cz/en/research/projects/67698

Decision making of aspiring (re)migrants to and within the EU: The case of labour market-leading migrations from Asia (AspirE) project website	3.3.1	https://www.muni.cz/en/research/projects/67898
Robots, Computing the Human, and Autism/Cultural Imaginations of Autism Diagnosis and Emotion AI project website	3.3.1	https://www.muni.cz/en/research/projects/69501 https://emorob.fss.muni.cz/
Modelling the future: Understanding the impact of technology on adolescents' well-being (FUTURE) project website	3.3.1	https://www.muni.cz/en/research/projects/46292 https://irtis.muni.cz/research/projects/future
A life course perspective on the GENDERed PATHways of Social exclusion in later life, and its consequences for health and wellbeing (GENPATH)	3.3.1	https://www.muni.cz/en/research/projects/45267 https://gender-net-plus.eu/genpath/
National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI)	3.3.1	https://www.syri.institute/about-us
Partnership changes in older age	3.3.1	https://www.muni.cz/en/research/projects/51727
EU Kids Online 2020: Survey results from 19 countries	3.4	https://www.fss.muni.cz/vyzkum/publikace/prehled/1700256 https://www.muni.cz/en/research/projects/46292
Experimental analysis of individual emotional reactions of cybersecurity experts to simulated cyber threats	3.4	https://www-fss-muni-cz.translate.google/vyzkum/publikace/prehled/1752488? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp https://www-fss-muni-cz.translate.google/vyzkum/resene-projekty/40811? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pt o=wapp
Research report on partnerships and parenthood	3.4	https://www-fss-muni-cz.translate.google/vyzkum/resene-projekty/55687? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pt o=wapp https://www-fss-muni-cz.translate.google/vyzkum/resene-projekty/55687? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pt o=wapp
Invenio: Integration of subtests – Complex diagnostic system	3.4	https://www-fss-muni-cz.translate.google/vyzkum/publikace/prehled/1863378? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp https://www-fss-muni-cz.translate.google/vyzkum/resene-projekty/40865? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pt o=wapp

		https://invenio-muni-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Parenting behind bars: The effects of parental incarceration on the child	3.4	https://www-fss-muni-cz.translate.google/vyzkum/publikace/prehled/2396681? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp https://www-fss-muni-cz.translate.google/vyzkum/resene-projekty/55467? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
BACH: Achievement tests, projet website	3.4	https://www.muni.cz/en/research/projects/43867
DeePsy: Application for routine process and outcome monitoring in psychotherapy and counselling	3.4	https://www-fss-muni-cz.translate.google/vyzkum/publikace/prehled/2313777? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp https://www-fss-muni-cz.translate.google/vyzkum/resene-projekty/56387? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp https://www-deepsy-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
FocusIS: Innovated software for data collection	3.4	https://www-focus--agency-cz.translate.google/software-focusis? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp https://www-fss-muni-cz.translate.google/vyzkum/resene-projekty/43966? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
A broad definition and typology of elder abuse: the phenomenon of abuse, exploitation, neglect and other inappropriate actions and treatment of older men and women (EAN). Methodology	3.4	https://munispace-muni-cz.translate.google/library/catalog/book/2261? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
A guide to current affairs in the EU for secondary schools	3.4	https://euproskoly-fss-muni-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
The International Energy Security Summer School in Telč	3.6	https://mve.fss.muni.cz/en/news/8th-summer-school-on-energy-security-is-now-open-for-applications
The 30 Years of Economic and Societal Transformation conference	3.6	https://www.econ.muni.cz/30/en/conference
Czech Society Through the Lens of FSS MU	3.6	https://www-fss-muni-cz.translate.google/kalendar-akci/ceska-spolecnost-ocima-fss-mu? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp

The Psychotherapy Symposium	3.6	https://sympozium-fss-muni-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Participatory Housing Conference	3.6	https://participativnibydleni-cz.translate.google/konference-participativni-bydleni/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
11th World Environmental Education Congress	3.6	https://www.fss.muni.cz/en/events-calendar/11th-world-environmental-education-congress
The Fakescape project	3.6	https://www.muni.cz/en/students/student-clubs-associations/fakescape
COVID-19: Psychological recommendations and advice for families with children, students and the public	3.6	https://psych.fss.muni.cz/en/coronavirus

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Faculty of Sports Studies

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

The Faculty of Sports Studies is committed to advancing knowledge and practice in the fields of sports sciences, physical education, and active lifestyle promotion. Our mission is to contribute to the development of elite sports performance, support public health through physical activity, and foster interdisciplinary research in sports sciences. We strive to provide an inclusive, research-driven education that empowers students with the knowledge and skills necessary for careers in sports and health sciences. Through collaboration with national and international institutions, we aim to be a leader in sports education and research, influencing policies and practices that enhance the well-being of individuals and communities.

Our vision is to be recognized as a center of excellence in sports research and education, bridging the gap between science and practice. We aspire to produce cutting-edge research that informs training methodologies, health interventions, and sports policies. By integrating innovative technologies, fostering interdisciplinary collaboration, and engaging with the broader society, we seek to enhance human performance and quality of life through sport and physical activity.

Self-Reflection on Societal Contribution of R&D&I

The Faculty of Sports Studies plays a vital role in the development and application of research, development, and innovation (R&D&I) in sports sciences. Our research directly benefits multiple sectors, including elite sports, public health, and education. The faculty actively contributes to the understanding and promotion of physical activity as a crucial element of healthy living, with research focusing on sports performance enhancement, injury prevention, rehabilitation, and active aging.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

Recent projects exemplify our societal impact, such as collaborations with the Czech Olympic Committee on non-invasive muscle typology analysis for elite athletes and the "Active School in JMK" initiative, which fosters movement-friendly environments in schools. Furthermore, the "Zdravo bez hraníc" project, supported by the Interreg Slovensko–Česko program, establishes partnerships to promote physical activity among seniors, addressing the growing need for active aging strategies.

The faculty's contribution extends to policy recommendations, public health initiatives, and collaboration with industry partners. Our applied research informs sports organizations, educational institutions, and governmental bodies, supporting evidence-based decision-making in physical education, coaching, and health promotion.

Long-Term Goals in Research and Development

1. **Advancing Elite Sports Performance:**
 - Develop and refine training methodologies based on physiological, biomechanical, and psychological insights.
 - Utilize wearable technology and AI-driven analytics to optimize athlete performance and injury prevention.
 - Strengthen partnerships with national sports organizations and international research institutions.
2. **Promoting Health and Active Lifestyles:**
 - Conduct research on the role of physical activity in preventing lifestyle diseases such as obesity, diabetes, and cardiovascular disorders.
 - Expand community-based interventions that encourage physical activity across different age groups.
 - Develop educational programs that integrate sports science into school curricula and workplace wellness initiatives.
3. **Innovative Use of Technology in Sports Science:**
 - Enhance the application of digital tools, such as motion capture and virtual reality, in sports training and rehabilitation.
 - Explore non-invasive monitoring technologies for physiological and biochemical assessment of athletes.
 - Support interdisciplinary research that combines sports science with medical, psychological, and engineering expertise.
4. **Interdisciplinary Collaboration and Policy Influence:**
 - Strengthen cooperation with health and education sectors to create holistic physical activity strategies.
 - Contribute to national and international policies on sports and public health through research-driven advocacy.
 - Facilitate knowledge transfer between academia, industry, and governmental institutions.

Organizational Structure and Research Distribution

Following the recommendations of an [Internal Research and Doctoral Studies Evaluation \(IRDE\)](#) in 2022, the faculty has restructured its departments, consolidating smaller units into three new departments with clearly defined research priorities:

1. **Department of Physical Activities and Health (HEALTH):**

- Focused on the interaction between physical exercise and health, with research on optimal training programs and therapeutic approaches.
 - Main research priorities include identifying effective physical activities and risk factors, optimizing physical activity, hormonal influences on body composition, and biomechanics of movement.
 - Utilizes laboratory and field investigations, wearable technology, and data analytics to develop innovative health and performance strategies.
2. **Department of Physical Education and Social Sciences (EDUC):**
- Dedicated to skill acquisition and human performance research, particularly in sports, education, and professional settings.
 - Research priorities include learning and motion control, skill development in educational contexts, and the impact of physical activity on skill implementation.
 - Incorporates cutting-edge technologies such as virtual reality, biofeedback, and artificial intelligence to analyze and enhance learning processes.
 - Includes the Centre for University Sport (CUS), which oversees compulsory physical education for students across Masaryk University.
3. **Department of Sports Performance and Diagnostics (SPORT):**
- Specializes in sports performance research, training methodology, and exercise diagnostics.
 - Focus areas include load management, athlete nutrition, para-sports, and categorizing exercise across different sports disciplines.
 - Supports evidence-based training and competition strategies through advanced diagnostics and sports science applications.

Distribution of Research Activities by Type

The Faculty of Sports Studies maintains a balanced research portfolio, integrating basic and applied research in various disciplines. Our focus areas include:

- **Applied Research in Health Sciences:** Addressing injury prevention, rehabilitation, and the impact of physical activity on chronic diseases.
- **Balanced Basic and Applied Research in Education and Other Social Sciences:** Exploring physical education methodologies, sports psychology, and the sociocultural impact of sports.

Organizational Size and Structure

- **Staffing:** As of 2023, the faculty employs 74.1 full-time equivalent (FTE) staff members, including professors, associate professors, assistant professors, assistants, and research personnel.
- **Age and Gender Distribution:** The faculty maintains a diverse workforce, with a significant representation of assistant professors and an almost balanced gender ratio in total academic positions through the years 2019-2023.
- **Student Enrollment:** The faculty has witnessed consistent enrollment growth on undergraduate and master's levels with 1,054 undergraduate students, 454 master's students, and 48 doctoral candidates in 2023. The number of doctoral students was reduced intentionally to focus on the quality of the doctoral study programme, limiting the number of PhD students per supervisor and increasing the financial support per student.
- **Study Programs:** The faculty offers 8 undergraduate, 7 master's, and 2 doctoral programs, alongside an extensive range of lifelong learning courses.

The Faculty of Sports Studies remains committed to excellence in research, education, and societal impact. Through a strategic focus on interdisciplinary collaboration, technological innovation, and evidence-based practice, we continue to shape the future of sports science and contribute meaningfully to public health and well-being.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	3,1 / 1	3 / 1	3,1 / 1	3,1 / 1,4	3,1 / 1,8	3,1 / 1,8
Associate Professor	9,5 / 0,8	10,8 / 1,3	11,7 / 1,6	12,0 / 2,2	10,3 / 1,8	12,0 / 2,2
Assistant Professor	32,3 / 15,6	30,3 / 13,2	31,5 / 12,5	31,4 / 12,1	33,9 / 13,1	33,9 / 13,1
Assistant	7,0 / 2,3	8,6 / 3,5	8,7 / 3,9	7,9 / 3,7	7,1 / 4,0	8,7 / 3,9
R&D Personnel ³	0,5 / 0,3	1,6 / 1,0	1,9 / 1,0	3,1 / 1,8	3,1 / 1,8	3,1 / 1,8
Researchers in other categories ⁴	0,2 / 0,2	0,0 / 0,0	0,4 / 0,4	1,2 / 0,6	1,9 / 0,8	1,9 / 0,8
Technical and economic staff ⁵	3,7 / 0,9	2,9 / 0,7	3,7 / 1,7	6,9 / 3,6	7,3 / 2,9	7,3 / 2,9
Scientific, research and development staff involved in teaching activities	0,5 / 0,3	1,6 / 1,0	1,9 / 1,0	3,1 / 1,8	3,1 / 1,8	3,1 / 1,8
Early career researchers ⁶	0,8 / 0,0	1,0 / 0,0	0,8 / 0,7	1,0 / 1,0	0,3 / 0,3	1,0 / 1,0
Total ⁷	55,8/21,1	57,2/20,7	61/22,1	65,6/25,4	66,7/26,2	70/26,5

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of

of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor											4	1
Associate Professor					4	1	2		3		2	1
Assistant Professor	1	1	10	4	18	8	6	5		2		
Assistant	4	2	5	1	1							
R&D Personnel ⁹												
Researchers in other categories ¹⁰												
Technical and economic staff ¹¹												
Scientific, research and development staff involved in teaching activities	1		3	1	6	2	5	3	3	2	2	
Early career researcher ¹²	1											
Total ¹³	6	3	15	5	23	9	8	5	3	2	6	2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor					1	1	1				2	1
Associate Professor			1		3	1	4	1	2		2	1
Assistant Professor			13	6	19	7	7	5				

agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

Assistant	4	3	2	1	1		2	1				
R&D Personnel ¹⁵												
Researchers in other categories ¹⁶	2	2	3	1								
Technical and economic staff ¹⁷												
Scientific, research and development staff involved in teaching activities	2	1	7	3	6	3	4	2				
Early career researcher ¹⁸												
Total ¹⁹	6	5	19	8	24	9	14	7	2	0	4	2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	859	306	924	339	933	380	1020	418	1054	471	4790	1914
Master's ²⁰	401	146	427	162	418	167	439	185	454	199	2139	859
Doctoral	72	26	73	26	67	23	62	22	48	14	119	44
Lifelong Learning Courses	2241	970	1901	865	1238	508	2247	965	2095	882	9722	4190
Total	3573	478	3325	527	2656	570	3768	1590	3651	1566	7048	7007

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	2019		2020		2021		2022		2023		Total	
Undergraduate	7		7		8		8		8		8	
Master's	9		9		8		7		7		9	
Doctoral	2	1	2	1	2		2		2		2	1
Lifelong Learning courses	219		194		32		56		38			
Total	237	1	212	1	50		73		55		19	1

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics	1,2	Basic Research	5,2
	1.2 Computer and information sciences	0,5	Basic Research	
	1.3 Physical sciences		Zvolte položku.	
	1.4 Chemical sciences	0,4	Basic Research	
	1.5 Earth and related environmental sciences	0,8	Basic Research	
	1.6 Biological sciences	1,7	Balanced basic and applied research	
	1.7 Other natural sciences	0,6	Basic Research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	1,9
	2.2 Electrical engineering, Electronic engineering, Information engineering	0,7	Applied Research	
	2.3 Mechanical engineering	0,5	Applied Research	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering	0,7	Balanced basic and applied research	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine	2,8	Basic Research	73,5
	3.2 Clinical medicine	7,4	Balanced basic and applied research	

	3.3 Health sciences	63,2	Balanced basic and applied research	
	3.4 Medical Biotechnology	0,1	Balanced basic and applied research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	0,4	Basic Research	0,4
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences		4,9	Balanced basic and applied research	16
	5.1 Psychology and cognitive sciences			
	5.2 Economics and Business	1,6	Applied Research	
	5.3 Education	4,3	Applied Research	
	5.4 Sociology	1,8	Balanced basic and applied research	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences	3,4	Applied Research	
6. Humanities and the Arts	6.1 History and Archaeology	1,6	Basic Research	3
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion	1,4	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts	4,9	Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment:

The evaluated unit has established itself as a significant contributor to the research community through its outstanding achievements in prestigious awards, editorial positions in international journals, invited lectures, and engagement in national and European research evaluation processes. Its ability to attract and host globally recognized experts further solidifies its standing as a leader in scientific inquiry and innovation in sports and human movement sciences. These activities collectively demonstrate the unit's commitment to advancing research excellence, fostering international collaborations, and shaping the future of sports science and kinesiological research.

Over the years, its academic staff has received significant recognition, including the **Croatian State Prize for Science** awarded to Dr. sc. Mario Kasović, Ph.D., and the **MUNI Innovation Award** presented to Mgr. Miriam Kalichová, Ph.D. Additionally, Prof. MUDr. Julie Dobrovolná, Ph.D. was honored among the **Innovators 20 and named in Forbes' Top Czech Female Scientists 2023**, emphasizing her impact in scientific innovation.

Editorial board memberships further highlight the unit's influence in academic publishing. Faculty members such as Doc. PhDr. Bc. Zdenko Reguli, Ph.D., and Doc. dr. Armin Paravlić, Prof. šp. vzg., contribute to renowned journals like *Ido Movement for Culture* and *Annales Kinesiologiae*. These roles not only underscore their expertise but also reinforce the unit's role in shaping the discourse in sports science and kinesiological research.

International recognition is also evident in invited lectures delivered by faculty members, such as Zoran Milanovic, Ph.D., who spoke on the future of football at Lithuanian Sports University. Likewise, the unit has attracted esteemed international scholars, including Prof. Michael Pratt from the University of California San Diego and Prof. Andrew Jahoda from the University of Glasgow, fostering knowledge exchange and collaboration.

Moreover, faculty members have actively contributed to research evaluation, with Prof. MUDr. Julie Dobrovolná, Ph.D. participating in the **Czech Science Foundation** and Doc. Stanisław Czyż, Ph.D. involved in **Erasmus+**. These engagements reflect the unit's commitment to advancing scientific research and policy-making on both national and European levels.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
dr.sc. Mario Kasović, Ph.D.	Croatian State Prizes for Science	Croatian Parliament of the Republic of Croatia
Prof. MUDr. Julie Dobrovolná, Ph.D.	Innovators 20	Hospodářské noviny (HN.cz)
Prof. MUDr. Julie Dobrovolná, Ph.D.	Top Czech Female Scientists 2023	Top Czech Female Scientists 2023 - Forbes
Doc. dr. Armin Paravlić, Prof. šp. vzg.	Šturmovo priznanje	University of Ljubljana
Doc. Stanisław Czyż, Ph.D.	MUNI Scientist Award	Grant Agency Masaryk University
Zoran Milanovic, PhD	MUNI Scientist Award	Grant Agency Masaryk University
Mgr. Miriam Kalichová, Ph.D.	MUNI Innovation Award	Masaryk university

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
doc. PhDr. Bc. Zdenko Reguli, Ph.D.	Ido Movement for Culture. Journal of Martial Arts Anthropology - 2084-3763, 2082-7571 (Online)
Doc. dr. Armin Paravlić, Prof. šp. vzg.	Annales Kinesiologiae (SLO) - 2232-2620
Doc. dr. Armin Paravlić, Prof. šp. vzg.	Acta Kinesiologica (CRO) - 1840-3700
Mgr. Ivan Struhár, Ph.D.	Studia sportiva 1802-7679
Zoran Milanovic, PhD	Facta Universitatis, Series: Physical Education and Sport ISSN 1451-740X (Print); ISSN 2406-0496 (Online)
Zoran Milanovic, PhD	Annales Kinesiologiae, ISSN 2232-2620 (print); ISSN 2335-4240 (online)
Doc. Stanisław Czyż, Ph.D.	Human Movement, eISSN:1899-1955
Doc. Stanisław Czyż, Ph.D.	PeerJ; eISSN: 2167-8359
Doc. Stanisław Czyż, Ph.D.	South African Journal for Research in Sport Physical Education and Recreation; ISSN: 0379-9069
Ana Carolina Paludo	Frontiers in Psychology, ISSN 1667-1078

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Zoran Milanovic, PhD	Child in Football: does real recreational football exist nowadays? - 11th International Scientific and Professional Conference "A Child in Motion" – 2021	University of Ljubljana	2021
Zoran Milanovic, PhD	The future of football: How innovation and digitalization will change the most popular sport?	Sport forum-international scientific conference „Athlete training management 2021“ – 2021	2021

		Lithuanian Sports University	
Doc. Stanisław Czyż, Ph.D.	Physical education – does it make sense?	International Scientific Conference Youth in The Perspective of the Olympic Movement Transylvania University in Brasov, Brasov, Romania	2020
Doc. dr. Armin Paravlić, Prof. šp. vzg.	Chinese experience – strength and conditioning of Olympic athletes, road to Tokyo Olympic Games	Faculty of Sport and Physical Education, University of Niš (Serbia)	2021

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Prof. . Arnold, Baca	Universität Wien (AUT)	Quantitative Research Methodology	2020
Prof. Alexander, Ferrauti	University of Bochum (GER)	Quantitative and Qualitative Research Methodology	2021
Dr. Simona, Pajaujienė	Lithuanian Sports University (LIT)	The newest trends for health and fitness industry and Human capital: Personal training Europe	2021
Prof. Jürgen, Beckmann	Technische Universität München (GER)	Preventing Choking under Pressure in Individuals and Teams	2022
Prof. Michael, Pratt	University of California San Diego (USA)	The Evolution of Science and Policy for Physical Activity and Public Health	2022
Dr. Mark, Joseph O'Sullivan	Norwegian School of Sport Sciences (NOR)	Learning in Development	2023
Dr. Nuno, Pimenta	Instituto Politécnico de Santarém (POR)	Is it good to lose weight?	2023
Prof. Peter J., Beek	University of Amsterdam (NED)	Control and coordination of human movement, Hurdles to clear in the scientific support of high-performance sport	2023
Prof. Sigmund, Loland	Norwegian School of Sport Sciences (NOR)	The ethics of technology in sports	2023
Prof. Andrew, Jahoda	University of Glasgow (UK)	Activity and wellbeing: behavioral activation therapy for people with intellectual disabilities and depression	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Prof. MUDr. Julie Dobrovolná, Ph.D.	Czech Science Foundation (GACR)	Czech Science Foundation (GACR)	2023
Doc. Stanisław Czyż, Ph.D.	EU programme for education, training, youth and sport	Erasmus +	2023

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1–3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment:

The research projects undertaken by the Faculty of Sports Studies have significantly contributed to its mission of advancing knowledge in sports science, physical fitness, and health, while also fostering interdisciplinary collaboration with various faculties and external organizations.

The project financed “**Stress resilience and coping with physical and verbal assault**” by Czech Science Foundation focused on the development of a methodology for evaluating self-defense scenarios and stress tolerance, contributing to personal and professional diagnostics. This project benefited students in self-defense programs (SEBS and ASEBS) and provided women in the general population with feedback on their self-defense performance. By studying the impact of acute and long-term stress on physical and psychological well-being, the project aligned with the faculty's goal of enhancing resilience and safety in high-stress situations.

The project “**The effect of controlled physical activity on the imbalance of the autonomic nervous system, the immune system and reduced health fitness in oncology patients**”

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

after adjuvant chemotherapy” funded by the Agency for Health Research of the Czech Republic, in collaboration with the Masaryk Memorial Cancer Institute, investigated the effects of chemotherapy on the autonomic nervous and immune systems and the role of supervised physical activity in mitigating these effects. This interdisciplinary effort contributed to medical and sports sciences by developing standards for patient care, integrating biometric tracking for fatigue monitoring, and providing rehabilitation solutions that improved the quality of life for cancer patients.

The project **“Complex optimization of the service of members of the 601st Special Forces Group of the Czech Army ”** conducted for the Czech Ministry of Defence was dedicated to optimizing the physical and mental performance of special forces operatives (601.skss). By incorporating a holistic approach, the program aimed to enhance injury prevention, recovery, and mental resilience, ultimately extending the service life of personnel. This initiative showcased the faculty’s ability to apply sports science to high-performance and military contexts.

The Technology Agency of the Czech Republic funded a project **“Creation of a mobile application for screening and diagnosing fatigue in young athletes ”**, in partnership with an external software company, aimed to create a mobile application for early fatigue detection in adolescent athletes. By leveraging an innovative algorithm based on internal and external training load variables, this project contributed to the faculty’s mission of improving athlete health and performance. The app provided individualized monitoring and recommendations, benefiting young athletes, their parents, and coaches.

The same Technology Agency of the Czech Republic funded another project **“First steps: gait analysis of healthy toddlers and toddlers diagnosed with ankle valgus and the effect of special footwear”** that in collaboration with a private shoe company, investigated the impact of biomechanical footwear on toddlers with valgus ankle conditions. The study sought to improve mobility and physical activity levels in affected children, potentially leading to long-term health benefits. This research integrated sports science with biomechanics, contributing to innovative solutions in pediatric orthopaedics.

These projects reflected the Faculty of Sports Studies’ dedication to applied research, interdisciplinary collaboration, and practical solutions that enhance physical health, safety, and performance across different populations.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary -

Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
Ministry of Defence of the Czech Republic	Complex optimization of the service of members of the 601st Special Forces Group of the Czech Army				5242/207	8443/333
Czech Science Foundation	Stress resilience and coping with physical and verbal assault				2173/86	2529/98
Technology Agency of the Czech Republic	Creation of a mobile application for screening and diagnosing fatigue in young athletes	1329/52	1058/42	310/12		
Technology Agency of the Czech Republic	First steps: gait analysis of healthy toddlers and toddlers diagnosed with ankle valgus and the effect of special footwear	541/21	888/35	611/24		
EU – Erasmus+	Outdoor Adventure Education through Physical Education			218/8	467/18	551/22
Total		1860/73	1946/77	1139/44	7882/311	11523/453
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Agency for Health Research of the Czech Republic	The effect of controlled physical activity on the imbalance of the autonomic nervous system,			1178/46	1748/69	1465 /58

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

²⁷ Ibid.

	the immune system and reduced health fitness in oncology patients after adjuvant chemotherapy					
EU – Erasmus+	cooperative partnership	581/23	493/19,4		323/12,7	648/25,6
Total		581/23	493/19,4	1178/46	2071/81,7	2113 /83,6

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Occupational Safety Research Institute	Prevention of musculoskeletal disorders due to load handling – proper load handling for a specific selected group of employees			143/6		
Dekonta a.s.,	Analysis of the effect of protective clothing on monitored parameters of body functions in selected stress conditions.				267/10,5	576/22,7
Aries a.s.	Professional measurements of the usability of upper limb compression sleeves in sports	56/2,2				
VSC		165/6,5	103/4			
Total		221/8,7	103/4	143/6	267/10,5	576/22,7

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

The research projects undertaken by the Faculty of Sports Studies have significantly contributed to its mission of advancing knowledge in sports science, physical fitness, and health, while also fostering interdisciplinary collaboration with various faculties and external organizations.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

²⁹ See Terms definition.

Spin-off: Entrant s.r.o. (2020) The establishment of Entrant s.r.o. in 2020 exemplifies the faculty's commitment to innovation and technology transfer. This spin-off company bridges the gap between academic research and industry by developing and commercializing solutions in sports sciences and health monitoring. Its products and services benefit athletes, medical professionals, and rehabilitation specialists, leading to measurable economic impacts by creating jobs and fostering entrepreneurship. The company's innovations consider gender dimensions by tailoring solutions to both male and female athletes, ensuring inclusivity. Moreover, the spin-off aligns with sustainability goals by focusing on long-term athlete health and injury prevention.

Utility Model of Shoes for Toddlers The development of a utility model for toddlers' shoes addresses a crucial health concern—valgus ankle conditions—which can affect long-term mobility. This innovation provides a preventive and corrective solution for young children, ensuring their healthy development. The project's impact extends to parents, pediatricians, and physiotherapists, who can utilize the model to improve mobility outcomes. From an economic perspective, the introduction of this footwear model supports the orthopedic footwear industry, fostering technological advancements in biomechanical design. Gender considerations are included by ensuring that the product is beneficial for both boys and girls. Sustainability is addressed through durable materials and designs that promote foot health, potentially reducing future medical costs.

Patent: System for Measuring Rope Tension and Resonant Frequency of Bars (2021) This patented system enhances sports performance assessment by providing precise measurements of rope tension and bar resonance. It is widely applicable in gymnastics, rock climbing, and other disciplines requiring high levels of safety and precision. Sports institutions, training centers, and researchers benefit from this innovation, improving athlete training and injury prevention. The economic impact is seen in its market potential for manufacturing and licensing to sports equipment companies. Gender considerations ensure that the system is equally applicable to male and female athletes. In terms of sustainability, the system encourages resource-efficient training, reducing the risk of equipment overuse and material waste.

Software: Mobile Application for Screening and Diagnosing Fatigue in Young Athletes (2021) The mobile application for fatigue screening provides a significant breakthrough in sports health management. Designed for adolescent athletes, their parents, and coaches, the app assists in monitoring fatigue levels and optimizing training loads, ultimately reducing the risk of overtraining and injury. Schools, sports academies, and professional teams benefit from the data-driven approach to performance management. The economic impact is evident in reduced healthcare costs and improved athlete productivity. The app integrates gender considerations by adapting monitoring metrics to physiological differences between male and female athletes. Sustainability is addressed by promoting long-term athlete health, preventing burnout, and encouraging responsible training methodologies.

Project on Self-Defense Scenarios and Stress Tolerance This project has led to improved training methodologies for self-defense students and professionals, as well as personal safety enhancements for women in the general population. The findings are utilized in law enforcement training, self-defense courses, and psychological resilience programs. The gender dimension is highly relevant, as the project specifically examines how women respond to violent threats. The sustainability impact is reflected in enhanced public safety, long-term mental resilience, and crime prevention strategies that reduce societal healthcare burdens.

Project on Chemotherapy and Physical Activity The collaboration with the Masaryk Memorial Cancer Institute has resulted in improved rehabilitation protocols for cancer patients, focusing on enhancing

their quality of life post-chemotherapy. The research is applied in hospitals, rehabilitation centers, and wellness programs, benefiting patients, medical professionals, and healthcare systems. The gender dimension is significant, as chemotherapy affects male and female patients differently, requiring tailored rehabilitation approaches. Sustainability is promoted through preventive healthcare, reducing long-term medical costs and improving public health outcomes.

Project for Czech Ministry of Defence The specialized training program for the Czech Army's special forces has strengthened the physical and mental resilience of operatives. The project's outputs are used in military training and rehabilitation programs, with potential applications in emergency response teams and law enforcement agencies. The economic impact is seen in prolonged service life for operatives, reducing costs associated with personnel turnover and medical treatment. Gender considerations ensure that both male and female personnel receive optimized training. Sustainability is reflected in injury prevention and mental health support, ensuring long-term workforce effectiveness.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
Spin- off	2020	Entrant s.r.o.
Utility model	2021	Utility model of shoes for toddlers
Patent	2021	System for measuring rope tension and resonant frequency of the bar and bars
Software	2021	Mobile application for screening and diagnosing fatigue in young athletes

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

³⁰ Specify the specific type of result. Add rows as needed.

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

On the university level the system for transferring results is led by the Technology Transfer Office (TTO MUNI). TTO MUNI is perceived as an institutional unit providing support and conditions for the practical application of university's research results. It provides services in technology/knowledge transfer (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralised, ensuring the necessary personnel, methodological and technical frameworks.

TTO MUNI manages the intellectual property of MUNI and cooperates in its identification, protection and commercial exploitation (licensing, spinoffs, application consulting, contract research) following MUNI rules and standards.

TTO MUNI supports cooperation between the scientific community and companies by building the university's internal environment and defining the internal rules. It initiates opportunities for meeting scientists with company representatives or finding resources for collaborative research. All this contributes to the mutually beneficial development and implementation of commercially interesting results of scientific work into everyday life.

TTO MUNI supports the development of a functional environment for technology transfer by a diverse mix of activities. Some target the academic community, e.g. student training, workshops, round tables, TT Day and more. Others are aimed at the general or professional public, especially building long-term partnerships in the field of applied research.

The TTO staff, within the framework of their agendas, are involved in areas that facilitate and lead to the delivery of R&D results at MUNI into practical use. This includes professional competencies in the field of intellectual property protection, licensing, legal support, as well as searching for application partners and negotiating conditions for cooperation.

As a key player in the South Moravian Region, TTO MUNI collaborates closely with the South Moravian Innovation Centre and other institutions to support entrepreneurial initiatives, technology development, start-up growth, business incubation, and training programs in innovative entrepreneurship.

Cooperation with the application partners can be understood on several levels.

Joint grant projects of applied research

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Contract research according to the client's requirements

Collaborative research funded from non-public sources

Possibilities of internships and practice of students in companies, non-profit organizations and public administration

Close cooperation with the application partners on the preparation and implementation of educational programs

The Faculty of Sports Studies at Masaryk University actively collaborates with various external entities. Typical users of The Faculty of Sports Studies results are sports organizations, regional public bodies, specific populations (oncology patients, elderly, children), defense forces (army, firefighters, police).

1. Sport organisations:

Mobile application for screening and diagnosing fatigue in young athletes developed within a project supported by Technology Agency of Czech Republic is used by gymnasts, cyclists and badminton clubs.

2. Regional public bodies

Annual subsidy from the Brno district Kralovo Pole and South Moravian Region to support the Special Olympics - a sport event for more than 150 disabled athletes organised by Faculty of Sports Studies.

3. Specific populations

Children - Utility model of shoes for toddlers is marketed by a producing company [Boty Hanak](#).

Oncological patients - [Web pages ONKO Fit](#) with useful advice on physical activity, mental well-being and a healthy lifestyle for cancer patients and their caregivers, all prepared in collaboration with experts from the Faculty of Sports Studies.

Special army forces - Methodological guidelines reflecting the needs of special forces operators, which, with its holistic approach, ensure the optimization of physical and mental performance, the prevention of injuries, disabilities and threats to mental health.

Joint research projects: Engaging in collaborative research with sports organizations to advance knowledge in sports science and related fields.

Educational programs: Developing and implementing educational programs in partnership with sports organizations and the Olympic Committee to enhance the skills and knowledge of students and professionals.

Internships and practical training: Providing students with opportunities for internships and practical training in sports organizations, enhancing their real-world experience and employability.

Events and workshops: Organizing events, workshops, and seminars in collaboration with external partners to promote knowledge exchange and professional development in the field of sports.

Consulting and advisory services: Offering consulting and advisory services to sports organizations, leveraging the expertise of faculty members and researchers to address specific challenges and opportunities in the sports sector.

These collaborative efforts contribute to the overall mission of the Faculty of Sports Studies to foster excellence in sports education, research, and practice, while also benefiting the broader community through the application of scientific knowledge and expertise

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Total					

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Between 2019 and 2023, the university carried out numerous significant initiatives aimed at popularizing science through educational activities for primary and secondary school students.

The "[Movement for All](#)" event was organized annually for primary school pupils. Similarly, "[Health Day](#)" and "[Visit from Šlapanice Primary School](#)" were regular events for primary school students.

For secondary school students, the "[High School Students Visit the Faculty](#)" event was organized.

The [Junior University \(MjUNI\)](#) was a lifelong learning program for students aged 9-18, held annually in March throughout the 2019-2023 period.

The "[Researchers' Night](#)" was an annual demonstration of science and research for the general public, taking place in September or October.

The "[SPORT LIFE](#)" fair was a nationwide family-oriented event where children and parents could experience various diagnostic tests and procedures used in FSpS research.

The [Science Festival](#) featured interactive elements showcasing practical, useful, and entertaining aspects of science.

These activities contributed to the popularization of science and education among young people and the wider public.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

Based on the recommendations from the previous evaluation period, the Faculty of Sports Studies has successfully implemented various initiatives between 2019 and 2023 to enhance its research, social relevance, and collaboration with external entities. Below is a structured summary of how the faculty has addressed and incorporated the evaluation recommendations into its activities.

1. Increasing Third-Party Funding

Recommendation: The report suggested that the faculty should increase third-party funding to support research projects.

Implementation (2019-2023):

The faculty expanded its participation in internationally funded projects, including collaborations under the Erasmus+ program and EU-funded research initiatives.

Strengthened industry partnerships through contract research agreements, working with sports organizations, healthcare institutions, and private sector companies to co-develop innovative solutions.

Developed and commercialized patents (e.g., the system for measuring rope tension) and utility models (e.g., shoes for toddlers with valgus ankle conditions), generating additional revenue from technology transfer.

2. Strengthening International Collaboration

Recommendation: Improve international engagement through research grants and partnerships.

Implementation:

Engaged in cross-border research collaborations, such as projects on Outdoor Adventure Education through Physical Education. Faculty members participated in international conferences and editorial boards, contributing to global research networks.

3. Expanding Applied Research

Recommendation: Focus on high-impact applied research projects with tangible benefits.

Implementation:

The faculty continued its strong emphasis on applied research, developing projects such as:

Self-defense and stress management methodology for students and the general public.

Mobile applications for fatigue monitoring in young athletes.

Biomechanical footwear research to support early childhood development.

Special forces training programs to optimize physical and mental performance in military personnel.

These research outputs led to practical applications in sports training, healthcare, and rehabilitation.

4. Enhancing Industry Collaboration and Technology Transfer

Recommendation: Improve cooperation with non-academic stakeholders and increase technology transfer.

Implementation:

Established Entrant s.r.o., a spin-off company focused on bringing faculty research innovations to the market.

Partnered with private sector firms (e.g., shoe manufacturers, software developers) to commercialize research.

Strengthened ties with sports federations, national teams, and healthcare providers to implement research findings in practical settings.

5. Increasing Recognition in Scientific Community

Recommendation: Improve faculty visibility in international research networks and academic recognition.

Implementation:

Faculty members actively contributed to peer-reviewed scientific journals, particularly in the fields of kinesiology, biomechanics, and sports management.

Participation in expert panels and advisory boards for sports science and healthcare-related organizations increased the faculty's influence.

Faculty members were involved in developing industry standards, such as the standardization of the Ottawa Mental Abilities in Sport Questionnaire (OMSAT-3).

6. Popularizing Science and Public Engagement

Recommendation: Continue promoting research through public outreach initiatives.

Implementation:

Organized events for primary and secondary school students, including:

"Movement for All"

"Health Day"

"Junior University (MjUNI)"

"Researchers' Night"

Engaged with local and national media to disseminate findings, raising public awareness of sports science applications.

Increased public interaction through workshops, methodological training for coaches, and outreach programs.

7. Promoting Gender Inclusivity

Recommendation: Ensure that research and applied projects consider gender-specific impacts.

Implementation:

Several projects explicitly addressed gender dimensions, including:

Self-defense and stress resilience training for women.

Research on maternity footwear, improving comfort and reducing lower limb pain in pregnant women.

Studies on training load and fatigue in male and female athletes, tailoring interventions accordingly.

8. Sustainable Research and Development

Recommendation: Align faculty research with sustainability principles.

Implementation:

Research on injury prevention and biomechanical improvements has led to long-term health benefits for athletes, reducing healthcare costs and improving quality of life.

Use of recyclable and sustainable materials in footwear design to reduce environmental impact.

Development of fatigue-monitoring applications that help optimize training and prevent overuse injuries, contributing to long-term athlete health sustainability.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
Prestigious R&D&I awards granted during the evaluation period	3.2.1	https://www.fsps.muni.cz/en/articles/scientist-from-muni-sport-was-awarded-the-croatian-annual-prize-for-science
Prestigious R&D&I awards granted during the evaluation period	3.2.1	https://www.facebook.com/MU.FSpS/posts/-muni-innovation-award-nov%C3%A1-cena-masarykovy-univerzity-m%C3%A1-sv%C3%A9-prvn%C3%AD-majitele-za-/10158068527286498/
Prestigious R&D&I awards granted during the evaluation period (via Google Translate)	3.2.1	https://gamu.muni.cz/aktuality/oceneni-muni-scientist-2023
Prestigious R&D&I awards granted during the evaluation period (via Google Translate)	3.2.1	https://archiv-hn-cz.translate.goog/c1-66876020-20-nejlepsich-inovatoru-roku-2020-nejen-cupr-s-prusou-zabodoval-i-prvok-mikroelektrarna-ci-it-gyml? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Erntrant s.r.o. - spin-off	3.4.1	https://www.entrant.cz/?lang=en#uvod
Patent	3.4.1	https://isdv.upv.gov.cz/webapp/resdb.print_detail.det?pspis=PT/2021-267&plang=CS
Boty Hanak (via Google translate)	3.5	https://www.botyhanak-shop.cz.translate.goog/detska-obuv-hanak/boty-hanak-surikata-boticky-pro-batolata-skladem/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Web pages ONKO Fit (via Google translate)	3.5	https://onkofit-cz.translate.goog/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Movement for All (via Google translate)	3.6.	https://www.fsps-muni-cz.translate.goog/aktuality/pohyb-pro-vsechny-aneb-den-deti-aktivne? x tr sl=cs& x tr tl=en& x tr hl=cs
Health Day (via Google translate)	3.6.	https://www.fsps-muni-cz.translate.goog/aktuality/den-zdravi-na-zs-hornikova? x tr sl=cs& x tr tl=en& x tr hl=cs

Visit from Šlapanice Primary School (via Google translate)	3.6.	https://www-fsps-muni-cz.translate.google/aktuality/navsteva-ze-zs-slapanice? x tr sl=cs& x tr tl=en& x tr hl=cs
High School Students Visit the Faculty (via Google translate)	3.6.	https://www-fsps-muni-cz.translate.google/aktuality/navsteva-ze-zs-slapanice? x tr sl=cs& x tr tl=en& x tr hl=cs
Junior University (MJUNI) (via Google translate)	3.6.	https://mjuni-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs
Researchers' Night (via Google translate)	3.6.	https://www.nocvedcu.cz/en https://www.fsps.muni.cz/en/articles/education-and-sports-at-the-researchers-night https://www-fsps-muni-cz.translate.google/aktuality/cas-vyprsel-startuje-noc-vedcu-2021? x tr sl=cs& x tr tl=en& x tr hl=cs
SPORT LIFE (via Google translate)	3.6.	https://www-fsps-muni-cz.translate.google/aktuality/sportovni-veda-bavila-sport-life-2023? x tr sl=cs& x tr tl=en& x tr hl=cs
Science Festival (via Google translate)	3.6.	https://www-fsps-muni-cz.translate.google/aktuality/fsps-se-pridala-k-organizatorum-uspesne-akce-festival-vedy-2023? x tr sl=cs& x tr tl=en& x tr hl=cs https://www-festivalvedyatechniky-cz.translate.google/? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Institute of Computer Science

FORD: 1 - Natural sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex optables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

The Institute of Computer Science (ICS) at Masaryk University (MU) has a dual role as an organization responsible for the management and development of most of the ICT infrastructure and services at MU, contributions to the development and operations of national and international e-Infrastructures, and as a specific research institution focused on information technology and applied computer science. Within MU, it complements the Faculty of Informatics: it operates infrastructure common to the whole University (with the only notable exception of the student information system) and performs corresponding applied research focused on infrastructure-related challenges. Its long-term goal is to provide a state-of-the-art IT infrastructure to the University through procurement and in-house development backed by focused applied research.

ICS does not enjoy the same academic and research freedom as faculties, and the top management of MU directly influences the design and operations of the infrastructural services provided by ICS.

ICS has 188 employees, 132 men and 56 women. Most ICS staff are IT professionals, with roughly 30 people with direct R&D orientation, and even these usually have some operational duties to ensure the applicability of their research. In 2023, our employees worked on 49 projects, including 15 international projects.

In 2023, ICS had a total operating budget of 267 mil CZK, i.e., ~11.3 mil EUR. 65% of the budget comprised institutional financing dedicated to ICS's operational role, 24% originated from project financing, and 11% from other activities and contract research.

The "operational" role of ICS should be understood relatively broadly. It covers:

- core infrastructure (network connectivity, Wi-Fi, phone network);
- key IT systems (intranet, ERP, GIS, library IT system, identity and access management systems);

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

- most IT services for end-users and local IT support teams, including a 24x7 service desk (emails, collaboration tools, etc.);
- virtualization platform for local servers and storage;
- CERIT-SC large-scale compute and storage national e-Infrastructure facility, including capacities for storing and processing sensitive data;
- National Open Access Desk within OpenAIRE;
- National European Open Science Cloud (EOSC) point of contact;
- open science support for the University;
- maintaining cybersecurity posture through coordination of incident handling, development and enforcement of policies, deployment of technical measures, and user education.

ICS conducts applied research and experimental development in the areas primarily related to its operational role. Basic and contract research are also represented but comprise only a small portion of activities. The research is based on these pillars:

1. **Large-scale infrastructure:** ICS is part of a unique large Czech research e-Infrastructure called e-INFRA CZ. This infrastructure aims to provide large-scale distributed computing infrastructure and storage to researchers in the Czech Republic and, to some extent, internationally. ICS also operates a particular instance of the trusted research environment, SensitiveCloud, an ISO 27k-certified part of the e-Infrastructure dedicated to storing and manipulating highly sensitive, especially human data. Based on this involvement, ICS, as part of e-INFRA CZ, is driving the implementation of the European Open Science Cloud (EOSC) in the Czech Republic.
2. **Cybersecurity.** Cybersecurity research is primarily motivated by the operational needs of the University's incident handlers and their constituency. The research focuses both on user and technical security. Research activities span from operational-driven areas, such as network traffic monitoring, big data storage and analysis, cybersecurity forensics, and risk management, to areas with transformative potential, such as predictive cybersecurity and cybersecurity autonomy. These areas are complemented by research of supporting technologies, such as infrastructure simulation and emulation, which are used both for user training and cybersecurity technology improvement.
3. **Applied research related to a specific area,** often solving a specific need by a partner from the public sector. The research is typically done in a small group of 1-2 senior researchers with support from PhD and BA/MA level students from the Faculty of Informatics. As a result, there are large numbers of different outputs. Here, we provide a summary:
 - a. **Tools to increase the efficiency of the e-infrastructure.** At ICS, we have been developing several general programs for automatic software optimizations, allowing self-adaptation to changing hardware and computation input/settings, mainly focusing on heterogeneous computing with GPU accelerators. We also develop or optimize selected simulation tools used in computational chemistry and biology.
 - b. **Processing and analyzing high amounts of heterogeneous datasets.** In close collaboration with the Czech Police, we have been developing and providing specific digital investigation and forensic analysis tools. Together with the Global Change Research Institute of the Czech Academy of Sciences, we work on tools and solutions for research on environmental ecosystems. With many other partners, we are developing new data-analytic methods to solve nontrivial problems backed by a robust, complex, and secured data analytics infrastructure.
 - c. **Processes and tools to manage secure digital identities** across multiple institutions. We have developed a unique system that combines identity management and access management features in a coherent modular open-source solution. The focus is on providing

complex authentication and authorization infrastructures usable in widely distributed environments, as showcased by its deployment in large life sciences infrastructures and at the University.

- d. **Application of artificial intelligence on medical data.** We focus on developing specific medical AI products and services available to a broader spectrum of users. We operate the RationAI Laboratory, which is shared with the Faculty of Informatics. Our research focuses on developing high-performance AI pipelines optimized for deployments on secure compute infrastructures, with particular use cases in biomedical applications and infrastructure optimization to support such applications.

4. **Open collaborative environment for medical research (MeDiMed).** MeDiMed represents an environment to support coordinated international research and education among collaborating healthcare institutions and medical faculties, taking advantage of the great potential of medical image information being processed in medicine today. The practical nature of the MeDiMed roots and experience in its daily operations motivated many national and international research projects aiming to improve healthcare and patient comfort.

This research has a measurable societal impact that goes well beyond the borders of the University. Through our collaboration with academic, industry, and governmental partners, the results of our research directly or indirectly influence citizens in Czechia and abroad.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	1/0	1/0	1/0	1/0	1/0	1/0
Associate Professor	0	0	0	0	0	0
Assistant Professor	0	0	0	0	0	0
Assistant	0	0	0	0	0	0
R&D Personnel ³	0	0	0	0	0	0
Researchers in other categories ⁴	19.2/0.8 (2.5/0*)	16.7/1.7 (2.4/0)	19.6/2 (2.9/0)	17.7/1.2 (2/0)	16/1.4 (1.7/0)	33/5 (5/0)
Technical and economic staff ⁵	6.4/6.4	5.7/5.7	5.3/5.3	5.3/5.3	4.3/4.3	9/9
Scientific, research and development staff involved in teaching activities	0	0	0	0	0	0

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

Early career researchers ⁶	8.6 (13.6**)	8.5 (12.2)	10.3 (14.2)	8.3 (11.5)	6.9 (10.4)	10.6 (19.6)
Total ⁷	25.6/7.2	22.4/7.4	24.9/7.3	23/6.5	20.3/5.7	42/14
* Except for that one professor, ICS does not maintain academic positions for its employees. This is partly due to not having own study programs, except for one lifelong learning course and participation of our employees in University's CORE courses. However, ICS has several employees that hold the Associate Professor degree and who would be listed as Associate Professors at other parts of the University. Their FTE equivalent is in parentheses. ** The number in parentheses includes also researchers that are pursuing their PhD, which shows that young researchers constitute around 2/3 of research workforce.						

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	0	0	0	0	1	0	0	0
Associate Professor	0	0	0	0	0	0	0	0	0	0	0	0
Assistant Professor	0	0	0	0	0	0	0	0	0	0	0	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ⁹	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁰	4	0	14	1	3	0	1	0	1	0	0	0
Technical and economic staff ¹¹	0	0	4	4	2	2	1	1	0	0	0	0
Scientific, research and development staff involved in teaching activities	0	0	0	0	0	0	0	0	0	0	0	0
Early career researcher ¹²	0	0	10	1	0	0	0	0	0	0	0	0
Total ¹³	4	0	18	5	5	2	2	1	2	0	0	0

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	0	0	0	0	1	0	0	0
Associate Professor	0	0	0	0	0	0	0	0	0	0	0	0
Assistant Professor	0	0	0	0	0	0	0	0	0	0	0	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ¹⁵	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁶	2	1	13	2	3	0	3	0	0	0	1	0
Technical and economic staff ¹⁷	0	0	1	1	5	5	0	0	0	0	0	0
Scientific, research and development staff involved in teaching activities	0	0	0	0	0	0	0	0	0	0	0	0
Early career researcher ¹⁸	0	0	9	1	0	0	0	0	0	0	0	0
Total ¹⁹	2	1	14	3	8	5	3	0	1	0	1	0

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

Table 3.1.4 – Students

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate	0	0	0	0	0	0	0	0	0	0	0	0
Master's ²⁰	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral	0	0	0	0	0	0	0	0	0	0	0	0
Lifelong Learning Courses	0	0	0	0	0	0	28	15	37	24	65	39
Total	0	0	0	0	0	0	0	0	0	0	0	0

Table 3.1.5 - Study programmes in Czech/English

Type of study programme	Total ²¹ / Of which professional study programmes.											
	2019		2020		2021		2022		2023		Total	
Undergraduate	0	0	0	0	0	0	0	0	0	0	0	0
Master's	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral	0	0	0	0	0	0	0	0	0	0	0	0
Lifelong Learning courses	0	0	0	0	0	0	1	0	1	0	1	0
Total	0	0	0	0	0	0	0	0	0	0	0	0

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	94,2
	1.2 Computer and information sciences	88,5	Balanced basic and applied research	
	1.3 Physical sciences	3,4	Basic Research	
	1.4 Chemical sciences	0,1	Basic Research	
	1.5 Earth and related environmental sciences		Zvolte položku.	
	1.6 Biological sciences	2,2	Basic Research	

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	1.7 Other natural sciences		Zvolte položku.	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	5,2
	2.2 Electrical engineering, Electronic engineering, Information engineering	4,4	Applied Research	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering		Zvolte položku.	
	2.6 Medical engineering	0,7	Applied Research	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology	0,1	Basic Research	
	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology		Zvolte položku.	
	2.11 Other engineering and technologies		Zvolte položku.	
3. Medical and Health Sciences	3.1 Basic medicine		Zvolte položku.	
	3.2 Clinical medicine		Zvolte položku.	
	3.3 Health sciences		Zvolte položku.	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries		Zvolte položku.	
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences		Zvolte položku.	0,6
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education	0,3	Basic Research	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications	0,3	Basic Research	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion		Zvolte položku.	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

ICS has a unique position of being both a research and operation organization. Unlike CEITEC, which is a pure research institute of MU, our recognition metrics go beyond the purely academic ones, such as citation counts or journal board memberships. In the following text, we describe how we perceive the extent of recognition from the international community.

Within the area of research infrastructures, we use our participation at the international project consortia with a corresponding managerial responsibility as the primary reflection of our recognition. Namely, workpackage leadership in H2020 projects like EOSC-Synergy, EOSC-Life, CINECA, or the HEU projects to start in 2024, AARC3, and EOSC-ENTRUST. We take this as a clear demonstration of the recognition by the community represented by partners of such projects (these projects usually have dozens of partners, so they represent a proper competitive environment). Also, invitations to other projects like the HEU project O.S.C.A.R.S., where the major partners are ESFRI infrastructures, and our invitation by ELIXIR to be one of just two ELIXIR members to participate directly in this project, even without a managerial role there.

In the area of cybersecurity, we are also using participation in international projects as an important metric. We also assign high value to international usage of our technologies, participation in international working groups and organizations, as well as traditional academic metrics. The cybersecurity team has been invited as a package leader to several EU projects, such as CONCORDIA or SAPPAN, and is routinely invited to submit EU project proposals by its network of international partners. In addition to the applied results mentioned in Section 3.4, other software results are either gaining traction, such as the results in the simulation domain, or are being actively deployed by our industrial partners, such as the analytical extensions to worldwide deployed products of MU's spin-off Flowmon Networks.

In the area of high-performance computing, the recognition of scientific software can be measured in software usage and citation of related papers. The CaverDock publications have over 400 citations at Google Scholar, and over 900 users per month visit CaverWeb, executing over 1900 jobs. Publications introducing different versions of Xmipp have over 1400 citations, in summary, proving the software tool is widely accepted.

Our work in autotuning resulted in co-organizing a workshop called Generic Autotuning Technologies for GPU Applications, sponsored by Lorentz Centre, The Netherlands. The workshop started an international collaboration with NTNU (Norway) and Netherlands e-Science Center, resulting in several joint publications. The publications introducing our work on automatic software adaptation have reached over 100 citations on Google Scholar.

In the area of data processing and analysis, the group's research activities on the international scene emerged in the preparation of the Horizon EU project "CoPAS Forensics", through which the group has established contacts with international research institutions (Universiteit Maastricht in the Netherlands, EGI.eu, etc.), as

well as with representatives of police authorities of other countries – in particular with the Police of the Slovak Republic, which expressed interest in the establishment of a memorandum of cooperation. In environmental research, the group – in collaboration with its partner CzechGlobe – is establishing cooperation with the future research infrastructure eLTER and discussing the possibilities of building core services in data management and processing.

BioMedAI, as a result of a TEAMING project, is a testament to international recognition of our research.

Despite not focusing on academic publications as a solitary metric of research impact, researchers at ICS publish their findings, often in collaboration with other parts of the University and with international partners. In the period of 2019-2023, we have (co-)authored 68 journal papers (18x D1, 18x Q1, 23x Q2) and 77 papers in proceedings of conferences where the majority has a CORE rank B or higher. We consider many of these publications a proxy for recognition by the research community because we, as co-authors, are often invited to participate in the research due to our applied results.

Owing to the relatively small number of researchers, the absence of the academic track and students, and a strong focus on applied research and experimental development, we do not exert any concentrated effort to achieve the results as defined in Tables 3.2.1-3.2.5. For example, in place of invited lectures, foreign scientists visiting ICS often engage in informal meetings with employees sharing their research interests. As a substitute of sort for presence in editorial boards, we actively support the development of Diamond Open Access at MU, and through our Open Science efforts, we work on cultivating the research environment in the Czech Republic by helping other institutions develop their own Open Science strategies.

However, we review the pure science metrics once every two to three years and discuss whether their absence directly or indirectly impacts our ability to conduct high-quality research, establish and maintain international collaboration, or secure project funding. We also intend to use them as a secondary metric for evaluation of performance in planned academic track (see Section 3.7).

Our researchers often participate as members of conference TPCs and routinely review journal and conference paper submissions in their research areas. They also review inter-university and national project proposals and cascade grants in European projects that provide them.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
-	-	-

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
-	-

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
Tomáš Rebok	Big Data - overview, basic concepts and practical use in research	Alliance4Life 5th project meeting	2019
Martin Husák	Graph-based models in prediction and projection of cyber attacks	The 1st International Workshop on Graph-based network Security	2020
Martin Husák	Cybersecurity Research at CSIRT-MU: Situational Awareness and Attack Projection	UTSA Cyber Center's Research Talk (University of Texas, San Antonio)	2020
Martin Husák	Cybersecurity incident handling in the midst of changing threat landscape	FHSTP International Week (St. Pölten University of Applied Sciences)	2021
Martin Husák	Complex Networks in Cybersecurity: Applications and Challenges	ACONTA'22 : First European Conference on Augmented Complex Networks - Trustworthy Analysis	2022

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Shanchieh Yang, Research professor, Director of research, ESL Global Cybersecurity Institute	Rochester Institute of Technology	Extracting and Synthesizing Cyberattack Behavior Models for Predictive Intelligence	2019

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the research project/programme call	Name of the contracting authority/guarantor of the project/programme call	Year
Jiří Filipovič	Grant Agency of Masaryk University	Masaryk University	2020, 2022
Jiří Filipovič	Grant Agency	Charles University	2020, 2021
Jiří Marek	Evaluation of institutional Open Science Strategy	Institute of Czech Language, Academy of Sciences CZ	2022
Jiří Marek	Evaluation of institutional Open Science Strategy	Brno, University of Technology	2021-2022

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

C4e (*CyberSecurity, CyberCrime and Critical Information Infrastructures Center of Excellence, MŠMT, CZ.02.1.01/0.0/0.0/16_019/0000822*) started a multi-disciplinary centre of excellence that is now in its sustainability phase, focusing on basic research of technical and non-technical aspects of cybersecurity. The research activities were divided into three areas. The first area covered process and technical measures of securing critical information infrastructures, utilizing simulation, verification, and predictive analysis. The second area covered simulation and virtualized environments, analysis and visualization of cybersecurity threats, and cybersecurity education. The third area covered the laws of cybersecurity, cybercrime, and cyber defense. The project was a collaboration between ICS, the Faculty of Informatics, and the Faculty of Law. Its results kickstarted a number of follow-up national projects and helped establish international collaborations resulting in multiple European projects. In addition, the researched technologies help maintain the university's cybersecurity posture.

SOCCER (*Developing and deploying SOC capabilities for the academic sector - a teamwork of Universities and RTOs in the CEE region, Digital Europe, 101128073*) is a project aimed at strengthening the cybersecurity capabilities and resilience of the EU by supporting the development of Security Operations Centres (SOC) preparedness, readiness, capabilities, and infrastructure within the academic sector – Universities and Research and Technology Organisations particularly in the Central Eastern Europe (CEE). It is a collaboration of partners from Poland, Czechia, Slovakia, Lithuania, and Estonia. The project will support a unified methodology, development, and deployment of SOC infrastructure and services within academic centres involved in the project's consortium. Academic sector saturation with given SOC solutions will result in better monitoring, detection and response to cyber-attacks and threats, including knowledge and cybersecurity threat intelligence sharing, as well as supporting the popularisation of a framework for joint reaction against cyber incidents. An important objective of the project is a popularization of knowledge about the SOC development, deployment, and functioning and a buildout of relevant SOC's skills across the cybersecurity community within universities, a future grouping of cybersecurity professionals expected to support private and public entities in upgrading their cybersecurity capabilities.

CONCORDIA (*Cyber security cOmpeteNCe fOr Research anD InnovAtion, H2020, 830927*) – The project formed a dedicated consortium of 46 partners from 17 EU member states, Switzerland, Norway, Israel, and the United Kingdom to integrate Europe's excellent cybersecurity competencies into the network of expertise to build the European secure, resilient and trusted ecosystem. The purpose was to promote Europe's digital

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

sovereignty, to help the EU retain and develop the cybersecurity technological and industrial capacities necessary to secure its Digital Single Market, boost security, and improve quality of life. The project delivered a number of results from the domains of policy, technology, education, pilots, certification, and research. One of the project's key results was the Cybersecurity Roadmap for Europe, a set of cybersecurity recommendations integrating research and innovation, education, economy and investments, law, and certification and standardization, thus providing a first-of-a-kind holistic guideline for ensuring Europe's digital sovereignty. The project significantly boosted collaboration in cybersecurity between European states, paved the way for future projects, and enabled us to influence technological course, especially in the area of cybersecurity training and virtualization environments, which are a key topic in our cybersecurity research.

BioMedAI (*BioMedAI TWINNING*, 101079183) – This TWINNING project aims to bridge the gap between AI research in clinical diagnostic and the actual practice and to strengthen the University's capability in this area. Masaryk University (ICS and FI) and Masaryk Memorial Cancer Institute (MMCI) team with two advanced partners (AP), Medizinische Universität Graz (MUG) and Technische Universität Berlin (TUB), to establish a BioMedAI infrastructure allowing close cooperation of computer science and clinical experts to develop explainable trustworthy AI solutions. Both APs possess rich experience with AI solutions for healthcare. Namely, processing large amounts of sensitive image and clinical data, interactive machine learning methods with a human-in-the-loop, and validating AI methods for healthcare. The main body of the BioMedAI project concentrates on training computer science researchers at MU and clinical experts at MMCI in developing explainable AI methods based on high-quality medical data validated in a clinical setting. We will organize thematic workshops, virtual training with hands-on experience in developing explainable AI tools, and two summer schools. One will be oriented towards basic research in explainable AI methods for image and clinical data processing, and the other will be towards managing sensitive medical data. Furthermore, the BioMedAI project will also increase the visibility and presence of the explainable AI research in healthcare at MU and MMCI by training a PR manager responsible for presenting the research to various stakeholders and by training the existing project management staff at MU and MMCI in writing grant applications for projects in EU and elsewhere.

EOSC-CZ (*European Open Science Cloud Czech Republic*, MŠMT, CZ.02.01.01/00/22_004/0007682) – The main objective of the individual project of the EOSC-CZ system (IPs) is to create a comprehensive common foundation for the implementation of EOSC in the Czech Republic and to ensure the current and future needs of the Czech research community in the field of handling research (FAIR) data according to the Architecture of the Implementation of the EOSC Initiative in the Czech Republic and in accordance with the pan-European EOSC implementation strategy. This will also fulfill the data-oriented components of the Open Science strategy in the Czech Republic, primarily within the FAIR Data and EOSC pillars. The operation is provided with financial support from the European Union. In this project, ICS coordinates the "EOSC Secretariat" unit, responsible for nation-wide coordination of the whole EOSC CZ initiative, including coordination of scientific communities (almost 500 active members of the EOSC CZ workgroups) and oversight over the development of the National Data Infrastructure, National Repository Platform (for which there is another project within the initiative, focused on providing significant storage capacities and services for data repositories, coordinated by CESNET and with significant direct ICS contribution) and development plans for specific repositories and services for FAIR data management. The technical part of the work, including the development of the National Metadata Directory for all research data in Czechia, builds on the technological foundations of the CERIT-SC infrastructure.

e-INFRA CZ (*e-Infrastruktura CZ*, MŠMT, LM2018140) is the sole e-infrastructure for research, development, and innovation in the Czech Republic, which represents a fully transparent environment providing comprehensive capacities and resources for the transmission, storage, and processing of scientific data to all entities engaged in research, development, and innovation, regardless of the sector in which they are carried out. It thus creates a communication, information, storage, and computing platform for research, development, and innovation at the national level of the Czech Republic and internationally. It provides an

extensive and comprehensive portfolio of ICT services, without which modern research, development, and innovation cannot be implemented. The main components of e-INFRA CZ include high-performance national communication infrastructure, national grid and cloud infrastructure, the most powerful and modern supercomputer systems of the Czech Republic, and large-capacity data storage. CERIT-SC centre, stationed at the ICS, is together with CESNET and IT4Innovations at VŠB-TUO, one of the three partners of the infrastructure, significantly contributing to the resources used by the distributed computing environment in Metacentrum and development of the internationally recognized Authentication and Authorization Infrastructure Perun AAI. CERIT-SC is also driving innovation in the e-Infrastructure by ensuring close cooperation with scientific communities and leading the promotion of good practice in research data management.

EOSC-Life (*EOSC-Life: Providing an open collaborative space for digital biology in Europe*, H2020, 824087) – EOSC-Life brings together the 13 Life Science 'ESFRI' research infrastructures (LS RIs) to create an open, digital and collaborative space for biological and medical research. The project publishes 'FAIR' data and a catalogue of services provided by participating RIs that enable the management, storage, and reuse of data in the European Open Science Cloud (EOSC). The project ensures that this space is accessible to European research communities. EOSC-Life is also implementing workflows that cross disciplines and addresses the needs of interdisciplinary science. Through open hackathons and bring-your-own-data events, EOSC-Life is being co-created with our user communities. This provides a blueprint that illustrates how the EOSC supports widespread and excellent data-driven life science research. EOSC-Life is addressing the data policies needed for human research data under the GDPR. Interoperable provenance information is provided that describes the history of samples and data to ensure reproducibility and adherence to regulatory requirements.

EDIReX (*EurOPDX Distributed Infrastructure for Research on patient derived cancer Xenografts*, H2020, 731105) - The overall goal of the EDIReX project was to establish a cutting-edge European infrastructure offering Trans-national Access (TA) of PDX resources (Patient Derived Xenograft, a tumor tissue hosted by an immunodeficient mouse) to academic and industrial cancer researchers, including the distribution of cryopreserved samples to third parties, the structured biobanking of user-developed models, and the performance of efficacy studies. ICS was responsible for the implementation of a public Data Portal for efficient and user-friendly query and visualization of clinical, molecular, and pharmacological annotation of the models.

KYPO II (*Simulation, Detection, and Mitigation of Cyber Threats Endangering Critical Infrastructure*, MVČR, VI20162019014) – Based on the previous research and implementation of the first-of-a-kind cybersecurity virtualization technology, this project aimed at research and development of tools for economically-and-time efficient simulation of real Critical Information Infrastructures (CIIs), detecting of cyber-threats, and then mitigation. The tools that were created provide support for the automated preparation and execution of security teams' training and exercises. Project results served to improve the technical and professional cybersecurity preparedness of the Czech Republic in terms of CII protection and were used for a number of national cybersecurity exercises by the government and industry entities (such as large energy providers).

AfoLab (*Automated digital data forensics lab for complex crime detection*, MVČR, VK01010147) – The constant growth in the amount and diversity of data, as well as the greater variety and power of modern analytical methods, significantly affect the possibilities of digital forensic analysis associated with the investigation of criminal activity. This project focuses on the automation and support of key stages of the forensic process, where the design of a digital forensic laboratory will support the automation of routine (repetitive) activities and, in the form of ready-made and expandable analytical views, will facilitate the building of situational awareness of the activity under investigation. At the same time, the project responds to the increasingly urgent need for a forensically strong collection of digital evidence from IT systems and communication infrastructures, for which the availability of a sufficient amount of conclusive and correctly captured data (so-called forensic readiness) is a crucial prerequisite.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶ * Projects without annual financing show the full grant amount in the first year within the table. The totals can therefore be misleading. ** Green coloured cells indicate years a project was underway. Grey coloured cells indicate years when a project has not started or already finished.				
		2019	2020	2021	2022	2023
MVČR	KYPO II (2016-2019)	8 502/335				
H2020	EDIRex (2018-2022)	11 357/448				
MŠMT	C4e (2018-2023)	187 586/ 7 400				
H2020	CONCORDIA (2019-2023)	11 027/435				
H2020	EOSC-Life (2019-2023)	35 008/1 381				
MŠMT	e-INFRA CZ	10 150/400	11 076/437	16 543/653	24 357/961	19 372/764
Horizon Europe	BioMedAI TWINNING (2022-2025)				17 517/691	
MŠMT	EOSC-CZ (2023-2028)					426 488/ 16 824
Digital Europe	SOCCER (2023-2026)					20 153/795
MVČR	ANALYZA II					8 663/342
Horizon Europe Digital Europe	Other projects	26 136/1 031			17 415/687	20 534/810
MŠMT	Other projects - Structural funds	198 102/ 7 815	64 564/ 2 547			
MŠMT	Other projects – Large infrastructures	2 882/114	4 204/166	4 086/161	4 006/158	4 016/158
MVČR, GAČR, TAČR, CESNET, MŠMT, MK	Other projects – National sources	18 429/727	20 838/822	19 038/751	36 986/ 1 459	46 923/ 1 851
Total		509 179/ 40 556	100 682/ 3 972	39 667/ 1 565	100 281/ 3 956	546 149/ 21 544

In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

²⁷ Ibid.

H2020	EJP RD (2019-2024)	608/24				
H2020	ConcepTION (2019-2024)	1 065/42				
H2020	EOSC-Future (2021-2023)			2 712/107		
EU4Health	EHDS2 (2022-2024)				380/15	
Digital Europe	EUCAIM (2023-2026)					1 394/55
Total		1 673/66	0	2 712/107	380/15	1 394/55

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
ČEZ Distribuce, a.s.	Analýza ČEZ	938/37				
KU Leuven	Data storage	101/4				
ELIXIR Hub	AAI	1 420/56	2028/80	1 597/63	1 496/59	1 521/60
BBMRI-ERIC	BBMRI (AAI)	761/30	558/22	532/21	532/21	532/21
CESNET	RemSig	1 369/54	1 369/54		761/30	1 065/42
ELIXIR Hub	IS CONTAINERS		152/6	152/6		
ELIXIR Hub	IS PLATFORMS		862/34	2 636/104	1 090/43	2 053/81
ELIXIR Hub	IS STRATEGIC		51/2	177/7	152/6	76/3
Agencia Estatal Consejo Superior	CNB CSIC			127/5		
KU Leuven Research & Development	LAS KUL				76/3	76/3
MAGICWARE	MED – ASSIST					203/8
Total		4 588/181	5 019/198	5 222/206	4 107/162	5 526/218

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

²⁹ See Terms definition.

The research at ICS predominantly focuses on the potential societal impact. The impact of the research can be divided into three categories: direct, indirect, and enabling. The direct impact is represented by the research results, whose application directly helps society on any scale. The indirect impact is represented by results aiding various entities, thus increasing their impact on society. And finally, the enabling impact is represented by technologies, which open new venues for society to pursue previously unattainable research and goals, each with its societal impact.

Direct impact:

One of the most visible areas where the direct impact manifests is in our effort to strengthen the security environment of the Czech Republic. Our results apply to all scales of society. On the smallest scale, the team's applied research helps the University manage the ever-evolving cybersecurity landscape. The focus on automation helps to steer the incident handling team's attention on critical issues while not neglecting the routine incident handling tasks, thus providing a solid level of security with low direct costs. On a larger scale, our research results support and increase the effectiveness and action readiness of the Czech Police and other security forces, helping to ensure the safety of Czech citizens by more effectively investigating criminal acts and prosecuting perpetrators. This is achieved through developing data-analytics infrastructures (AFoLab and CoPAS), which enable more efficient data analyses and building related situational awareness, as well as through the proposal of specialized data analyses, supporting the investigation of specific criminal acts.

Our collaboration with hospitals through MeDiMed enables the sharing of medical knowledge, sharing of accurate sources of information, close cooperation via tools supporting or assisting in decision-making, higher flexibility, mobility, and economic efficiency in global cooperation, enhancing the synergy among the medical community and consequently bringing benefits to all people. The development of wearable sensors improved the quality of life for many patients during medical treatment or while waiting for permanent pacemaker implantation.

Indirect impact:

The research results with indirect impact represent the largest fraction of our applied results.

Our technologies helped advance the state of the art and research capacities in times of need, such as with the Xmipp SW, which was used to analyze the structure of SARS-nCov2 glycoprotein, or CaverDock which was used to target specific protein with drugs to enable novel treatments. Our technologies used for speeding up research computations considerably improve the results of collaborating researchers.

Cybersecurity technologies, policies, and their implementation researched and developed at ICS constitute a cornerstone for strengthening the cybersecurity posture of Czech universities via a cybersecurity collaboration, which indirectly influence hundreds of thousands of students and tens of thousands of staff. Our research in cybersecurity infrastructure emulation and cybersecurity education is an important building block for training cybersecurity experts and laypersons in academia, government, and industry.

We make available an integrated data-analytics portal for environmental research (EnviLab), consolidating available data and data analyses of selected natural phenomena and enabling, among others, the adoption of advanced data analyses by members of the research community, as well as making selected data and data analyses available to the public. This goal closely relates to the possibility of linking research activities of specialized teams with inputs and/or insights from the engaged public (so-called citizen science), with our ambition, for example, to broaden data inputs and thus possibly refine or extend data-analytical capabilities and environmental insights.

Enabling impact:

With our key role in improving and maintaining the national research e-Infrastructure, we enable researchers from the Czech Republic to utilize considerable computing resources to advance their research. Our research and development in the area of authorization and authentication infrastructures (AAI) also enables seamless identity management in several large international e-Infrastructures, thus playing an important role in

supporting international-scale research. The next stages of the enabling impact and our involvement in the area of e-infrastructures are through the development of research data management within the EOSC implementation in the Czech Republic.

MeDiMed was a forerunner and enabler for the move from analog (on films) to digital representation and storage of results in medical imaging methods (esp. radiology). It also demonstrated the potential of data sharing and paved the way for others.

In cybersecurity, our research of virtualized and simulation environments enables others to ignore hard engineering problems and focus on specific cybersecurity research, such as developing autonomous security systems.

The generic tools for making software faster developed by High-Performance Computing Research Group allow other developers to improve the efficiency of their software. The tools simplify the implementation of software adaptability for their developers. Moreover, they make the software more efficient, decreasing the power consumption it needs to deliver its results.

Exemplary results:

This section provides a selection of applied results adopted by numerous or important partners or having a considerable societal impact.

- **KYPO:** was one of the first open cybersecurity virtualization platforms tailored explicitly for creating cyber defense exercises (CDX). It was awarded two prizes (the Ministry of the Interior Award and the European Technology Radar Prize) and is adopted by academia, industry, and government entities for organizing CDXs.
- **SABU:** is a platform for sharing cybersecurity incidents and associated indicators of compromise. SABU provides a technological backbone for maintaining cyber situational awareness between Czech universities and other important network infrastructure entities, as it is a cornerstone for the Warden system operated by CESNET.
- **Perun:** is a unique identity and access management system designed for research and education environments, which is currently being deployed in several national and international infrastructure projects.
- **CaverDock:** is a tool designed for rapid analysis of ligand transport processes in receptors. It models the transportation of a ligand – a substrate, a product, an inhibitor, a co-factor, or a cosolvent – from the outside environment into the receptor active or binding site (or vice versa).
- **Xmipp:** is a toolkit for volume reconstruction from cryo-electron microscopy data. It enables obtaining 3D maps of biologically relevant specimens (proteins or even whole viruses) in near-atomic resolution, allowing us to study their structure and functionality. ICS develops its GPU acceleration, allowing the implementation of more computationally demanding algorithms.
- **CoPAS:** is a unique, secured, privacy-oriented modular platform for personalized data analysis and processing and for practical training of police investigators.
- **MELASA:** is a software tool for computations and visualizations of anisotropic elastic properties of lamellar (nano-)composites.
- **Granef:** is a graph-based network forensics toolkit that can transform network data into a format suitable for a graph database while at the same time preserving the natural perception of network traffic.
- **ENVision:** is a web portal for satellite (Sentinel-2) data analysis – computation of cloudless mosaics (interactive creation using various methods) and vegetation parameter approximation from satellite data. ENVision is a predecessor of EnviLab.

- **LikPik:** is a software tool for processing and analyzing huge amounts of structured but messy data from crime investigations. The tool is currently deployed in the internal infrastructure of the Police of the Czech Republic.

In many cases, the development of these technologies spans multiple research projects in which particular subsystems are added or new functionality is implemented. Therefore, It is difficult to say the exact year of application for the purpose of Table 3.4.1. However, all the aforementioned results were released or saw a major update in the period 2019-2023. To prevent duplication and cluttering of the text, we omit these results from the following table and include only minor technologies or those that have not yet seen more considerable uptake.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
A system for logical and bit protection of digital data that enables institutions to implement their own systems in accordance with OAIS.	2020	ArcLib
A software toolset for achieving cyber situational awareness in a large and heterogeneous environment. The goal of the toolset is to support cybersecurity teams in iterating through the OODA loop (Observe, Orient, Decide, Act).	2020	Crusoe
Software that allows dynamic autotuning of source code parameters of CUDA and OpenCL kernels. It aims to enable performance portability of code for accelerators when the code can be automatically re-optimized for a specific combination of hardware, application settings, and input data.	2020	Kernel Tuning Toolkit
Prototype of an IoT sensor for measurement of CO2 concentration in the air. The sensor is based on the absorption of infrared signals by this gas.	2021	Prototype of IoT CO2 sensor
Active monitoring system for a defined number of external pacemakers configurable for integration into the IS. The complete set-up includes: a pacemaker, a wireless signal transmitter from the pacemaker, a signal receiver operator, and an evaluation software license.	2021	Integrated active monitoring system for patients with external pacemakers
Software for orchestration of cybersecurity tools, used for emulation of cybersecurity attackers and for training of autonomous cybersecurity tools.	2022	Cryton
Software for simulation of cybersecurity interactions and, being used in the context of other projects, for training of autonomous cybersecurity agents.	2022	CYST
A software platform providing up-to-date data on body dimensions and body composition of the Czech population, created for designers and manufacturers of all products designed for the human body.	2023	A.D.A.P.T.
A web-based search engine that provides fast structure-based retrieval in the entire set of AlphaFold DB structures. AlphaFind automatically extracts the main 3D features of each protein chain and using a machine learning model finds the most similar structures.	2023	AlphaFind

³⁰ Specify the specific type of result. Add rows as needed.

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Since 2005, the Technology Transfer Office (TTO) has been an integral part of Masaryk University. TTO provides support and conditions for the practical application of University's research results. It provides services in technology/knowledge transfer (TT) to all MUNI departments. The key TT activities are methodologically and substantively centralized, ensuring the necessary personnel, methodological and technical frameworks.

TTO manages the intellectual property of MUNI and cooperates in its identification, protection, and commercial exploitation, following MUNI's rules and standards.

TTO supports cooperation between the scientific community and companies by building the University's internal environment and defining the internal rules. It initiates opportunities for meeting scientists with company representatives or finding resources for collaborative research. All this contributes to the mutually beneficial development and implementation of commercially interesting results of scientific work into everyday life.

The TTO staff are involved in areas that facilitate and lead to the delivery of R&D results at MUNI into practical use. This includes professional competencies in the field of intellectual property protection, licensing, and legal support, as well as searching for application partners and negotiating conditions for cooperation.

Cooperation with the application partners related to the ICS role can be understood on several levels:

- joint grant projects of applied research,
- contract research according to the client's requirements,
- collaborative research funded from non-public sources.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Due to its focus on applied research and experimental development, ICS produces results that are expected to go into practice. The recipients range from research project guarantors, collaborating academic institutions, industry partners, and public health organizations, to the general public.

ICS also complements TTO in providing expertise in Open Science, thus bringing a new perspective to handle technology/knowledge transfer and synergies in the modern digital age.

Identifying potential collaboration partners is done either through our research networks or with the help of TTO. It includes the organization of professional workshops, university-wide events, such as the Business Research Forum, participation at trade fairs, and technology presentations on domestic and foreign portals.

Commercialization of results is limited, as most of our results are technologies released under open licenses. Economic results are, therefore, often indirect – these technologies attract the attention of potential partners and help us better secure project funding, or we are awarded funding for their further development.

Examples of successful commercial technology transfers:

Historically, two successful cybersecurity spin-offs originated at ICS (INVEA-TECH, AdvaiCT), and ICS and MU benefitted from enduring close connections with the companies through licensing and product discounts, and project collaboration. In 2020, the University sold its share in INVEA-TECH (then Flowmon Networks) when the company was bought by a large international company; however, the exact price is a trade secret. The official announcement can be found here (auto-translated):

https://www-muni-cz.translate.goog/pro-media/tiskove-zpravy/univerzitni-spin-off-ohlasil-exit-muni-zhodnoti-svuj-podil?_x_tr_sl=cs&_x_tr_tl=en&_x_tr_hl=cs

ICS also co-developed three tools licensed by university spin-offs: CaverDock and CaverWeb, which were licensed by Enantis, and 4D-GRAPHS, which was licensed by AI|ffinity. While the licensing income is marginal (hundreds to thousands of EUR) and was distributed to developers through University's channels, we consider it a success because it shows a potential to develop a marketable product.

RemSig, a system for electronic signing of documents, was developed at ICS and is currently licensed to most Czech universities through CESNET, which pays us yearly for the ongoing development of the tool.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
-	-	-	-	-	-
Total	-	-	-	-	-

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Members of research teams are often active in popularizing their research areas to the public. These activities are either mandated by projects they participate in (especially European projects) or are a part of teams' strategies. The Institute also employs staff with PR and marketing experience to assist researchers with dissemination activities.

Popularization of research is done using several channels:

- web pages, blogs, podcasts, or former Twitter, where the results are communicated in a concise and accessible manner;
- writing articles in newspapers and journals aimed at the lay or knowledgeable public;
- participating in fairs, such as Researchers' Night or the Festival of Science and Technology;
- hosting open days, introducing the work of teams to students and the public;
- participating in university-wide popularization efforts (MjUNI *);
- giving internships to high schoolers in collaboration with a technical high school from Brno **.

Indirect popularization, by way of building and maintaining ICS's brand recognition, is ensured through invited participation in radio or TV programs in the role of topic experts.

* Junior University (MjUNI) is a lifelong learning program under the auspices of Masaryk University intended for pupils and students aged 9 to 18. It is a unique opportunity that opens the door to the world of science, education, and research for children and adolescents. Students get to know the academic environment and experience the role of a student firsthand. The goal of MjUNI is to popularize science towards young students, their families, and the general public.

Details: <https://mjuni-cz.translate.google/? x tr sl=auto& x tr tl=en& x tr hl=en-US& x tr pto=wapp> (auto-translated).

** In collaboration with the High School of Informatics, Postal Services, and Finance Brno, we prepared an internship program for students of their informatics course. The internship focused on cybersecurity topics such as incident handling, data analyses, cybersecurity exercises, and security fundamentals.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

The Institute underwent a performance review with the rest of the University in 2020. However, the structure of the review was considered by both the reviewers and the ICS's representatives as unsuitable for an organization that maintains a dual operational/research role. ICS was given a do-over in 2023 through an internal review process with international reviewers (IRDE, <https://researchevaluation.muni.cz/institutional-evaluation/internal-research-and-doctoral-studies-evaluation-irde-2022>). In this second review, it was given more leeway in arguing the benefits of its idiosyncratic nature. This time, ICS passed the evaluation successfully and received feedback aligned with its development strategy.

In this section, we address the recommendations from both reviews. However, due to limited time, the measures taken in response to the second review have not yet been fully realized.

Reviewers' recommendations from 2020:

- *For any research unit, even if it is "applied" only, there is the need to measure excellence by academic standards on the international stage. The standard path is a proper (scientific) publication strategy. This would be our major recommendation.*

ICS adopted a motivation program that provides monetary compensation to researchers who publish in prestigious journals and conferences. The goal was to establish a steady influx of Q2+ journal and CORE B+ conference publications. We consider the program a success, as we argue in Section 3.2, where we provide our publication numbers. This program was revised in 2024 when its scope was broadened to other applied results. It will be accompanied by a further push to establish better measuring criteria for applied results, as is mentioned in the commentary for the 2023 recommendations.

- *We believe there is great potential for industrial collaborations. We believe in the overall claim being made: that a service unit lead by researchers leads to innovation to the benefit of the University. However, some of these services and innovations are also needed by industry. So, there should be a way to create revenue from such a setup. Follow-up recommendations: capitalize on the experiences of maintaining a critical infrastructure for the University with industrial collaborations, strengthen engagement with corporate sphere.*

The overwhelming majority of technologies at ICS are released under open licenses (see Sections 3.4 and 3.5). Technology transfer to the industry thus happens only under limited circumstances - as a part of contract research, through university spin-offs, or through service and licensing contracts - which constitute only a minor part of our budget. However, in addition to the University's central strategy for technology transfer, we are also attempting to broaden our options by including business and industry luminaries in the Scientific Advisory Board of ICS and discussing viable approaches with them. No clear strategy is yet available, and this remains an important issue for the following years.

- *More engagement, especially with the "public" on campus would be recommended.*

ICS broadened its outreach to not only the University's students and staff but also outside, to the general public, as is described in Section 3.6. In addition to these popularization activities, we are closely collaborating with researchers and IT teams of Faculties to ensure the best possible level of research IT support.

Reviewers' recommendations from 2023:

- *ICS should define relevant research and development KPIs and make an agreement on them with the University's leadership.*

The results of the evaluation in 2023 brought strong arguments that ICS should maintain its research identity, ending long-running discussions about whether the research should be moved to the Faculty of Informatics. ICS made an agreement with the University that it would focus mainly on applied research in IT that aligns with its operational duties. This agreement specified a long-term strategy for sustaining the research role (wrt. economic, personal, and technical issues) and entailed changes in central research funding. ICS was given time to compile KPIs for applied IT results that can be used as an objective performance measure instead of bibliometric indicators that are considered secondary due to its role. As there are no readily available and usable KPIs, we plan to compile and discuss them with the University in 2025. In addition, we are discussing and preparing a joint strategy with the Faculty of Informatics that will further clarify the role of both institutions and address the overlapping topics of teaching, habilitations, research projects, etc.

- *Clear definition of academic career path within ICS, ideally in collaboration with the Faculty of Informatics (FI).*

As was mentioned earlier in the text, ICS currently maintains only one academic position. We decided to establish an academic track focused on employees who intend to become (associate) professors. This track should be time-limited and realized in close collaboration with FI that will enable, e.g., performing teaching duties. The details of this arrangement should be part of the aforementioned joint strategy and are expected to materialize in 2025.

- *More emphasis on technology transfer and technology licensing, and related business activity.*

This recommendation mirrors the one from 2020.

- *Increasing international collaboration outside Central Europe, especially to the Asia region, both through the developed technologies and infrastructure services.*

Collaboration research networks are growing naturally through our presence in international projects and consortia and include (albeit to a lesser extent) both the Americas and the whole of Europe. Considering the personal capacities and the number of ongoing projects, we decided to currently disregard this recommendation and forego any concentrated effort to spread wider in favor of organic growth stemming from the incoming opportunities. To these efforts, the role of ICS through its EOSC Secretariat within the national EOSC implementation will help with these activities together with a strong focus on developing the e-INFRA CZ.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
KYPO	3.4	https://crp.kypo.muni.cz
WARDEN	3.4	https://warden.cesnet.cz/en/index
Perun AAI	3.4	https://perun-aai.org/
CaverDock	3.4	https://loschmidt.chemi.muni.cz/caverdock/
Xmipp	3.4	https://xmipp.i2pc.es/
CopAS	3.4	https://webcentrum.muni.cz/copas/
MELASA	3.4	https://melasa.cerit-sc.cz/
Granef	3.4	https://granef.csirt.muni.cz/
Envision		https://envision.cerit-sc.cz/
LikPik press release	3.4	https://www-em-muni-cz.translate.goog/veda-a-vyzkum/16964-likpik-cesky-software-pomaha-policejnim-vysetrovatelum-odhalovat-zlocince? x tr sl=auto& x tr tl=en& x tr hl=en-US& x tr_pto=wapp (autotranslated)
ArcLib	3.4	https://arclib-cz.translate.goog/? x tr sl=auto& x tr tl=en& x tr hl=en-US& x tr_pto=wapp (autotranslated)
Crusoe	3.4	https://github.com/CSIRT-MU/CRUSOE/
Kernel Tuning Toolkit	3.4	https://github.com/HiPerCoRe/KTT
Cryton	3.4	https://cryton.gitlab-pages.ics.muni.cz/cryton/3.x/cyst
CYST	3.4	https://www.muni.cz/go/cyst-user
A.D.A.P.T.	3.4	https://anthro.sci.muni.cz/en/activities/projects/adapt
AlphaFind	3.4	https://alphafind.fi.muni.cz/search

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: Central European Institute of Technology, Masaryk University

FORD: 3 - Medical and health sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

The evaluated unit will describe its mission and vision and provide a general self-reflection of the societal contribution of R&D&I, along with its long-term goals in the fields it develops. The distribution of research activities by type of research will also be commented on.¹ The evaluated unit will describe its organisational structure and size (staffing, number of students, number of study programmes implemented, etc.) based on the data provided in annex tables 3.1.1 to 3.1.6.

Maximum 1000 words.

This is a non-rated indicator that serves as an introduction to the evaluated unit, providing context for data in indicators 3.2-3.7.

Self-assessment

Mission, Vision, and Values

The Central European Institute of Technology at Masaryk University (CEITEC MU) is an internationally recognized research institute and a CEITEC consortium member dedicated to improving the quality of human life and health through scientific research and innovation. Despite being established only 14 years ago, CEITEC MU aspires to become a leading European research institute, renowned for its interdisciplinary research, cutting-edge technologies, and active public engagement on the societal implications of life science discoveries. CEITEC's core values include integrity, ethics, equal opportunities, collaboration, and scientific independence.

Strategic Priorities of CEITEC MU:

1. **Excellent Research:** The institute focuses on curiosity-driven research, publishing over 200 papers annually, 22% of which are in Tier10 journals.
2. **Research Infrastructure:** CEITEC core facilities provide access to researchers from CEITEC, and other research institutions to state-of-the-art technologies, enabling ground-breaking research.
3. **Supporting Future Leaders in Research:** The institute invests in researchers at all levels through mentorship, training, and career development, with a particular focus on early-career researchers.

¹ Basic, applied, contract, artistic research (see Definition of Terms in Methodology HEI2025+).

4. **Governance and Human Resources:** CEITEC promotes transparent governance, interdepartmental collaboration, and inclusivity in its organizational structure.
5. **Societal Relevance and Recognition:** CEITEC is committed to public outreach, emphasizing the societal impact of basic research and its importance for innovation.

Governance and Organizational Structure

CEITEC MU's organization includes **research groups (RGs)**, **core facilities (CFs)**, and **administrative departments**. The institute is led by Director **Pavel Plevka**, supported by Deputy Directors **Karel Říha** (Science), **Jiří Nováček** (Infrastructure), and **Roman Badík** (Administration).

The strategic direction of CEITEC MU is described in the **Strategic Plan for 2021-2028 [1]**, approved by the Rector of MU in August 2021 and amended in September 2023. The implementation of the strategy is carried out according to annual action plans linked to the evaluation of the previous period and the fulfilment of key indicators. The long-term strategic plan aligns with the **Contract** signed in January 2025 between CEITEC MU and the university management. CEITEC MU implemented the **HR Excellence in Research Award Action Plan 2021-2024** and submitted a report for the external assessment by the HRS4R evaluators (renewal phase) together with a new action plan for 2024-2027.

Research Groups (RGs) and Core Facilities (CFs) are **led by experienced scientists selected through an open, international recruitment process**. Research group leaders (RGLs) define their research agendas, secure funding, and manage their teams, typically consisting of 7-15 employees, including staff scientists, postdocs, PhD students, lab managers, and technicians. Core Facilities, which focus on providing services and technology development, are smaller, with teams of 3-7 technicians and researchers.

RGs are categorized as **junior or senior** based on the leader's prior experience in managing research teams, with promotions to senior status determined **through evaluation by the International Scientific Advisory Board (ISAB)**. The ISAB also conducts **evaluations of senior RGs every 4-5 years** to provide recommendations for scientific development. Persistent underperformance may result in the dissolution of a research group.

As of December 31, 2023, CEITEC MU comprised 29 research groups (253,0 FTEs), 11 core facilities (57,7 FTEs), and 7 administrative departments (82,2 FTEs).

Core Facilities and Infrastructure [2]

Core Facilities are the backbone of CEITEC MU, playing a critical role in providing **high-quality services through shared instrumentation access and expertise in related data analyses**. This contribution extends beyond CEITEC to Masaryk University (MUNI) and the Czech Republic. CFs are instrumental in fostering scientific excellence, attracting researchers, collaborators, and partners. Since 2012, CEITEC CFs have been acknowledged in 1,250 peer-reviewed publications, with over 200 publications annually since 2021.

Similarly to the evaluation of the research groups, CFs regularly **undergo internal and external evaluations by review or advisory boards**.

The usage of CEITEC's CFs continues to grow, with **804 users in 2023 from 25 countries, including 77 external academic institutions (45 foreign) and 10 companies**. External users accounted for 32% of provided services. **The total commercial income of CEITEC CFs was 33 million CZK in 2023.**

Education and Doctoral Training

CEITEC MU does not guarantee study programs, but CEITEC scientists contribute to education led by MU faculties by teaching advanced courses and supervising students in their work on bachelor's, master's, and doctoral theses.

Recognizing the importance of structured doctoral training, CEITEC MU established the **CEITEC PhD School [3]** in 2014. This initiative aligns with the European Commission's recommendations for doctoral education and offers two programs—Life Sciences and Biomedical Sciences (specialization in Molecular Medicine). The PhD School features mandatory **soft and transferable skills courses, guaranteed salaries, career counselling, Thesis Advisory Committees (TAC),** and an **English-taught curriculum**. Currently, 65 students are enrolled in the CEITEC PhD School, while CEITEC researchers supervise over 120 additional PhD students within other study programs across the university. The PhD School maintains a balanced composition of its student body, with **50-60% women and 60-70% international students**. The guaranteed income for PhD candidates is set at €1,000 per month.

The CEITEC PhD School attracts approximately **200 applicants each year**, resulting in a highly competitive acceptance rate of 2–3%. Since its establishment, the CEITEC PhD School has produced 32 successful graduates, who have continued their careers in both industry and academia. The current drop-out rate stands at 12%, reflecting the rigorous yet supportive environment that CEITEC MU provides for its doctoral candidates.

Societal Relevance and International Engagement

CEITEC actively engages the public to highlight the critical role of research for society. Through its involvement in EU-LIFE (since 2015) and coordination of Alliance4Life (since 2017), CEITEC MU serves as a bridge between Western and Central/Eastern Europe, transferring best practices to Alliance4Life partners and reducing the innovation gap.

CEITEC has also expanded its diplomatic and institutional engagement, collaborating with the Ministry of Foreign Affairs of the Czech Republic and actively participating in official events, visits, and webinars. Recently, CEITEC hosted several high-profile diplomatic and academic delegations e.g., Maria Leptin (President of ERC), Edith Heard (Director General of EMBL), Patrick Cramer (President of Max-Planck Society), and representatives from Canada, Taiwan, etc.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	14,3 / 3,6	14,7 / 3,4	13,1 / 3,3	12,9 / 3,2	13,6 / 3,0	19,9 / 3,9
Associate Professor	17,7 / 4,6	14,2 / 3,9	11,7 / 3,0	13,6 / 3,6	12,7 / 3,6	24,3 / 5,7
Assistant Professor	5,2 / 1,9	6,5 / 1,7	6,7 / 2,2	5,2 / 2,0	4,1 / 0,7	11,2 / 3,4
Assistant	0,1 / 0	0,1 / 0	0,1 / 0,1	0 / 0	0 / 0	0,1 / 0,1
R&D Personnel ³	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Researchers in other categories ⁴	92,6 / 41,3	97,5 / 41,2	91,5 / 38,4	87,5 / 40,4	86,5 / 40,2	152,3 / 75,6
Technical and economic staff ⁵	176,5 / 118,9	193,7 / 130,0	184,5 / 124,5	186,5 / 127,0	176,6 / 127,8	326,3 / 235,5
Scientific, research and development staff involved in teaching activities	17,7 / 2,0	18,9 / 2,9	14,0 / 3,2	13,3 / 2,9	13,6 / 3,1	23,7 / 3,3
Early career researchers ⁶	69,1 / 32,6	60,7 / 25,7	61,9 / 24,9	56,8 / 22,6	55,6 / 24,6	135,8 / 56,1
Total⁷	306,4 / 170,3	326,7 / 180,2	307,6 / 171,5	305,7 / 176,2	293,5 / 175,3	534,1 / 324,2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

² The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

³ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁴ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁵ Who participates in the management and support of R&D&I in the institution.

⁶ See Definition of Terms in Methodology HEI2025+.

⁷ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

3.1.2 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2019 (numbers of physical employees and personnel)⁸ HR department

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	1	0	0	0	4	0	3	1	0	0
Associate Professor	0	0	2	0	8	3	4	2	1	0	0	0
Assistant Professor	0	0	0	0	4	2	0	0	0	0	0	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ⁹	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁰	2	0	50	20	42	24	8	4	4	1	1	1
Technical and economic staff ¹¹	125	85	81	53	19	16	5	4	0	0	1	1
Scientific, research and development staff involved in teaching activities	0	0	6	2	8	1	2	0	1	0	0	0
Early career researcher ¹²	3	1	71	28	1	1	0	0	0	0	0	0
Total¹³	127	85	134	73	73	45	21	10	8	2	2	2

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D Personnel, Researchers in other categories and Technical and economic staff are mutually exclusive, i.e. one staff member is reported in only one category. The categories of scientific, research and development staff involved in teaching activities and early career researchers are reported collectively for all the above-mentioned categories.

⁸ The total number of employees/workers as of 31st December of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

⁹ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁰ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹¹ Who participates in the management and support of R&D&I in the institution.

¹² See Definition of Terms in Methodology HEI2025+.

¹³ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I Personnel, Researchers in other categories and technical and economic staff.

3.1.3 Age structure of R&D&I personnel of the evaluated unit and their structure by job title and gender in the year 2023 (numbers of physical employees and personnel)¹⁴

Academic/ professional position	Under 29 years		30-39 years old		40-49 years old		50-59 years old		60-69 years old		70 years and older	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0	0	0	0	2	0	5	0	1	1	1	0
Associate Professor	0	0	0	0	5	1	4	2	1	0	0	0
Assistant Professor	0	0	0	0	4	1	0	0	0	0	0	0
Assistant	0	0	0	0	0	0	0	0	0	0	0	0
R&D Personnel ¹⁵	0	0	0	0	0	0	0	0	0	0	0	0
Researchers in other categories ¹⁶	2	2	43	19	52	32	8	3	3	1	1	0
Technical and economic staff ¹⁷	115	75	93	66	32	27	8	7	0	0	1	1
Scientific, research and development staff involved in teaching activities	0	0	3	0	7	2	3	0	0	0	0	0
Early career researcher ¹⁸	4	2	53	21	5	3	0	0	0	0	0	0
Total¹⁹	117	77	136	85	95	61	25	12	5	2	3	1

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, R&D personnel, researchers in other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.

Table 3.1.4 – Students **Not Applicable**

Type of study	2019		2020		2021		2022		2023		Total	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Undergraduate												
Master's ²⁰												
Doctoral												

¹⁴ The total number of employees/workers as at 31.12. of the calendar year in question is to be entered, irrespective of the level of time worked, but only in an employment relationship (including agreement on work activity, excluding agreement on work performance). Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹⁵ The category "R&D Personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁶ The category "Researchers in other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁷ Who participates in the management and support of R&D&I in the institution.

¹⁸ See Definition of Terms in Methodology HEI2025+.

¹⁹ Total is the sum of the categories: professor, associate professor, assistant professor, assistant, R&I personnel, researchers in other categories and technical and economic staff.

²⁰ All master's degree students are listed, regardless of the length of their programme of study.

Lifelong Learning Courses												
Total												

 Table 3.1.5 - Study programmes in Czech/English **Not Applicable**

Type of study programme	Total ²¹ / Of which professional study programmes											
	2019		2020		2021		2022		2023		Total	
Undergraduate												
Master's												
Doctoral												
Lifelong Learning courses												
Total												

Note: For each SP type, enter the number of SPs in Czech language in the first cell and insert the number of SPs in English language after the slash in the same cell (e.g. 15/3), enter the number of professional SPs in Czech language in the second cell and insert the number of professional SPs in English language after the slash. Follow a similar procedure in the last column of the table (Total).

3.1.6 – R&D&I capacities

R&D&I field	FORD	FORD share [%]	Predominant type of research	Total share of industry group [%]
1. Natural Sciences	1.1 Mathematics		Zvolte položku.	69,1
	1.2 Computer and information sciences	1,6	Basic Research	
	1.3 Physical sciences	5	Basic Research	
	1.4 Chemical sciences	13	Basic Research	
	1.5 Earth and related environmental sciences		Zvolte položku.	
	1.6 Biological sciences	49,3	Basic Research	
	1.7 Other natural sciences	0,2	Basic Research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	1,5
	2.2 Electrical engineering, Electronic engineering, Information engineering		Zvolte položku.	
	2.3 Mechanical engineering		Zvolte položku.	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering	0,2	Balanced basic and applied research	
	2.6 Medical engineering	0,3	Balanced basic and applied research	
	2.7 Environmental engineering		Zvolte položku.	
	2.8 Environmental biotechnology		Zvolte položku.	

²¹ The total number of study programmes for which admissions have been announced in a given academic year.

	2.9 Industrial biotechnology		Zvolte položku.	
	2.10 Nanotechnology	0,5	Basic Research	
		0,5	Balanced basic and applied research	
	2.11 Other engineering and technologies			
3. Medical and Health Sciences		9,1	Balanced basic and applied research	28,6
	3.1 Basic medicine			
	3.2 Clinical medicine	18,6	Balanced basic and applied research	
	3.3 Health sciences	0,5	Balanced basic and applied research	
	3.4 Medical Biotechnology	0,4	Balanced basic and applied research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	0,4	Basic Research	0,4
	4.2 Animal and Dairy science		Zvolte položku.	
	4.3 Veterinary science		Zvolte položku.	
	4.4 Other agricultural sciences		Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	0,2	Basic Research	0,2
	5.2 Economics and Business		Zvolte položku.	
	5.3 Education		Zvolte položku.	
	5.4 Sociology		Zvolte položku.	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography		Zvolte položku.	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences		Zvolte položku.	
6. Humanities and the Arts	6.1 History and Archaeology		Zvolte položku.	0,2
	6.2 Languages and Literature		Zvolte položku.	
	6.3 Philosophy, Ethics and Religion	0,2	Basic Research	
	6.4 Arts (arts, history of arts, performing arts, music)		Zvolte položku.	
	6.5 Other Humanities and the Arts		Zvolte položku.	
Total		100 %	-	100 %

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

The evaluated unit will briefly comment on its position in the research community. It shall consider individual and other prestigious R&D&I awards, participation of its academic staff in the editorial boards of international scientific journals, elected membership in professional societies, major invited lectures given by the evaluated unit's academic staff abroad or by foreign scientists and other relevant guests at the evaluated unit. Additionally, it will address the involvement of staff in the evaluation of national or European project/programme calls over the period of 2019–2023 based on the data provided in annex tables 3.2.1 to 3.2.5 (max. 10 most relevant items). If necessary, the evaluated unit shall list any additional services to the scientific community that it considers relevant.

Maximum 1000 words.

Self-assessment

CEITEC MU is widely recognized in the international scientific community for its research achievements and significant contributions, with focus on **six core areas** that showcase CEITEC MU's excellence in **basic research, societal impact, and international visibility**:

- **RNA/Nucleic Acids in Health and Disease**
- **Cancer Biology**
- **Brain Disorders**
- **Infectious Diseases**
- **Harnessing Knowledge of Plant Biology for Crop Improvement**
- **Connecting Dynamics and Structure of Living Systems through Microscopic Technologies**

Some of these areas, such as cancer biology, nucleic acid biology, plant biology, and brain disorders, are already well-established, while others are rapidly emerging and evolving. This dynamic and adaptive system ensures the institution's long-term progress and sustains its position at the forefront of global scientific research.

The international prominence of CEITEC MU is reinforced by the rigorous evaluations conducted by the International Scientific Advisory Board (ISAB). In the most recent evaluation in 2022, **63% of CEITEC MU's RGs were rated as "world leaders" or at a "strong international level" (A or B grades)**. Prof. Dirk Inze, Chairman of the International Evaluation Committee, remarked in the summary report: "The remarkable achievements of CEITEC MU make this young institute the leading life science center in Central Europe and one of the most advanced institutes in Europe."

CEITEC MU's visibility is demonstrated across several key dimensions:

- 1. Prestigious Research Grants:** CEITEC MU researchers frequently receive recognition for their impactful research through prestigious grants. Since its establishment, CEITEC MU scientists have been awarded **seven ERC grants, five of which were awarded during the MEP evaluated period**. Similar success is evident at the national level. CEITEC MU's success rate in Standard GACR grants exceeded **33% and 37%** in 2022 and 2023, respectively—well above the national average of 20%.
- 2. High-Impact Publications:** CEITEC MU has an outstanding publication record in prestigious journals with notable societal impact. Over **10% of these publications are in Tier 5, and over 22%**

are in **Tier 10** of the best papers in life sciences. Between 2019 and 2023, CEITEC MU researchers published **17 articles identified as highly cited papers** by the Web of Knowledge.

3. CEITEC MU is a trusted partner of leading research institutions worldwide. Memorandums of understanding have been signed with esteemed organizations such as the **European Molecular Biology Laboratory (EMBL)** at the international level and the **Institute of Organic Chemistry and Biochemistry (IOCB CAS)** at the national level. These agreements fuel robust scientific collaborations, including joint grants under the Horizon Europe Twinning framework and the Recovery and Resilience Plan.
4. **Membership in International Alliances:** CEITEC MU is a member of two international alliances of leading life sciences research institutions. Within the **EU-LIFE alliance**, which includes 17 prestigious members such as CRG (Spain), VIB (Belgium), FMI (Switzerland), Institute Curie (France), and others, CEITEC MU is the only founding member from Central and Eastern Europe. As part of **Alliance4Life**, which connects significant life sciences institutions in CEE countries, CEITEC is the coordinating institution. This collaboration has been crowned after securing three joint consortium grants under Horizon Europe 2020.
5. **Membership in the EMBO Scientific Community:** Seven CEITEC MU researchers—Štěpánka Vaňáčová, Karel Říha, Dalibor Blažek, Mary O'Connell, Pavel Tomančák, Jiří Fajkus, and Šárka Pospíšilová—have been elected as **members of the European Molecular Biology Organization**. This prestigious membership recognizes scientific excellence and exceptional research contributions. This remarkable concentration of EMBO members reflects the commitment of CEITEC MU to maintaining high scientific standards and upholding principles of scientific integrity.
6. **Hosting International Events:** CEITEC MU is a **hub for international collaboration**, regularly organizing high-profile conferences and workshops. Upcoming events in 2025 include the **CTLS congress** (Core Technologies for Life Sciences), which will focus on emerging technologies, best practices, and career opportunities and regularly attracts hundreds of foreign scientists, and the **EU-LIFE community meeting**, which will bring together representatives from leading institutions to discuss excellence in research and European policy.
Past events (influenced by COVID-19 restrictions) include the **EMBO Workshop on Eukaryotic RNA Turnover and Viral Biology** (06/2023), the **3rd CEITEC Symposium on Recent Advances in Cryo-EM** (05/2023), **1st – 4th iNEXT Discovery Meeting 2021 – 2024**), **ICRI International Conference on Research Infrastructures** (10/2022), **EMBO Practical Course "Light Sheet Microscopy"** (08/2022), the **5th National Day of Large Research Infrastructures of the Czech Republic** (02/2022), the **RNA Summer School 2021**, and many others.
7. Besides its high-profile research, CEITEC MU is visible internationally thanks to its **Core Facilities**. These laboratories **offer cutting-edge instrumentation** funded through national and European projects and are accessible to internal and external users from academia and industry at national and international levels. Beyond providing access to these advanced technological capacities, CEITEC is recognized for its **sophisticated organization and management system of these core facilities**. It serves as a model role on national and international levels.

The tables below present a curated selection of examples highlighting the international impact and visibility of CEITEC MU researchers across various activities. This carefully chosen list showcases the most outstanding achievements while striving to ensure a balanced representation of both male and female researchers. Additionally, it reflects a diverse range of activity types, spanning national and international initiatives, basic and applied research, scientific, social, and economic contributions, as well as the work of both junior and senior researchers.

Table 3.2.1 - Prestigious R&D&I awards granted during the evaluation period RIS (Name, surname and title(s) of the evaluated unit's staff member	Name of the award	Awarding institution
prof. MUDr. Mgr. Marek Mráz, Ph.D.	Award of the Minister of Health for Health Research and Development (2022)	The Ministry of Health
Mgr. Dominik Hřebík, Ph.D.	Award of the Minister of Education, Youth and Sports for outstanding students and graduates in a degree programme and for extraordinary deeds of students (2022)	The Ministry of Education, Youth and Sports
prof. RNDr. Šárka Pospíšilová, Ph.D.	Award of the Czech Society for Biochemistry and Molecular Biology ("Košťál Prize") (2023)	The Czech Society for Biochemistry and Molecular Biology
Mgr. Gabriel Demo, Ph.D.	Neuron Prize 2022 for promising scientists (2022)	Neuron Foundation
RNDr. Terezie Mandáková, Ph.D.	L'Oréal–UNESCO Award for Women in Science (National Program) (2021)	L'Oréal-UNESCO Foundation
doc. Mgr. Lukáš Trantírek, Ph.D.	Rudolf Lukes Award (2021)	Experientia Foundation
Mgr. Michaela Krafčíková, Ph.D.	Jean-Marie Lehn Award in Chemistry (2020)	The French Embassy in the Czech Republic
doc. Mgr. Pavel Plevka, Ph.D.	Werner von Siemens Award for the most important scientific result of fundamental research (2019)	Siemens Czech Republic
RNDr. Terezie Mandáková, Ph.D.	GACR President's awards (2020)	Grant Agency of the Czech Republic
prof. RNDr. Jiří Fajkus, CSc.	Award of South Moravian Region	South Moravian Region

Note: Provide up to 10 examples.

Table 3.2.2 Participation of academic staff of the evaluated unit in editorial boards of international scientific journals during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of scientific journal, ISSN
doc. RNDr. Jan Hejátko, Ph.D.	Plant Communications, 2590-3462
prof. MUDr. Mgr. Marek Mráz, Ph.D.	HemaSphere, 2572-9241
prof. RNDr. Jiří Fajkus, CSc.	Plant Journal, 0960-7412
doc. Mgr. Miloslava Fojtová, CSc.	Frontiers in Plant Science/ Plant Genetics, Epigenetics and Chromosome Biology, 1664-462X
prof. RNDr. Jiří Fajkus, CSc.	International Journal of Molecular Sciences, 1661-6596
prof. MUDr. Mgr. Marek Mráz, Ph.D.	Leukemia Research, 0145-2126
prof. MUDr. Michael Doubek, Ph.D.	Annals of Hematology, 0939-5555
prof. MUDr. Irena Rektorová, Ph.D.	Parkinsonism and Related Disorders, 1353-8020
prof. MUDr. Milan Brázdil, Ph.D.	Journal of Clinical and Translational Research, 2382-6533
Mgr. Ondřej Šedo, Ph.D.	Chemical Papers, 0366-6352

Note: Please provide up to 10 examples of academic staff participation in editorial boards of international scientific journals (e.g. editor, editorial board member, etc.).

Table 3.2.3 The most important invited lectures delivered by the academic staff of the evaluated unit at foreign institutions during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Invited lecture title	Name of host institution, or name of conference or event	Year
doc. Mgr. Lukáš Trantírek, Ph.D.	Formation propensity and potential biological roles of DNA G-hairpins	The Commemorative International Symposium of Nucleic Acid Chemistry, Kobe, Japan	2019
prof. MUDr. Irena Rektorová, Ph.D.	Current treatment of behavioural and cognitive complications	IAPRD World Congress of Parkinson's Disease and Related Disorders Congress, Montreal, Canada	2019
Mgr. Karel Říha, Ph.D.	Live imaging of plant germline differentiation	The light sheet microscopy conference LSFM 2019. Frankfurt am Main, Germany	2019
Mgr. Dalibor Blažek, Ph.D.	Impact of CDKs on regulation of gene expression	Syros Pharmaceuticals, Cambridge, MA, USA	2020
prof. RNDr. Jiří Fajkus, CSc.	Characterisation of plant telomerase RNAs	PAG (Plant and animal genomes), San Diego, USA	2020
Mgr. Michal Šmída, Dr. rer. nat.	The application of functional genomics for targeted therapy prediction on the model of B-cell malignancies	Carnegie Mellon University Qatar, Doha, Qatar	2021
prof. Mary Anne O'Connell, Ph.D.	Plenary Lecture: ADARs, the RNA editing enzymes that are key to combating diseases	FASEB conference; The RNA Associated Mechanisms Conference: In Immunity and Disease. Colorado, USA	2022
Helene Robert Boisivon, Ph.D.	Keynote lecture: Régulation de la production d'auxine pendant la morphogénèse embryonnaire chez Arabidopsis	Graines 2023 - INRAE, Versailles, France	2023
prof. RNDr. Radek Marek, Ph.D.	Relativistic and paramagnetic effects in NMR spectroscopy	ETH, Zurich, Switzerland	2023
Mgr. Klára Marečková, Ph.D.	Early-life predictors of mental health in adulthood: Novel insights from prenatal birth cohort studies	CHEO Mental Health Research Rounds, University of Ottawa, Ottawa, Canada	2023

Note: Provide up to 10 examples.

Table 3.2.4 - The most important lectures by foreign scientists and other guests relevant to R&D&I at the evaluated unit during the evaluation period

Name, surname and title(s) of the lecturer	Lecturer's employer at the time of the lecture	Invited lecture title	Year
Prof. Sir James Fraser Stoddart. Ph.D. (Nobel Prize for Chemistry, 2016)	Department of Chemistry, Northwestern University, Evanston, USA	The Rise and Promise of Artificial Molecular Machines Based on the Mechanical Bond	2019
Prof. Dame Caroline Dean, Ph.D.	John Innes Centre Norwich, UK	Antisense-mediated Chromatin Regulation	2019
Prof. Adrian Krainer, Ph.D.	Cold Spring Harbor Laboratory, USA	From Base Pairs to Bedside: Antisense Therapeutics for Targeted Modulation of Splicing or NMD	2020
Prof. Dr. Klaus Rajewsky	Max Delbrück Center for Molecular Medicine, Berlin, Germany	Role of the Antigen Receptor in Normal and Malignant B Cell Development	2022
Prof. Matthias Hentze, Ph.D.	European Molecular Biology Laboratory (EMBL), Heidelberg, Germany	Exploring the Underground of the RBP World: Riboregulation	2022
Prof. Dirk Inzé, Ph.D.	VIB-UGent Center for Plant Systems Biology, Ghent University, Belgium	Engineering Complex Agronomic Traits in Crops	2023
Prof. Brian K. Kobilka, Ph.D. (Nobel Prize for Chemistry, 2012)	Stanford University School of Medicine, Stanford, CA, USA	Structural Insights Into G Protein Coupled Receptor Activation	2023
Prof. John T. Lis, Ph.D.	Cornell University, USA	Architecture and Mechanistic Interplay of Promoters and Enhancers in Controlling Gene Expression	2023
Prof. Susumu Tonegawa (Nobel Prize for Physiology or Medicine, 1987)	MIT, Cambridge, Massachusetts, USA	Molecular Genetics of the Immune and Nervous Systems-Antibody Diversity and Memory Engrams	2023
Prof. Amita Sehgal	Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA	Biology of Bedtime: Understanding the Basis of Sleep	2023

Note: Provide up to 10 examples.

Table 3.2.5 - Involvement in the evaluation of national/European research project/programme calls relevant to the R&D&I area at the unit during the evaluation period

Name, surname and title(s) of the evaluated unit's staff member	Name of the project/programme call research	Name of the contracting authority/guarantor of the project/programme call	Year
Mgr. Karel Říha, Ph.D.	ERC Starting Grants evaluation, Panel LS1 (Panel member)	European Research Council (ERC)	2019, 2021
prof. RNDr. Radek Marek, Ph.D.	Completed ERC-funded projects, Panel PE4 – Physical and Analytical Chemical Sciences (Panel member)	European Research Council (ERC)	2019
prof. MUDr. Irena Rektorová, Ph.D.	Czech Health Research Council (Chair of the Panel 04)	Czech Health Research Council (CHRC)	2019

Mgr. Dalibor Blažek, Ph.D.	Medical Research Council grants (Evaluator)	Medical Research Council (MRC), Great Britain	2020 - 2023
prof. MUDr. Mgr. Marek Mráz, Ph.D.	FEBS grant and fellowship committee (Committee memeber)	Federation of European Biochemical Societies (FEBS)	2020 - 2023
Helene Robert Boisivon, Ph.D.	Marie Skłodowska Curie Actions (MSCA) applications (Evaluator and Rapporteur)	Research Executive Agency (REA)	2021, 2022, 2024
prof. Mary Anne O'Connell, PhD.	CRC 1309 Review Panel (Panel member)	Deutsche Forschungsgemeinschaft (DFG), Bonn, Germany	2022
Mgr. Michal Šmída, Dr. rer. nat.	Vici-programme reviewing panel (Panel member)	The Netherlands Organisation for Scientific Research	2022
Mgr. Karel Říha, Ph.D.	SNSF Starting Grants Panel III – A (Panel member)	Swiss National Science Foundation (SNSF), Switzerland	2022 - now
Mgr. Karel Říha, Ph.D.	Women in Science Award (Panel member)	European Molecular Biology Organization/ Federation of European Biochemical Societies (EMBO/FEBS)	2023 - now

Note: Provide up to 10 examples.

RESEARCH PROJECTS

3.3 Research projects

The evaluated unit shall list at most 10 (considered most significant by the evaluated unit) research projects/activities (regardless of whether they are supported by public funds or based on contract research²²) that it has implemented or participated in during the period of 2019–2023²³. This should be done from the full list in annex tables (Table 3.3.1-3.3.2)²⁴, regarding particularly the results achieved or the application potential of the projects. The unit should also describe how the research projects contributed to the mission and purpose of the evaluated unit. If the evaluated unit has been a participant in listed project, it shall indicate which other entities were involved and describe its contribution to the project. The interdisciplinary aspects of the projects will also be commented on, along with any collaboration with other units of the evaluated HEI.

Maximum 300 words per project.

Self-assessment

The research activities of CEITEC MU are supported by research grants from national and international providers. Project funding accounts for over 70% of the institute's total budget.

The long-term strategy of CEITEC is to support group leaders in obtaining **prestigious individual grants** such as ERC, ERC-CZ, or GACR EXPRO. These grants not only provide significant financial resources for a five-year period but also enhance the reputation and visibility of the principal investigators. This, in turn, facilitates access to further excellent funding opportunities.

During the evaluation period, CEITEC MU successfully implemented five ERC grants, three ERC-CZ grants, and six GACR EXPRO projects.

Examples of prestigious individual projects:

- **7th EU Framework Programme – ERC Starting grant: P. Plevka, Structural studies of human picornaviruses directed towards development of anti-viral compounds (2014 – 2019)**

The Structural Studies of Human Picornaviruses project focused on understanding the molecular structures of picornaviruses and their life-cycle intermediates to identify new targets for anti-viral inhibitors. Many picornaviruses are human pathogens that cause diseases ranging from the common cold to severe encephalitis. However, there are currently no anti-picornavirus drugs approved for human use. The project contributed to the mission of our team by advancing the understanding of the molecular mechanisms of picornavirus replication, assembly, and infection. By utilizing X-ray crystallography, we determined the virion structures of representative viruses from several genera, including Parechovirus, Kobuvirus, Cardiovirus, and Cosavirus, as well as Human Rhinovirus-C. Cryo-electron microscopy was employed to study the picornavirus replication complexes and the mechanism of RNA genome recombination, which plays a key role in the emergence of new picornavirus species. In addition, we investigated the process of picornavirus infection, specifically genome release from virions and its translocation across lipid membranes. A key innovation of this project was the use of focused ion beam micromachining for sample preparation, enabling the study

²² For the definition of contract research for the purposes of evaluation in the HE segments, see Article 2.2.1 of the Community Framework for State Aid for Research, Development and Innovation 2014/C 198/01.

²³ Regardless of whether the projects are completed or still ongoing, provided that at least part of the project was implemented during the evaluation period.

²⁴ The evaluated unit shall only fill tables that are relevant to it.

of macromolecular complexes in infected mammalian cells using cryo-electron tomography. This interdisciplinary project brought together structural biology, virology, and cryo-electron microscopy to provide detailed molecular insights into the picornavirus life cycle. By identifying critical life-cycle intermediates and their molecular functions, this project has laid the groundwork for the development of new structure-based anti-viral drugs.

- **Horizon 2020 – ERC Consolidator grant: R. Štefl, DECOR - Dynamic assembly and exchange of RNA polymerase II CTD factors (2015 – 2020)**

The Dynamic Assembly and Exchange of RNA Polymerase II CTD Factors project aimed to decode the basic principles governing the readout of the C-terminal domain (CTD) code of RNA polymerase II by RNA processing factors. While the concept of the CTD code, which specifies RNA polymerase II's position in the transcriptional cycle and recruits specific processing factors, was proposed nearly a decade ago, the precise mechanisms by which the CTD recruits, activates, and displaces processing factors in coordination with transcription remained poorly understood. The project successfully determined 3D structures of several protein factors bound to the modified CTD, providing new insights into the structural and mechanistic basis of proline isomerisation within the CTD. This isomerisation controls the timing of specific protein-protein interactions during the transcriptional cycle. Furthermore, the research revealed how the overall CTD structure is remodeled by the binding of multiple copies of processing factors, and how these factors exchange and interact during transcription. To achieve these objectives, the project combined small-angle scattering techniques with high-resolution NMR and single-molecule techniques, providing entirely new structural information that advanced the state-of-the-art in transcription and RNA processing research. The results of this project have significant implications for understanding the molecular mechanisms of RNA processing, which are linked to various genetic disorders and human diseases, including cancer and neurodegenerative diseases. The detailed knowledge gained from this project will ultimately contribute to clinical advancements in understanding and treating conditions related to RNA processing and ribonucleoprotein assembly.

- **Horizon 2020 – ERC Starting grant: M. Mráz, Signaling propensity in the microenvironment of B cell chronic lymphocytic leukemia (2019 – 2024)**

Our research focuses on the role of microenvironmental interactions in chronic lymphocytic leukemia (CLL), the most common adult leukemia. The progression and aggressiveness of CLL are largely influenced by deregulated signaling within the tumor microenvironment, which supports leukemic cell survival and proliferation. This project contributes to the mission of our unit by improving the understanding of non-genetic mechanisms driving CLL progression and identifying potential therapeutic targets. We investigate how aberrant activation of microenvironmental signaling pathways influences B cell receptor (BCR) signaling and disease progression. Recent advances have demonstrated that BCR signaling inhibitors, such as BTK and PI3K inhibitors, achieve significant clinical responses. However, their mechanism of action is complex and extends beyond BCR inhibition to include the disruption of microenvironmental interactions. Despite their effectiveness, these inhibitors do not provide a cure and require continuous administration, posing challenges in terms of cost and long-term patient outcomes. Our unit integrates expertise in cellular signaling, leukemia biology, and experimental therapeutics, fostering an interdisciplinary approach within our research team. By elucidating the molecular mechanisms underlying CLL-microenvironment interactions, this project may contribute to the development of more effective and targeted treatment strategies.

- **Horizon 2020 – ERC Consolidator grant: R. Vácha, Peptide Killers of Bacteria (2022 – 2026)**

Antibiotic-resistant bacteria cause more than 700 000 deaths per year, and the forecast is 10 million per year in 2050. Moreover, emerging strains of bacteria resistant to all available antibiotics may lead to a global post-antibiotic era. Because of this threat, the WHO and the UN are encouraging the research and development of new treatments. The aim of the project ERC Peptide Killers of Bacteria is to design new peptides that selectively target and disrupt the membranes of pathogens but not those of human cells. To obtain such peptides, we develop an innovative coarse-grained model of membranes and an original growth method, which will enable us to establish the relationship between peptide sequence motifs and their affinity to membranes with specific lipid compositions. Moreover, we determine the critical peptide properties required for membrane disruption via the formation of transmembrane pores and spontaneous peptide translocation across membranes by devising new collective variables capturing these processes. Our computational advances is complemented by experimental verification from peptide-membrane affinity measurements plus leakage and flip-flop fluorescence assays assessing membrane disruption. The most effective peptides are evaluated for antimicrobial activity and human cell toxicity using growth inhibition and hemolytic assays, respectively. We investigate mixtures of peptides for their synergistic increase in antimicrobial activity, and we uncover the molecular mechanism of their synergism. The peptide behaviour is quantified under equilibrium and more biologically relevant non-equilibrium conditions. The methods and knowledge obtained within this project will not only enable us to determine new peptides selectively killing bacteria but will also enable the development of peptides targeted against membranes of enveloped viruses, cancer cells, or even cellular organelles with potential application as sensors, biomarkers, or therapeutics.

- **Horizon Europe – ERC Consolidator grant: P. Plevka, Phage infection of bacterial biofilm (2023 – 2027):**

Our research focuses on studying the infection of *Staphylococcus aureus* biofilm by phage phi812. *S. aureus* is an antibiotic-resistant pathogen whose biofilms pose a significant clinical challenge. This project contributes to the mission of our unit by advancing new strategies to combat antibiotic resistance and exploring the potential of phage therapy as an alternative treatment approach. Within this project, we have developed an innovative experimental approach that combines microfluidic systems with advanced microscopy techniques, enabling the detailed study of phage propagation in biofilms. We investigate infection dynamics, the resistance of bacterial subpopulations, and structural changes during phage replication. The use of cryo-electron microscopy and tomography allows us to characterize previously unknown stages of phi812 replication in host cells. Our unit integrates expertise in microbiology, imaging technologies, and bioinformatics, fostering an interdisciplinary approach. By providing insights into biofilm-phage interactions, this research may contribute to the development of more effective phage therapy strategies.

In addition to prestigious individual grants, CEITEC MU strategically focuses on the implementation of coordinated projects. These projects take place at national and international level and involve cooperation with academic and industrial partners. **Consortium projects with strategic partners** strengthen interdisciplinary research, increase the applicability of results and contribute to progress and innovation in research and institutional management.

Examples of consortium projects coordinated by CEITEC MU:

- **Horizon 2020 Twinning: INTEG-RNA: Integration of RNA Biology for Next-Generation Scientists (2021 – 2013)**

The INTEG-RNA project aimed to integrate RNA biology across different scientific disciplines and research programs at CEITEC MU. While research at CEITEC MU and nearby faculties has seen increasing interdisciplinary collaboration, much of it was still conducted within individual laboratories. This project contributed to the mission of our unit by fostering integration at the levels of methodology, research questions, and training of early-stage researchers. As a consortium project, INTEG-RNA was carried out in collaboration with The University of Edinburgh (UK), Institut für Molekulare Biologie gGmbH (DE), European Molecular Biology Laboratory (DE), and Johannes Gutenberg Universität (DE). These partnerships facilitated joint research initiatives, researcher mobility, and collaboration in research management, strengthening CEITEC MU's expertise in RNA biology. The project also played a key role in increasing institutional recognition by promoting the dissemination of results at both national and international levels. Through Twinning partnerships, INTEG-RNA created a synergistic environment that helped establish CEITEC MU as an RNA research hub with strong connections across Europe. The project's outcomes continue to contribute to the development of competitive technologies and advanced training opportunities for the next generation of scientists.

- **Horizon 2020 Societal Challenges: Alliance for Life Sciences: From Strategies to Actions in Central and Eastern Europe (2021 – 2024)**

The A4L_ACTIONS project aimed to strengthen health research institutions in Central and Eastern Europe (CEE) by building on the established framework of Alliance4Life. The project contributed to the mission of our unit by fostering institutional development, improving research cultures, and enhancing collaboration across the European research landscape. As a collaborative initiative, A4L_ACTIONS supported the implementation of best practices developed by Alliance4Life members at institutional, national, and international levels. These efforts aligned with broader EU governance strategies to create a unified research, education, and innovation market while addressing the performance gap between Eastern and Western Europe. Additionally, the project focused on unlocking innovation potential in the CEE region by promoting interdisciplinary and intersectoral collaboration. The project was carried out in partnership with leading institutions across Central and Eastern Europe, including Fakultní nemocnice U sv. Anny Brno (CZ), Univerza v Ljubljani (SI), Tartu Ülikool (EE), Vilnius University (LT), Uniwersytet Medyczny w Łodzi (PL), Medical University Sofia (BG), Latvian Institute of Organic Synthesis (LV), Semmelweis University (HU), Biomedicínske centrum Slovenskej akadémie vied (SK), Sveučilište u Zagrebu Medicinski fakultet (HR), and Universitatea de Medicină și Farmacie (RO). By facilitating knowledge exchange, strategic networking, and policy development, A4L_ACTIONS has helped establish a more integrated and competitive health research environment in Central and Eastern Europe, with long-term benefits for institutional excellence and international cooperation.

- **MEYS Operational Programme Research, Development and Education, Priority axis 1: Strengthening capacities for high-quality research: Analysis of Czech Genomes for Theranostics (2019 – 2023)**

The project Analysis of Czech Genomes for Theranostics laid the foundations for a strategic collaboration of Czech genomics scientists working at universities and in industry, namely at Masaryk University, Charles University, Palacký University in Olomouc, EUC Laboratoře CGB a.s. and Genomac Research Institute, s.r.o.

This alliance enabled the full use of national potential to develop a reference genomic database, which, by targeting the Czech population, will be the basis for innovations in personalized medicine reflecting local specificities. Thus, the project created the National Reference Genomic Database

(database.acgt.cz). This database contains aggregated variant frequencies at individual positions of the human genome. The database can be accessed at <https://database.acgt.cz> by logging in via e-infra CZ AAI. The result of the project may help to further support the development of personalised medicine in the Czech Republic.

During the implementation phase of the project, the beneficiary and project partners also managed to establish cooperation with external entities, namely Masaryk University with the University Hospital Brno and the University Hospital in Motol, then between EUC Laboratories CGB a.s. and Genetika Ostrava s.r.o., and finally between Charles University and the General University Hospital in Prague. The aim of the collaboration of all subjects was to transfer the knowledge and experience of the project, which will lead to a higher standardization of genomic methods and a greater dissemination in clinical practice. Memoranda of Understanding were signed with all the above-mentioned entities, in addition to free training in the use of the National Reference Genomic Database and interpretation of these data.

- **Horizon Europe Widera (Excellence Hubs): Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central Europe (2023 – 2026)**

The Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central Europe project aims to address the unmet medical need of dementia, which affects over 55 million people worldwide, and to improve diagnostic capabilities in the Czech and Slovak Republics. Dementia currently lacks effective disease-modifying therapies, and early diagnosis is essential to reduce healthcare costs. However, modern diagnostic approaches have not yet been fully integrated into clinical practice in these regions. The project seeks to create two interlinked ecosystems in the Moravia and Bratislava regions, bringing together excellent scientific teams from Masaryk University and Slovak Academy of Sciences alongside private biotech companies. Societal actors, including the Slovak Alzheimer's Society, Czech Alzheimer's Society, Centrum Memory, and the Czech Brain Aging Study, are also involved, along with regional government participation from the Ministry of Health of the Slovak Republic and the South Moravian Innovation Centre. These interconnected ecosystems aim to unite research, innovation, and business sectors by focusing on new diagnostic methods for Alzheimer's Disease and translating them into clinical practice. A key component of the project is the creation of a pilot programme of industrial PhD positions, providing talented students with the opportunity to work at the intersection of academia and industry. The project continues to advance Alzheimer's diagnostics through cross-border collaboration, with long-term goals of revolutionizing diagnostic approaches and accelerating the development of new diagnostic tools for Alzheimer's Disease.

Another strategic priority of CEITEC MU is securing projects aimed at **funding cutting-edge instrumentation**. These investments ensure that CEITEC Core Facilities remain at the highest level and provide researchers from CEITEC and external national and international institutions, with access to state-of-the-art technology that supports excellence in research. In addition to investment-driven projects, CEITEC MU also focuses on securing non-investment grants that support the operation, maintenance, and continuous development of Core Facilities.

Example of a project to support CEITEC Core Facilities:

- **MEYS Operational Programme Research, Development and Education, Priority axis 1: Strengthening capacities for high-quality research: Czech Infrastructure for Integrative Structural Biology for Human Health (2017 – 2021)**

The aim of the Czech Infrastructure for Integrative Structural Biology for Human Health project was to upgrade the equipment of the Czech Infrastructure for Integrative Structural Biology (CIISB) at the CEITEC MU and BIOCEV research centres and to support its use in research focused on interactions of biomolecules relevant for human health and disease treatment. The investment in the CIISB laboratories has modernised and expanded the portfolio of provided services, created conditions for high quality research and established transparent rules for the use of these instruments in core-facilities. New state-of-the-art instruments or refurbished equipment has significantly supported innovative research directions not only at the host institutions, but also the development of collaborations with new institutions through the commercial use of instruments. The project has also produced a number of results with foreign co-authorship, and the activities of the built and upgraded centres thus extend beyond the borders of the Czech Republic.

Table 3.3.1 Projects supported by public funds

In the role of beneficiary						
Provider ²⁵	Project name	Support (in thousands CZK/EUR) ²⁶				
		2019	2020	2021	2022	2023
ERC (7. RP)	PicoStructure	6 438 / 257,5	-	-	-	-
ERA CHAIR (7. RP)		5 281 / 211,2	-	-	-	-
H2020 ERC	Signaling propensity in the microenvironment of B cell chronic lymphocytic leukemia	13 463 / 538,5	-	4 807 / 192,3	7 406 / 296,2	-
H2020 ERC	Peptide Killers of Bacteria	-	-	-	19 670 / 786,8	14 336 / 573,4
H2020 ERC	Dynamic assembly and exchange of RNA polymerase II CTD factors (DECOR)	-	9 736 / 389,4	-	-	-
H2020_others		16 936 / 677,4	7 446 / 297,8	6 702 / 268,1	3 244 / 129,8	-
HORIZON EUROPE ERC	Phage infection of bacterial biofilm	-	-	-	28 830 / 1 153,2	-
HORIZON EUROPE MSCA – PF	Structure and dynamics of PHage Attachment and Genome Ejection (PHAGE)	-	-	-	-	2 333 / 93,3

²⁵ If the provider is from abroad, please indicate the provider's country of origin in brackets. For the determination of the country of origin of the provider, the place of residence of the provider is decisive.

²⁶ Indicate the total amount expressed in thousands of CZK and the conversion of the total amount into Euro.

HORIZON EUROPE MSCA – PF	Personalizing virtual brains with neurodegenerative disease: noninvasive stimulation approach (PINGED)	-	-	-	-	2 618 / 104,7
HORIZON EUROPE MSCA – PF	In vitro and In-cell characterization of Quadruplex-duplex hybrids: conformation, folding, ligand binding and implications for in-cell NMR based assays	-	-	-	2 624 / 105,0	2 034 / 81,4
HEUROPE MSCA4UKRAINE	Structural characterization of phage assembly and genome packaging in bacterial cells	-	-	-	-	998 / 39,9
HEUROPE MSCA4UKRAINE	Novel Cytokinin-Like Compounds: Signaling and Mechanism of Action in Arabidopsis and Brassicaceae	-	-	-	-	1 976 / 79,0
H2020 MSCA - RISE	Integrative structural biology of pathological tau protein, an appealing therapeutic target for Alzheimer's	16 041 / 641,6	-	-	5 889 / 235,6	3 290 / 131,6
H2020 MSCA - RISE	Excellence in research and development of non-coding RNA DIAGnostics in Oncology	10 232 / 409,3	-	-	4 062 / 162,5	-
H2020- MSCA RISE	Novel Network-Based Approaches for Studying Cognitive Dysfunction in Behavioral Neurology	1 941 / 77,6	-	-	688 / 27,5	-
H2020 SC1	Alliance for Life Sciences: From Strategies to Actions in Central and Eastern Europe	-	-	38 473 / 1538,9	-	4 639 / 185,6

H2020 SC1	Alliance for Life Sciences: Closing Research and Innovation Divide in the EU	2 416 / 96,6	2 405 / 96,2	-	-	-
HEUROPE - WIDERA	Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central Europe	-	-	-	48 383 / 1935,3	-
H2020 - Twinning	INTEG-RNA: Integration of RNA Biology for Next-Generation Scientists		17 657 / 706,3	-	2 201 / 88,0	-
Digital Europe		-	-	-	-	263 / 10,5
EMBO		3 471 / 138,8	4 809 / 192,4	1 284 / 51,4	3 271 / 130,8	-
Wellcome Trust		1 599 / 64	-	-	-	-
Other international		4 025 / 161,0	-	4 482 / 179,3	8 276 / 331,0	5 845 / 233,8
MEYS – OP RDE	Regulace rostlinné meiózy a vývoj technologií k její manipulaci	10 697 / 427,9	5 517 / 220,7	22 276 / 891,0	7 205 / 288,2	-
MEYS – OP RDE	Analýza Českých Genomů pro Teranostiku	31 863 / 1274,5	17 710 / 708,4	10 680 / 427,2	10 939 / 437,6	5 186 / 207,4
MEYS – OP RDE	Česká infrastruktura pro integrativní strukturní biologii pro lidské zdraví	19 327 / 731,1	12 018 / 480,7	-	-	-
MEYS – OP RDE	Integrace signálu a epigenetické reprogramování pro produktivitu rostlin	23 468 / 938,7	19 792 / 791,7	19 055 / 762,2	5 063 / 202,5	1 420 / 56,8
MEYS – OP RDE	Modernizace České infrastruktury pro integrativní strukturní biologii	-	181 709 / 72 68,4	279 734 / 11 189,4	70 380 / 2 815,2	-
MEYS - NPU	CEITEC 2020	206 548 / 8 261,9	206 573 / 8 262,9	-	-	-
GACR EXPRO	Structural study of enterovirus replication in situ	9 992 / 399,7	9 998 / 399,9	9 998 / 399,9	9 998 / 399,9	9 998 / 399,9
GACR EXPRO	STRUCTURAL BIOLOGY – NEXT GENERATION: from isolated molecules to	6 769 / 270,8	8 198 / 327,9	8 007 / 320,3	7 659 / 306,4	7 288 / 291,5

	cells, from cells to tissues					
GACR EXPRO	Biogenesis and evolution of telomerase in plants	-	6 115 / 244,6	6 115 / 244,6	6 115 / 244,6	6 115 / 244,6
GACR EXPRO	RNA editing, how immune systems and brains breach The Central Dogma	-	-	7 310 / 292,4	10 207 / 408,3	10 699 / 428,0
GACR EXPRO	Role biomolekulárních kondenzátů v diferenciaci zárodečných buněk rostlin	-	-	-	-	9 657 / 386,3
GACR EXPRO	Identifikace a charakterizace nové signální dráhy regulující sestřih pre-mRNA	-	-	-	-	9 997 / 399,9
MEYS ERC-CZ		-	21 324 / 853,0	32 181 / 1 287,2	22 829 / 913,2	10 165 / 406,6
MEYS Reserch Infrastructure		40 203 / 1 608,1	57 362 / 2 294,5	60 827 / 2 431,1	61 150 / 2 446,0	59 871 / 2 394,8
MEYS MOBILITY		192 / 7,7	162 / 6,5	347 / 13,9	322 / 12,9	178 / 7,1
MEYS Inter-excellence		8 799 / 352,0	9 994 / 399,8	8 373 / 334,9	5 788 / 231,5	3 017 / 120,7
GACR (excl. EXPRO)		93 683 / 3 747,3	103 022 / 4 120,9	99 629 / 3 985,2	102 538 / 4 101,5	98 586 / 3 943,4
AZV		43 674 / 1 747,0	49 131 / 1 965,2	57 543 / 2 301,7	57 702 / 2 308,1	48 982 / 1 959,3
TACR		9 463 / 378,5	12 824 / 513,0	6 428 / 257,1	1 267 / 50,7	-
SoMoPro		12 174 / 487,0	3 439 / 137,6	-	-	-
Total		578 794 / 23 151,8	766 941 / 30 677,6	679 444 / 27 177,8	506 300 / 20 252,0	305 155 / 12 206,2
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023

²⁷ Ibid.

H2020		5 647 / 225,9	12 808 / 512,3	9 414 / 376,6	7 174 / 287,0	11 154 / 446,2
HORIZON EUROPE – EIC	First Closed-loop non-Invasive Seizure Prevention System	-	-	-	-	49 660 / 1 986,4
HORIZON EUROPE_others		-	-	-	1 817 / 72,7	4 976 / 199,0
MEYS – OP RDE	NCLG - Národní centrum lékařské genomiky - modernizace infrastruktury a výzkum genetické variability populace	529 / 21,2	-	-	-	-
MEYS – OP RDE	Modernizace a rozšíření přístrojového vybavení Národního centra lékařské genomiky	-	2 818 / 112,7	255 / 10,2	-	-
MEYS – OP RDE	CEITEC Nano+	445 / 17,8	955 / 38,2	139 / 5,6	-	-
MEYS – OP RDE	ELIXIR-CZ: Budování kapacit	1 025 / 41	1 428 / 57,1	590 / 23,6	-	-
MEYS – OP RDE	Modernizace a podpora výzkumných aktivit národní infrastruktury pro biologické a medicínské zobrazování Czech- BioImaging	7 048 / 281,9	117 / 4,7	-	-	-
MEYS – OP RDE	Modernizace národní infrastruktury pro biologické a medicínské zobrazování Czech- BioImaging	-	29 974 / 1 199,0	23 374 / 935,0	1 005 / 40,2	-
MEYS – OP RDE	Centrum experimentální biologie rostlin	8 087 / 323,5	4 479 / 179,2	4 161 / 166,4	6 854 / 274,2	5 000 / 200
MEYS – OP JAC	Nové poznatky pro plodiny nové generace (TANGENC)	-	-	-	-	9 419 / 376,8
MEYS – OP RDE	Postdoc@MUNI	1 567 / 62,7	622 / 24,9	-	-	-
MEYS – OP RDE	MSCAfellow@MUNI	9 381 / 375,2	-	-	-	-

MEYS – OP RDE	MSCAfellow2@MUNI	9 667 / 386,7	-	3 589 / 143,6	-	-
MEYS – OP RDE	MSCAfellow3@MUNI	3 595 / 143,8	2 962 / 118,5	-	-	-
MEYS – OP RDE	Postdoc2MUNI	-	-	3 964 / 158,6	553 / 22,1	-
MEYS – OP JAC	MSCAfellow5_MUNI	-	-	-	-	1 500 / 60,0
MEYS – OP RDE	Rozvoj lidských zdrojů a mezinárodní orientace výzkumu na MU	1 362 / 54,5	1 300 / 52,0	1 100 / 44,0	938 / 37,5	-
MEYS - NPO EXCELES		-	-	-	26 171 / 1 046,8	173 087 / 6 923,5
GACR		13 434 / 537,4	11 229 / 449,2	8 860 / 354,4	7 094 / 283,8	10 900 / 436,0
TACR		13 187 / 527,5	13 486 / 539,4	6 742 / 269,7	5 634 / 225,4	9 701 / 388,0
AZV		17 229 / 689,2	13 374 / 535,0	14 767 / 590,7	11 609 / 464,4	8 372 / 334,9
MPO		1 327 / 53,1	612 / 24,5	-	-	-
MZem		679 / 27,2	-	747 / 29,9	1 511 / 60,4	1 409 / 56,4
MEYS Research Infra		22 843 / 913,7	37 945 / 1517,8	36 134 / 1445,4	36 405 / 1456,2	34 255 / 1370,2
Total		117 052 / 4 682,1	134 109 / 5 364,4	113 836 / 4 553,4	106 765 / 4 270,6	319 433 / 12 777,3

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Discitic Dx, Inc.	Research on non-coding RNAs in the context of cancer diagnosis and therapy	1 032 / 41,3	-	-	-	-
ECM Diagnostics, Inc.	Research on non-coding RNAs in the context of cancer diagnosis and therapy	-	409 / 16,4	-	-	-
EYEN SE	Common research related to the SW development of CryoEM	7 504 / 300,2	3 445 / 137,8	2 109 / 84,4	-	-
HUTIRA s.r.o.	In-time determination of biological water pollution	-	-	-	-	557 / 22,3
ThermoFisher Scientific	Common research related to the method development of CryoEM infrastructure	1 423 / 56,9	2 015 / 80,6	980 / 39,2	1 362 / 54,5	1 051 / 42,0

²⁸ If the client is from abroad, indicate in brackets the country of origin of the client.

Total	9 959 / 398,4	5 869 / 234,8	3 089 / 123,6	1 362 / 54,5	1608 / 64,3

Note: List and describe contract research activities with a revenue in a given calendar year, regardless of the amount of financial revenue.

3.4 Research results with existing or prospective impact on society

The evaluated unit shall briefly comment on a maximum of 10 (considered most significant by the evaluated unit) research results already applied or realistically heading towards application during the period of 2019–2023, based on the overview annex table 3.4.1 (it is recommended to indicate results with a link to projects listed in indicator 3.3). The evaluated unit must demonstrate in its description that the research results have led or will soon lead to positive impacts²⁹, on society (e.g. description of how the results are used by various users, the range of persons/institutions for which the result is relevant, measurable economic impacts, etc.). The evaluated entity shall indicate in its commentary whether the gender dimension is considered in these results and discuss the impacts of the results regarding sustainability.

Maximum range 300 words/result.

CEITEC MU primarily focuses on basic research. However, it does not compromise on ensuring the research is not merely of academic interest. It delivers an impact on society—both the scientific community (key scientific discoveries) and the broader non-scientific community (innovations). Although some CEITEC publications aim toward applications and commercialization, this section focuses solely on the types of results that, according to the RIV methodology, fall under applied results.

Among the most significant results with measurable impact, the following can be included:

Method of prognosis in patients with follicular lymphoma. Patent

(Marek Mráz Research Group)

The presented solution provides a method for determining the prognosis of a patient suffering from follicular lymphoma, characterized by measuring miR-31 levels in an isolated biological sample from the patient. Although immunotherapy has significantly improved patient survival, FL remains incurable in advanced stages, characterized by recurrent relapses, resistance, and transformation to aggressive forms such as diffuse large B-cell lymphoma (DLBCL). Based on this measurement, the patient is assigned to a prognostic group, where the prognostic groups and threshold values for assignment are determined through analysis of miR-31 levels in biological samples from patients with known prognoses. This approach simplifies and accelerates prognosis determination compared to existing methods while maintaining high precision. A **diagnostic kit** for prognostication of follicular lymphoma using miRNA quantification has been developed in 2022.

Method of diagnosis of colorectal cancer. Patent

(Ondřej Slabý Research Group)

The present invention relates to diagnosing and prognosing colorectal cancer using piRNA-hsa-5937 as a biomarker. The resulting method uses a body fluid as the input and, therefore, is non-invasive, has a high sensitivity and specificity even in the very early stages of the disease, and is cost-effective. Colorectal cancer is currently one of the most common types of cancer in the Czech Republic, and for a long time, Czechs have been one of the nationalities with the highest incidence of this disease. 8,000 new cases are diagnosed, and almost 4,000 people die every year from this disease in the Czech

²⁹ See Terms definition.

Republic. In 2020, MU signed a **patent license agreement** (incomes see Tab. 3.5.1) with a biotech company BioVendor, which initiated collaboration on developing a **diagnostic kit for colorectal cancer**.

4D-GRAPHS. Software

(Konstantinos Tripsianes Research Group)

The 4D-Graphs is a software for protein structure determination by NMR. The software is expected to be used in drug design or enzyme engineering. It uses an Artificial Intelligence (AI) tool integrating Machine Learning (ML) and graph algorithms to simplify protein assignment using a single 4D HCNH NOESY spectrum. This approach combines advanced NOESY concepts with AI to meet key NMR objectives: reduced experimental time, lower costs, minimal human intervention, and application to large proteins. 4D-GRAPHS demonstrates the transformative potential of ML technologies in biomolecular research. This software was licensed to a spin-off company **AI|ffinity s.r.o.** **A detailed description of the licensing process is in chapter 3.5, see Example 2 AI|ffinity (spin-off).**

Bioinformatic tool with a user interface for NGS data analysis – LYNX. Software

(Šárka Pospíšilová Research Group)

LYNX is a web-based interactive bioinformatic tool for analyzing targeted next-generation sequencing data. Its computational pipelines provide comprehensive information about mutations in selected genes, genome-wide copy number variations, translocations, and rearrangements of antigen receptors in the most common lymphoid malignancies. The results are visualized through interactive tables and graphs in a user-friendly interface. This unique software significantly enhances the diagnostic and research capabilities of hemato-oncology laboratories by enabling the simultaneous analysis of various molecular biomarkers in lymphoproliferative diseases—such as chronic lymphocytic leukemia or diffuse large B-cell lymphoma—within a single test using next-generation sequencing technology. LYNX streamlines data interpretation, accelerates diagnostics, and supports personalized treatment strategies, ultimately improving patient outcomes. The terms of **a licensing agreement with EuroClonality are currently being negotiated**, paving the way for broader implementation in clinical practice.

4D-CHAINS. Software

(Konstantinos Tripsianes Research Group)

Automated methods for NMR structure determination of proteins are continuously becoming more robust. However, current methods addressing larger, more complex targets rely on analysing 6–10 complementary spectra, suggesting alternative approaches are needed. The 4D-CHAINS/autoNOE-Rosetta is a complete pipeline for NOE-driven structure determination of medium- to larger-sized proteins. The algorithm analyses two 4D spectra recorded using a single, fully protonated protein sample in an iterative ansatz where common NOEs between different spin systems supplement conventional through-bond connectivity to establish assignments of sidechain and backbone resonances at high levels of completeness and with a minimum error rate. The 4D-CHAINS assignments are then used to guide the automated assignment of long-range NOEs and structure refinement in autoNOE-Rosetta. The results on four targets ranging in size from 15.5 to 27.3 kDa illustrate that the structures of proteins can be determined accurately and unsupervised in a matter of days. This software was licensed to a spin-off company **Alffinity s.r.o.** **A detailed description of the licensing process is in chapter 3.5, see Example 2 AI|ffinity (spin-off).**

Pocket analyser for the determination of antibodies in a liquid sample. Technically realized results (prototype, functional sample)

(Petr Skládal Research Group)

This functional sample and the know-how "*High molecular redox probe for electrochemical affinity biosensors and self-testing technologies*" brought in 2023 about the idea of starting a **spin-off company** focused on producing self-testing kits, such as those for diagnosing sexually transmitted diseases. The company is **expected to be established in 2025**, aiming to bring accessible and reliable diagnostic tools directly to users, contributing to public health by enabling early detection and treatment. A compact analyser for biomolecule detection in liquid samples was developed. This portable device integrates all key components for autonomous measurements, including a fluidic cartridge for sample collection and miniature control electronics that automatically process and evaluate the signal. An innovative feature of the analyser is its power source—original disposable galvanic cells (batteries) activated by adding any liquid, such as urine—making the device highly practical for self-testing and use in various environments.

Method of non-invasive testing of the success of the in vitro fertilization process. Patent application
(Ondřej Slabý Research Group)

Cross-border cooperation involving three universities and a start-up company Fetus, IVF a.s. and financial contribution of Czech holding group FABA Capital has brought Masaryk University significant success in the field of technology transfer. In a contract valued at 441,000 EUR, this collaboration will enable the commercialisation of a new technology that significantly increases the success rate of artificial insemination. **A detailed description of the commercialisation is in chapter 3.5, see Example 4 Fetus, IVF.**

AI|ffinity. Spin-off

(Konstantinos Tripsianes Research Group)

AI|ffinity is a contract research organisation offering computing services and software licensing for binding affinity prediction or related problems (e.g., hit discovery, lead optimisation, off-target prediction, pharmacophore modelling). Its technology uses artificial intelligence, cheminformatics, and nuclear magnetic resonance. It was founded as a spin-off of Masaryk University in late 2021, based on a sold license for two software results (4D-CHAINS and 4D-GRAPHS). **A detailed description of the licensing process is in chapter 3.5, see Example 2 AI|ffinity (spin-off).**

The use of DNA to facilitate the preparation of grids for cryo-electron microscopy.

(Pavel Plevka Research Group)

The project aimed to develop and optimize a technology to enhance and streamline the preparation of **grids for cryo-electron microscopy (cryo-EM) using the blotting method**. This preparation involves applying a defined amount of sample to a copper or gold grid coated with a carbon layer containing evenly arranged holes. Subsequently, the excess sample is removed using filter paper, leaving a thin liquid film, after which the grid is rapidly plunged into supercooled ethane to vitrify the sample. A critical challenge in this process arises during the blotting step, where the physical forces exerted by the filter paper can damage protein molecules. This damage often leads to sample aggregation, which hinders subsequent cryo-EM analysis. The results of this applied research proved the effectiveness of the technology and its adaptability to various protein systems. Subsequently, **collaboration was initiated with Thermo Fisher Scientific**, which expressed interest in implementing the technology. Following discussions with their experts, further validation experiments were conducted in Thermo Fisher Scientific's laboratories in Brno. These independent experiments confirmed the reproducibility and functionality of the method outside our laboratory environment, highlighting its potential for broader application in cryo-EM workflows.

Generation of stable cell lines for the screening of inhibitors of the ADAR enzymes.

(Mary Anne O'Connell Research Group)

This project aimed to develop stable reporter cell lines for high-throughput screening of ADAR1 inhibitors, with the screening conducted in collaboration with the Centre for Drug Design and Discovery (CD3) at the KU Leuven, Belgium. We successfully established these cell lines and provided them to CD3 as part of a collaboration agreement with Masaryk University, aiming to develop small-molecule inhibitors or degraders of ADAR1 with oral bioavailability, suitable for further validation in vitro and in vivo, and potential patent protection. Our approach involved generating HEK293 cell lines with inducible ADAR1 (p110, p150) or ADAR2 expression, combined with a luciferase-based reporter system to detect ADAR-mediated RNA editing. These stable cell lines allow for precise measurement of ADAR activity, facilitating screening efforts. We also created the necessary plasmids to generate similar stable lines in other cell types. The cell lines have demonstrated robust ADAR induction and a strong signal for screening assays. Initial screening at CD3 included a repurposing library of 5,000 compounds and an expanded 60,000-compound library, successfully identifying promising inhibitors. Nine distinct chemotypes have been validated, proving the effectiveness of our screening platform. With this foundation, the collaboration is scaling up to test larger compound libraries, reinforcing the project's impact on drug discovery. This partnership with CD3 ensures that our research moves beyond academia into real-world therapeutic applications, with the potential to develop novel ADAR1-targeting treatments that could benefit patients.

General Comment: Consideration of gender and sex (GS) dimensions in biomedical research conducted at CEITEC MU is a standard practice. Projects focused on research in the human domain are always approved by **The Research Ethics Committee**, which, among other tasks, ensures appropriate handling of this aspect. For all projects, at the very least, it is assessed whether GS dimension is important, and if so, the experimental design is always created to avoid underestimating GS differences, ensuring that the resulting research is valid for the entire society. CEITEC MU has also contributed to the development of the **course "Sex and Gender Dimension in Biomedical Research,"** which is now offered both to students as an accredited subject and to employees as part of lifelong learning. This course, designed by an international team of experts, provides insights and practical skills for incorporating this dimension into research. Each year, dozens of participants complete this course.

Table 3.4.1 - Overview of research results in the period under evaluation

Type of result ³⁰	Year of application	Name
P-Patent	2023	Method of prognosis in patients with follicular lymphoma.
P-Patent	2020	Method of diagnosis of colorectal cancer
R-Software	2021	4D-GRAPHS
R-Software	2021	Bioinformatic tool with a user interface for NGS data analysis – LYNX
R-Software	2021	4D-CHAINS
G-Functional Sample	2022	Pocket analyzer for the determination of antibodies in liquid sample

³⁰ Specify the specific type of result. Add rows as needed.

O-Other	2020	Patent Application no. SK500102020A3: Method of non-invasive testing of the success of the in vitro fertilization process (Spôsob neinvazívneho testovania úspešnosti in vitro fertilizačného procesu)
Spin-off	2021	AI ffinity s.r.o.
O-Other	2021	The use of DNA to facilitate the preparation of grids for cryo-electron microscopy
O-Other	2021	Generation of stable cell lines for the screening of inhibitors of the ADAR enzymes

Note 1: Please list and describe the results already applied in practice or heading towards application in practice with existing or prospective impact on the society (e.g. domestic or foreign patents, sold licenses, spin-offs, prototypes, varieties and breeds, methodologies, significant analyses, surveys, expert outputs for policymaking or other forms of non-publication outputs, etc.). Indirect results of research, development and creative activities with documented societal impact, e.g. expert activities, services to the public/government/scientific community, may also be reported.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

The evaluated unit shall briefly describe its system for transferring results into practice. It shall also indicate up to five of the most typical users of its results, whether in the university environment or in the non-university application/corporate sphere, detailing how it collaborates with them and how it seeks out new users (using a maximum of five specific examples).

It will also indicate whether and how it commercialises R&D&I results (e.g. selling licences, setting up start-up or spin-off companies, etc.)³¹, providing brief description of the commercialisation methods used. The effectiveness of the transfer of results and the commercialisation of R&D&I results will be described using a selection of results (max. five) listed in annex table (Table 3.4.1).³²

Additionally, the evaluated unit shall briefly comment on the funds received during the period of 2019–2023 from non-public, non-grant sources (e.g. licences sold, spin-off revenues, donations, etc.). A full summary shall be provided in annex table (Table 3.5.1).

Maximum 500 words plus 200 words for each provided example of finding a new user of results and commercialization.

Self-assessment:

Since 2005, the Technology Transfer Office (**TTO MUNI**) has been an integral part of Masaryk University, providing technology and knowledge transfer services across all university departments. In addition, CEITEC MU has the position of a dedicated **Business Development Manager**, who plays a key role in fostering connections between researchers and industry. This position ensures that scientific discoveries have practical applications by identifying commercial partners, organising roundtable meetings, and scouting for knowledge and technologies with market potential. The Business Development Manager collaborates with TTO MUNI to streamline the commercialisation of intellectual property (IP), support licensing efforts, facilitate contract research, and identify opportunities for spin-off creation in accordance with university regulations.

³¹ In the case of military HEIs, their specific position is taken into account when evaluating the commercialisation/evaluation of R&D&I results.

³² If the commercialisation of R&D&I results is carried out in this way.

Technology transfer at CEITEC follows a structured approach that includes:

- identification, protection, and commercial exploitation of IP, in cooperation with TTO MUNI,
- engagement with companies to establish applied research projects, contract research, and collaborative initiatives,
- supporting researchers in translating their findings into commercially viable applications,
- strengthening interactions between academia and industry through networking events, workshops, and targeted outreach activities.

Through these efforts, CEITEC aims to create a dynamic ecosystem where scientific discoveries translate into real-world applications, benefiting research excellence and societal needs. By combining internal expertise with the support of TTO MUNI and the strategic role of the Business Development Manager, CEITEC is well-positioned to drive impactful technology transfer and strengthen its position in applied research and innovation.

The most typical users of our results are:

- a biotech or pharma company that develops the university's IP through a patent or know-how license,
- a spin-off company founded by a former MU employee and developing MU IP through a licensing agreement,
- other MU departments cooperating through applied joint projects or by using CEITEC core facilities,
- laboratories and research groups from other universities (both within the Czech Republic and abroad) collaborating in applied joint projects leveraging CEITEC IP or know-how or using CEITEC core facilities.

Cooperation with industry is carried out through:

- joint grant projects of applied research,
- contract research according to the client's requirements (measurement services in our core facilities, consultation services using our know-how),
- collaborative research funded from non-public sources,
- internships of PhD students in companies.

How we seek our partners for cooperation:

- based on personal contacts with former alumni of the faculty,
- by organising workshops on the specific topic, or organising university-wide events aimed at the professional public – e.g. Business Research Forum,
- via the website (<https://www.ceitec.eu/industry-cooperation/> or websites of the core facilities <https://www.ceitec.eu/core-facilities/>),
- presenting our technologies at professional partnering events (e.g. BioVaria, BioFIT),
- offering our services on partnering portals, such as IN-PART (<https://www.inpart.io/>).

Mechanisms for Research Commercialization:

- patent, patent application or utility model licensing,
- consulting services leveraging CEITEC's know-how, providing expert knowledge and specialized solutions to commercial partners,
- facilitating the creation of spin-off companies, often founded by former employees.

Summary of the funds received during the period of 2019–2023 from non-public, non-grant sources – a full summary is provided in the annex table (Table 3.5.1).

BioVendor (licensing)

Based on the patent of Ondřej Slabý ([Research Group Ondřej Slabý](#)), a team of scientists from CEITEC MU and the Masaryk Cancer Institute (MOU) have jointly developed an innovative diagnostic kit for colorectal cancer. This method should enable early detection of colon cancer and monitoring of disease progression from a patient's blood sample. A patent application was filed, and cooperation was initiated with the Czech biotechnology company [BioVendor, laboratorní medicína a.s.](#), which expressed interest in the new diagnostic procedure. The TTO MU secured the signing of a framework cooperation agreement and, subsequently, a validation study contract. MU provided funding from the Proof-of-Concept programme (TACR GAMA) to validate the technology, and the MOU provided biological material and clinical expertise. A licensing agreement was signed in 2019. In addition to the licensing fee, patent costs were paid. Subsequently, BioVendor had to set up a process to manufacture the technology, and conduct clinical validation, which was carried out on patients with hereditary colorectal cancer. BioVendor planned to bring the diagnostic kit to market within two years. However, despite repeated efforts, the clinical validation of the technology failed, and the license agreement was terminated. This technology received the MUNI INNOVATION AWARD in 2021.

AI|ffinity (spin-off)

The company [AI|ffinity s.r.o.](#) was founded by Thomas Evangelidis (a former CEITEC MU employee from the [Research Group Konstantinos Tripsianes](#)), who signed a licensing agreement with the university. It utilises artificial intelligence software to reveal the structure of biomolecules down to the atomic level. These are two computer programs, namely 4D-CHAINS and 4D-GRAPHS, developed with the support of the internal grant agency of MU. Thanks to innovative measurement methods and advanced computer algorithms, these programs can reveal the structures of biomolecules to the level of atoms and their complexes and simulate their dynamic behaviour. Three departments of Masaryk University participated in developing the 4D-GRAPHS software as part of a joint interdisciplinary research project. In 2021, a term sheet was signed with the future founder of the company. He obtained a "Prototype and Verify" grant awarded by the South Moravian Innovation Centre (JIC), and a license to the university's IP was a condition for its use. After establishing AI|ffinity, the TTO negotiated terms and entered into a license agreement with AI|ffinity in early 2022. AI|ffinity is collaborating with research groups at the Faculty of Science and CEITEC MU on a joint grant.

A sale of antibodies

In 2023, MU, represented by the TTO, entered into a Tangible Materials License Agreement with a biotechnology company to include CEITEC's anti-CDK11 rabbit antibody in their catalogue. The interest of this company was aroused by a publication from Dalibor Blažek ([Research Group Dalibor Blažek](#)) in the scientific journal NATURE, which describes a previously unknown mechanism regulating RNA splicing, a crucial process for controlling gene expression. The control of splicing through CDK11 inhibition may also lead to therapeutic applications in the future. The company processed and validated the material used for this research, and it will be offered commercially for further research through their catalogue. Masaryk University received a one-off payment for the license and will receive revenue from selling the material.

Fetus, IVF a.s.

In 2020, the Research Group Ondřej Slabý submitted a patent application for a new technology, developed in collaboration with Comenius University in Bratislava and Pavol Jozef Šafárik University in Košice. This new technology can significantly increase the success rate of artificial insemination. Thanks to participation in the Transfera Technology Day 2020 competition, contact was made with representatives of the commercial sphere and a future patent buyer and investor. In December 2022, the parties signed an agreement on the transfer of IP to the start-up company Fetus, IVF a.s. The transaction total was EUR 440 thousand, of which Masaryk University received EUR 90 thousand. The task of the start-up is to bring this technology to commercialisation.

Notes:

In addition to the cases described above, there are revenues from the co-owned patents with a company GENERI BIOTECH s.r.o. (patents granted before 2019, but revenues are in the range 2019-2023).

The revenues from spin-offs and licences in Table 3.5.1 are the gross income for MU, which is then divided between MU, the economic centre (s) and the inventor(s) according to the relevant rules.

Table 3.5.1 - Summary of non-public revenues received during the period under evaluation

Type of revenue	Revenue (in thousands CZK/EUR)				
	2019	2020	2021	2022	2023
Licences sold	303 / 12,1	452 / 18,1	3 / 0,1	1 799 / 72,0	64 / 2,6
Spin-off company revenues	-	-	-	51 / 2,0	4 / 0,2
CF revenues from service provision towards external academic institutions	7 119 / 284,8	8 857 / 354,3	10 508 / 420,3	11 716 / 468,6	10 674 / 427,0
CF revenues from service provision towards commercial companies	2 583 / 103,3	4 888 / 195,5	9 543 / 381,7	6 839 / 273,6	7 312 / 292,5
Diagnostic services under the contract with health insurance company	4 443 / 177,7	5 139 / 205,6	5 963 / 238,5	4 865 / 194,6	5 456 / 218,2
Total	14 448 / 577,9	19 336 / 773,4	26 017 / 1 040,7	25 270 / 1010,8	23 510 / 940,4

Note: Enter funds raised for R&D&I from non-public sources besides grants or contract research (e.g. licences sold, spin-off company revenues, donations, etc.) in the calendar year.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

The evaluated unit shall briefly describe its main activities related to the popularisation of R&D&I and communication with the public (e.g. popularisation lectures, citizen science initiatives, etc.) during the period of 2019–2023 and provide up to 10 examples that it considers the most significant.

Maximum 500 words plus 200 words for each example given.

Self-assessment:

CEITEC MUNI has actively engaged in a wide range of public relations (PR) activities from 2019 to 2023 **with the goal of popularising research, development, and innovation while fostering a stronger connection between the scientific community and the public.** The institution strategically

issued numerous **press releases**, focusing on significant scientific discoveries, collaborative projects, and prestigious awards. This proactive approach not only amplified CEITEC's visibility but also reinforced its role as a leading research centre in the Czech Republic and Europe.

Beyond press releases, CEITEC MUNI organised a variety of **public lectures, events, and educational programs** designed to make complex scientific concepts more accessible to non-specialist audiences. Events popularising science attracted significant public interest, combining expert talks with interactive elements to engage diverse groups, including families and school children.

A consistent **online presence** also played a key role in CEITEC's PR strategy. The institution regularly updated its website and social media platforms, sharing the latest research findings, institutional milestones, and human stories behind the science, making the content more attractive and engaging for the broader public. This effort was complemented by **partnerships with prominent science communication platforms, such as VědaVýzkum.cz**, ensuring the dissemination of expert commentary and research highlights.

Educational outreach formed another critical pillar of CEITEC's PR activities. Collaboration with local schools and universities introduced students to scientific careers through internship opportunities, laboratory visits, and participation in real research projects, further supporting the development of future scientific talent.

CEITEC MUNI also actively participated in **international scientific forums**, such as ICRI 2022 and Alliance4Life events, both of which served as platforms to showcase CEITEC's research excellence while promoting collaboration among leading European research institutions. CEITEC also hosted in 2023 the first-ever Czechoslovak conference on strategic management in science from the national and institutional perspective. The conference provided an opportunity for a meeting of leading government officials from both countries, including Prime Minister Petr Fiala, and representatives of the leadership of Czech and Slovak universities and research institutes, relevant ministries, government councils for research, development and innovation and grant agencies.

In addition to traditional communication, CEITEC MUNI invested in **innovative visual storytelling tools**. Through the use of infographics, short video explainers, and virtual lab tours, complex scientific content was transformed into visually engaging formats accessible even to non-expert audiences.

Recognition and awards also formed a key component of CEITEC's PR efforts. The institution actively promoted the **achievements of its researchers**, including the election of several CEITEC MUNI scientists to prestigious memberships such as EMBO and the receipt of ERC Grants. These public celebrations of scientific milestones not only highlighted individual excellence but also reinforced CEITEC's overall reputation as a hub for cutting-edge research.

Finally, CEITEC MUNI consistently supported public awareness campaigns that extended beyond scientific research, such as Movember, where researchers actively participated to raise awareness of men's health issues while linking the campaign to ongoing health-related research conducted at CEITEC MUNI. This approach helped bridge the gap between science and public well-being, positioning the institution as both a scientific and socially responsible organisation.

Electron Microscopy Days (2019, 2020, 2021, 2022, 2023) [4]

CEITEC MUNI actively participates in the annual Electron Microscopy Days, a highly popular event that attracts a broad audience from the general public, including students, educators, and science enthusiasts. Supported by public authorities and initiated by key regional stakeholders—microscope manufacturers, public institutions, research centres, and universities—the event showcases the cutting-edge world of electron microscopy and its transformative impact on science and society.

Each year, CEITEC MUNI opens its state-of-the-art laboratories to visitors, offering unique opportunities to explore advanced electron microscopy tools and their applications in fields such as life sciences and materials research. The program features engaging activities, including guided tours, interactive demonstrations, and workshops, all designed to make the complex world of electron microscopy accessible and fascinating to non-specialists. Special themes, such as celebrating the 70th anniversary of the first electron microscope, add historical and educational depth to the event.

By participating in the Electron Microscopy Days, CEITEC MUNI not only highlights its leadership in research and technological innovation but also strengthens its ties with the regional community and global scientific partners. The event is a testament to CEITEC's commitment to public engagement and its role in advancing scientific literacy and regional collaboration in the #brnoregion.

Festival of Science (Festival vědy, 2019, 2020, 2022) [5]

The Festival of Science provided CEITEC MUNI with a valuable opportunity to engage with the public and showcase its ground-breaking research to a diverse audience. At this highly popular event, CEITEC scientists demonstrated their innovative work, offering hands-on activities, interactive experiments, and engaging discussions tailored to visitors of all ages. The festival served as a platform to highlight CEITEC's contributions to cutting-edge research and its practical applications in fields like biomedicine, materials science, and environmental studies.

The Festival of Science, held annually, is one of the largest outreach events in the Czech Republic, attracting thousands of visitors, including families, students, educators, and science enthusiasts. Supported by academic institutions, research centres, and public authorities, the festival promotes public understanding of science and encourages interest in STEM fields. By participating, CEITEC MUNI reinforced its role as a leader in scientific innovation while fostering a deeper connection between its research and the community.

Through its activities, CEITEC MUNI not only made complex scientific concepts accessible but also inspired the next generation of scientists and innovators. The festival's wide reach and inclusive approach allowed CEITEC MUNI to enhance its visibility and demonstrate its commitment to making science an integral part of society.

Researchers' Night (2021, 2022, 2023) [6]

The annual Researchers' Night at CEITEC MUNI has become a cornerstone event for engaging the public with science in an interactive and inspiring way. Each year, CEITEC MUNI opens its doors to visitors of all ages, offering a diverse program that includes hands-on experiments, guided lab tours, fascinating demonstrations, and opportunities to meet and interact with scientists. These activities make complex research topics accessible, emphasizing the real-world impact of science in everyday life.

The 2023 edition focused on the theme of Mystery, where CEITEC MUNI showcased its cutting-edge research in areas such as molecular biology, nanotechnology, and neuroscience. Visitors explored the secrets of the microcosmos, experienced state-of-the-art technologies, and learned about their applications in solving global challenges. In 2022, the event centred around Time, featuring engaging activities that highlighted the role of science in understanding processes like evolution, time in the context of life sciences, and the future of innovation. Similarly, the 2021 theme, Human and Robot, delved into advancements in robotics and artificial intelligence, demonstrating CEITEC's contributions to these fields.

Researchers' Night at CEITEC MUNI, supported by regional and national institutions, consistently attracts large audiences, providing an opportunity to strengthen public interest in science and enhance CEITEC's visibility as a hub for innovation and education.

Mendel Festival (2022, 2023) [7]

The Mendel Festival 2022 celebrated the 200th anniversary of Gregor Johann Mendel, the father of modern genetics, with a series of engaging events that highlighted the lasting impact of his discoveries. CEITEC MUNI played a key role in this prestigious event, contributing to the festival's scientific program and emphasizing the relevance of Mendel's legacy to contemporary research. The festival, which attracted a wide audience of scientists, educators, students, and the general public, featured a diverse line-up of activities, including expert lectures, panel discussions, and interactive exhibits. CEITEC scientists presented their research in genetics and molecular biology, demonstrating how Mendel's foundational work continues to influence breakthroughs in these fields.

This event, supported by prominent institutions and public authorities, showcased Brno's rich scientific heritage and its ongoing contributions to global research. CEITEC's participation underscored its commitment to promoting scientific literacy and engaging the public in meaningful discussions about the importance of genetics in addressing modern challenges, such as health, agriculture, and biodiversity. By connecting Mendel's pioneering work with contemporary science, the Mendel Festival enhanced CEITEC's visibility as a leading research institution and strengthened its role in fostering public appreciation for science.

Open House (2019, 2020) [8]

As part of the Open House Brno initiative, CEITEC MUNI opens its doors to the public, offering an exclusive glimpse into its state-of-the-art research facilities and cutting-edge scientific work. Visitors are given the unique opportunity to explore laboratories, learn about advanced technologies, and engage directly with researchers working on ground-breaking projects in molecular biology, nanotechnology, and advanced materials.

This event, which is part of a global network of Open House festivals, aims to increase public access to significant buildings and institutions, fostering a deeper understanding of their function and impact. CEITEC's participation highlighted its role as a leading research institution within the #brnoregion, making science and innovation more accessible to the general public.

Through guided tours and engaging presentations, visitors gained insight into how CEITEC's research addresses key societal challenges, from health innovations to sustainable technologies. The Open House Brno event provided CEITEC MUNI with an excellent platform to showcase its contributions to science and education while enhancing public appreciation for research and development.

Series of lectures at the Brno Observatory and Planetarium (2019)

CEITEC's "Visit the Mysterious World of the Brain" event offered the public a fascinating journey into the complexities of the human brain, guided by leading scientists from its research centre. This engaging program combined expert presentations with interactive activities, allowing visitors to explore the brain's structure, functions, and the latest scientific advancements in neuroscience. Designed to make cutting-edge research accessible to a wide audience, the event catered to families, students, and science enthusiasts, fostering curiosity and understanding of the brain's role in health, cognition, and disease. Participants had the unique opportunity to learn directly from neuroscientists about ground-breaking research conducted at CEITEC MUNI, including its implications for treating neurological disorders and improving mental health.

The event not only showcased CEITEC's expertise in neuroscience but also reinforced its commitment to public outreach and science communication. By demystifying complex topics and presenting them in an engaging format, CEITEC MUNI successfully bridged the gap between advanced research and the public, enhancing its visibility as a leader in scientific innovation and education.

Hyde Park Civilizace (2021) [9]

CEITEC's feature on the popular Czech television program Hyde Park Civilizace, focusing on the complexities of the brain as the most intricate structure in the known universe, significantly boosted the institution's public visibility and engagement. The program, renowned for its in-depth discussions on science and innovation, provided a platform for CEITEC researchers to share their expertise and discoveries in neurobiology with a broad audience.

Through this feature, CEITEC MUNI not only showcased its cutting-edge research but also humanized the scientific process, bringing complex topics closer to the audience and arousing their curiosity. The discussion emphasized CEITEC's role in advancing our understanding of the brain, from cellular mechanisms to implications for neurological diseases.

This appearance also highlighted CEITEC's commitment to science communication, leveraging mass media to connect researchers with the public. By participating in a highly respected program, CEITEC MUNI demonstrated its ability to contribute to global conversations on pressing scientific challenges, further enhancing its reputation as a leader in cutting-edge research. The program's wide reach and credibility ensured that CEITEC's neurobiological research resonated with both scientific and non-scientific audiences alike, solidifying its place in the public eye as a centre for innovation and knowledge.

CEITEC at the Dubai Expo (2022) [10]

The joint exhibition of Photon Systems Instruments (PSI) and CEITEC MUNI at the Dubai Expo 2020 highlighted the institution's innovative research and global ambitions, significantly enhancing its international visibility. The showcase featured cutting-edge advancements in plant biology, particularly the development of technology capable of monitoring plant responses to environmental changes in real time.

This interactive exhibit allowed visitors to explore the innovative "We Speak Plantish" concept, illustrating how CEITEC scientists are contributing to sustainability and food security through their research. By presenting this work at a globally significant platform like the Dubai Expo, CEITEC MUNI successfully reached an international audience, including policymakers, researchers, and industry leaders.

The collaboration with PSI demonstrated CEITEC's ability to translate scientific discoveries into practical applications, reinforcing its reputation as a leader in impactful, forward-thinking research. Media coverage and on-site interactions emphasized CEITEC's role in addressing critical global challenges such as climate change and food production, further establishing the institution as a key player on the world stage. This high-profile exhibition underscored CEITEC's commitment to bridging science and society, positioning it as an innovative research institution with a strong focus on global impact.

ERC pilot project of science journalism tested by CEITEC (2022) [11]

The feature "One Month in Brno Through the Eyes of a British Science Journalist" offered a unique and engaging perspective on CEITEC's activities, significantly enhancing its visibility both locally and internationally. By inviting a seasoned science journalist to experience and report on its research

environment, CEITEC MUNI showcased its facilities, scientific culture, and contributions to cutting-edge research in an authentic way.

The journalist's coverage provided detailed insights into CEITEC's state-of-the-art infrastructure and ongoing projects, while also highlighting Brno's vibrant scientific community. This personalized storytelling approach not only captured the attention of international readers but also humanized the institution by emphasizing the researchers' work and daily life.

This initiative demonstrated CEITEC's commitment to transparent communication and its ability to connect with diverse audiences beyond the scientific community. The feature was part of a broader effort stemming from a collaboration between the European Research Council (ERC) and Masaryk University/CEITEC, which agreed to pilot a new grant format aimed at enhancing research visibility and engagement. By aligning this project with the goals of the pilot program, CEITEC MUNI showcased its innovative approach to research dissemination, leveraging the journalist's independent voice to achieve credibility and authenticity. This ensured the outreach resonated with readers while reinforcing CEITEC's standing as a leader in scientific excellence and a proactive participant in advancing European research frameworks.

Fokus Václava Moravce (2022) [12]

In October 2022, CEITEC MUNI hosted a live broadcast of the highly prestigious and widely watched Czech Television program Fokus Václava Moravce. The episode, titled Science as Salvation, was filmed in CEITEC's impressive Atrium, featuring Václav Moravec's renowned red stage. Known for its intellectual depth and influential reach, the program attracts a broad audience, including policymakers, academics, and the general public.

Two CEITEC scientists, Pavel Plevka and Karel Říha, were invited as guests to discuss pressing global issues, including health crises, climate emergencies, and food shortages. Through their expert contributions, they highlighted the critical importance of fundamental research and the solutions contemporary science can offer. Hosting this widely respected program not only amplified CEITEC's visibility but also reinforced its reputation as a leading research institution actively addressing key societal challenges.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

The evaluated unit will briefly describe how it has implemented the recommendations for Module 3 from the previous evaluation period, if applicable.

Maximum 1000 words.

Self-assessment:

In 2020, CEITEC MU underwent Module 3 evaluation and was rated highly positively, achieving an overall calibrated score of 218 and an overall grade of 5 (Excellent). In specific evaluation categories, CEITEC MU received **eight grades of 5 (Excellent) and three grades of 4 (Very Good)**. The evaluation panel concluded: *"CEITEC is certainly an excellent, very strong, and successful unit of MUNI, and the International Evaluation Board wishes to congratulate the University for initiating such an important unit. CEITEC creates leverage effects across various faculties and contributes to university-level management and leadership. Its internationally esteemed research fosters a competitive scientific*

environment, advancing the university's academic standards. CEITEC is actively engaged in education (predominantly at the PhD level), providing students with direct access to top researchers and world-class research infrastructure. The PhD School, developed in collaboration with the faculties, is an excellent example of mutually beneficial cooperation. We commend CEITEC for establishing and managing significant international networks, such as Alliance4Life, which supports EU-13 countries in advancing high-quality health research collaborations and increasing their visibility at the European level."

However, the panel expressed concerns regarding the **sustainability of CEITEC's costly infrastructure.**

CEITEC MU: Funding from the Ministry of Education and Culture has been secured for 2023-2026 to support the operation of Core Facilities and ensure investments in equipment. To secure funding for the next period (2027-2034), CEITEC must succeed in the international peer-review evaluation organized by the Ministry in 2025. Despite the need to secure external competitive funding, CEITEC remains proactive in resource diversification, currently participating in 12 national and 8 international projects contributing to infrastructure support. Additionally, CEITEC ensures the highest quality and scope of its services, with transparent and predictable pricing policies enabling users to incorporate CF usage costs into their grant applications. Therefore, while challenges exist, CEITEC is confident to obtain continued funding for our research infrastructure.

The panel also suggested CEITEC **initiate discussions to harmonize the requirements for obtaining a PhD at MUNI.**

CEITEC MU: Discussion on harmonizing the requirements for completing doctoral studies is conducted at the level of the Research Department of the Masaryk University Rectorate and is overseen by the MU Internal Evaluation Board, which, among other things, provides methodological support in ensuring the quality of study programs at MU. CEITEC MU initiated the discussion about harmonizing the requirements for obtaining a PhD at MUNI during an evaluation interview with the MU leadership in 2022, aiming primarily to reflect worldwide changes in research evaluation and publication (e.g., CoARA and DORA initiatives, open science principles, combating predatory publishing practices, etc.). However, so far, our initiative to harmonize the requirements for obtaining a PhD at MUNI were not completely successful. The CEITEC PhD School pioneered the implementation of CoARA and DORA initiatives, allowing alternative types of outputs, such as patents or other applied results, to be accepted as valid for successfully obtaining a PhD. It is also possible to complete the PhD study before a research result is published in a journal, when it has been made available to the scientific community, on platforms like BioRxiv. The system of such a defense is described in the accreditation of the Life Sciences and Biomedical Sciences programs.

The panel also provided specific recommendations for improvement, summarized as follows (with CEITEC's responses):

1. Increase revenues from national and international research contracts utilizing CEITEC's excellent technical facilities.

CEITEC MU: CEITEC's efforts in promotion and communication with potential and current users have shown tangible results. Since 2022, annual revenues from services have grown by €65,000 (1.5 million CZK) per year. In 2024, CEITEC received total revenues of €1.4 million (34 million CZK), and in early 2025, it secured its largest commercial contract, worth €480,000 (12 million CZK) over five years. CEITEC now serves a user base of over 800 users annually from 25 countries worldwide.

2. Strengthen efforts in IP commercialization and encourage proactive technology transfer activities.

CEITEC MU: CEITEC recognizes that income from applied research and commercialization is crucial for long-term sustainability. A CEITEC Strategic Plan and CEITEC Contract with MU define proactive technology transfer as a priority. Efforts to strengthen IP commercialization include internal scouting of projects with commercial potential, supporting teams in technology transfer, and fostering an environment conducive to commercialization. Activities developed from 2024 include dedicating teams to applied research, establishing funding scheme for spin-off companies, creating evaluation systems that reward applied research outcomes, and implementing strategies for re-integration of teams unable to commercialize successfully. Recently, a working group was established to address these areas, dedicating appropriate resources to technology and knowledge transfer support. Currently, three teams with commercial potential are supported, one of them by ERC Proof of Concept funding.

3. Maintain and expand interactions with non-academic partners while strengthening IP commercialization and technology transfer efforts.

CEITEC MU: CEITEC continues to broaden its collaborations with non-academic partners. For example, CEITEC supports the BrnoRegion Microscopy platform, which includes major regional companies such as Thermo Fisher Scientific, Tescan, and Delong Instruments - leaders in cryo-electron microscopy. This collaboration enables CEITEC to contribute to technology development while supporting the regional education of young talent in this critical field. CEITEC hosts quarterly "120 seconds" networking events organized by the BrnoRegion Microscopy platform, bringing together key stakeholders from this discipline.

4. Sustain international visibility and recognition of CEITEC researchers.

CEITEC MU: CEITEC researchers are internationally renowned and recognized, with continued efforts to uphold and enhance these standards, as detailed in the respective section of the report.

5. Continue CEITEC's excellent work in research popularization and dissemination.

CEITEC MU: CEITEC remains highly active in its role of promoting and disseminating research, as outlined in the corresponding section of this report.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
[1] Strategic Plan	3.1	- https://www.muni.cz/media/3345707/ceitec_mu_strategic_plan_2021-2028_approved_final_web.pdf
[2] Core facilities	3.1	- https://www.ceitec.eu/core-facilities/?_gl=1*1fs0x9v*_ga*MTQ50Tg3NDI5LjE3MDQxOTU3MzY.*_ga_L74QG6CYBE*MTc0MDc1MTAxNy4xMDguMS4xNzQwNzUxMDIyLjAuMC4w
[3] CEITEC PhD School	3.1	- https://www.ceitec.eu/phd-school/?urltitle=ceitec-phd-school
[4] Electron Microscopy Days	3.6	- https://www.ceitec.eu/dny-elektronove-mikroskopie-na-ceitec-

		2023/a4495?_gl=1*13fr8l2*_ga*MTQ5OTg3NDI5LjE3MDQxOTU3MzY.*_ga_L74QG6CYBE*MTc0MTE4MTA3MC4xMTAuMS4xNzQxMTgxMzcyLjAuMC4w
[5] Festival of Science	3.6	- https://www.festivalvedyatechniky-cz.translate.google.com/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp - https://www.ceitec.eu/ceitec-at-the-festival-of-science-festival-vedy/a4300 - https://www.ceitec.eu/science-festival-2020/a3917
[6] Researchers' Night	3.6	- https://www.ceitec.eu/researchers-night-2021/a4093 - https://www.ceitec.eu/researchers-night-2022-at-ceitec-mu/a4308 - https://www.ceitec.eu/researchers-night-2023-at-ceitec-muni/a4560
[7] Mendel Festival	3.6	- https://www.ceitec.eu/mendel-festival-2022/a4297?_gl=1*1yu3b0k*_ga*MTQ5OTg3NDI5LjE3MDQxOTU3MzY.*_ga_L74QG6CYBE*MTc0MTE4MTA3MC4xMTAuMS4xNzQxMTgxOTc4LjAuMC4w
[8] Open House	3.6	- https://openhousebrno-cz.translate.google.com/cs/ceitec-masarykova-univerzita?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp
[9] Hyde Park Civilizace	3.6	- https://www.ceskatelevize.cz/porady/10441294653-hyde-park-civilizace/221411058090320/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp&x_tr_hist=true
[10] CEITEC at the Dubai Expo	3.6	- https://www.ceitec.eu/joint-exhibition-of-psi-and-ceitec-scored-at-the-dubai-expo/t10934
[11] ERC pilot project of science journalism tested by CEITEC	3.6	- https://www.ceitec.eu/one-month-in-brno-through-the-eyes-of-a-british-science-journalist/t11048
[12] Fokus Václava Moravce	3.6	- https://www.ceskatelevize.cz/porady/11054978064-fokus-vaclava-moravce/222411030530008/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp&x_tr_hist=true

SELF-EVALUATION REPORT FOR MODULES 4 AND 5

HIGHER EDUCATION INSTITUTION NAME: Masaryk University

COMPANY REGISTRATION NUMBER (CRN): 00216224

MODULE 4 – VIABILITY

ORGANISATION AND MANAGEMENT OF R&D&I

4.1 Organisation and management of R&D&I

The HEI will briefly describe its organisational structure¹ and describe the R&D&I management system including the role of the HEI's central management, the management of faculties, and the HEI's institutes in organizing and managing R&D&I. It should also describe the role and structure of the technical and economic apparatus.

Maximum 1000 words.

Self-assessment:

Masaryk University (MU) is a dynamic research university based in Brno, Czech Republic, with a staff of over 2,400 FTE and has over 32,000 students. MU comprises ten faculties and two research institutes (commonly abbreviated as OU – Organisational Unit). The most recent large-scale organizational change took place in 2020 with the establishment of Faculty of Pharmacy. The faculty relocating as whole back to MU can be considered a rectification of the wrongs from the communist era; until 1960, this faculty was a part of MU.

MU is pioneering actions to improve the research environment at Czech universities. As recent major achievements that demonstrate this leading role, we would like to highlight that:

- We have been instrumental in establishment of **Research University Association (RUA)** in Czechia and actively participate in setting up pro-research policy on the national level. (more in Section 4.12)
- Despite not being the biggest Czech university, we are clearly **the most successful Czech institution in Horizon Europe** (more in Section 4.10) and also among top 3 of EU13.
- We are recognized as **leaders in research infrastructure management**, and as such we hosted the main global conference in this field – ICRI 2022. (more in Section 4.9)
- We have established a **unique system for evaluation of doctoral programmes and research quality** – the Internal Research and Doctoral studies Evaluation (IRDE). (more in Section 4.3)
- We have **pioneered mechanisms to support return of researchers** to active work **after career breaks** since 2022 with the GAMU Career Restart grants; long before two national funders introduced grants for this purpose in 2025. (more in Sections 4.2 and 4.6)
- We have been proactive in pushing for changes in national system of doctoral studies and simultaneously prepared for the changes later established by the new Law on Higher Education by decreasing the number of recruited PhD candidates, **selecting only highly motivated PhD students and increasing their remuneration**. (more in Section 4.13)

Faculties and research institutes (OUs) of MU are autonomous in HR and financial issues, thereby also having a significant level of independence in setting their strategic development directions. Research is conducted within faculties, usually in departments, research centres, or clinics, with over

¹ A graphical representation of the organisational structure will be provided as an annex.

200 such units. The university also has two dedicated research institutes with limited teaching roles: CEITEC, focused mainly on life sciences, and ICS, specializing in cybersecurity, data analysis, and authentication, and responsible for the internal MU ICT systems.

The central management, based at Rector's Office, influences research strategy at the level of OU through financial incentives (rules for distribution of institutional funding) stemming from (1) performance-based financing and through negotiation of terms and objectives of the OUs identified in (2) contract-based financing.

(1) Performance-based financing: A system of redistribution of (part of) institutional funding based on publication and grant performance indicators was introduced at MU in 2020. It reflects selected signals of high-quality research which MU decided to reward. This system is designed to motivate the pursuit of quality in publishing, but at the same time its proportion is not so high that the indicators have a destructive effect on the system. Performance indicator does not include all publications, but only a narrow selection and respects disciplinary specificities: there are separate sets of indicators for STM (Science, Technology and Medicine) and SSH (Social Sciences & Humanities).

(2) Contract-based financing: The contract component was intensively discussed and prepared during 2024 and fully introduced in 2025, replacing the fixed part of the MU R&I budget distributed to OUs. It is essentially a block grant divided in certain proportions among faculties and institutes. This stabilizing amount of funding is strategically tied to long-term research goals that faculty set based on feedback from Internal Research and Doctoral studies Evaluation (IRDE 2022) and their internal strategies.

R&D&I coordination, management and support at the central level is handled by the **Research Office (RO)** under the leadership of the Vice-rector for Research and Doctoral Studies. In 2021, the RO established three sub-units to efficiently govern specific aspects of research and innovation:

- **Centre for Scientometric Support and Evaluation (CSSE)** secures evaluative activities at the central university level, bibliometric monitoring and services, and methodological support in research integrity and evaluation.
- **Grant Office (GO)** acts as a consultancy and training centre for project support at OU and their departments. GO provides direct support to applicants for ERC, MSCA-PF and coordinated HE projects.
- **Centre for Doctoral Studies and Academic Affairs (CDSAZ)** provides central support to MU faculties in the area of doctoral studies, habilitations and professorships, and supports the organization of academic ceremonies on university level.

On the central level, RO closely cooperates on research management in particular with **Strategy Office** – providing inputs for university rankings (international cooperation, SDGs), bibliometric analyses for annual monitoring, **Office for Development** – preparation and implementation of investment projects and R&D&I projects financed by Recovery and Resilience Facility (RRF) and European Structural and Investment Funds (ESIF), **Quality Office** – setting the process of Internal Research and Doctoral studies Evaluation (IRDE), requirements for publication outputs of guarantors of doctoral study programmes, **Personnel Management Office** – coordination of HR Strategies for Researchers, which are running independently at individual OU, management of Gender Equality Plan.

Technology Transfer Office (TTO) of MU is established as a separate economic unit, outside of Rector's Office. To facilitate seamless and efficient establishment and development of spin-off companies, the university also established a daughter company **MUNI Ventures**. MU also has a dedicated economic unit to support development of professional competences – **CERPEK**. Open Science and Data Management are handled by a dedicated team at the **Institute of Computer**

Science (ICS), which provides local support, but is also strongly interlinked at national and international level (e.g. hosting EOSC CZ secretariat, member of OpenAIRE).

MU is a member of **European Digital UniverCity (EDUC)**, a university alliance spanning Czechia, Germany, France, Spain, Norway, Hungary, and Italy with associated members in UK and Ukraine. EDUC ranks among leading alliances in promoting collaboration in R&D&I (on top of the original mission concerning education) – see also Section 4.12.

R&D&I QUALITY MANAGEMENT AND SUPPORT SYSTEM

4.2 System of support for a quality R&D&I environment and incentive measures for quality science

The HEI will briefly describe the systemic incentive measures/tools to support quality R&D&I (if applicable). For each measure/tool described, an example will be provided to illustrate the effectiveness of the measure/tool in practice (e.g. number of projects supported by internal grants, statistics on the use of advisory systems, number of newly established research teams, etc.). The description will pay particular attention to:

- A system of support for attracting national and international projects of projects.
- A system for project consultancy/management/administrative support.
- Science management (e.g., personnel and financial capacity for R&D&I transfer, personnel and financial capacity of the project acquisition support system, science managers, data analysts, business and innovation advisors, etc.).
- The existence of internal funding schemes.
- Strategy/opportunities for establishing new research teams (including international ones) and supporting them within the HEI (e.g. sharing of R&D&I equipment, laboratory and information facilities, administrative support, etc.).
- Support system for students and early career researchers².
- a system to support excellent science (e.g. support for excellent scientists, research teams, PhD students, collaborations, infrastructure, etc.).
- A system of support for interdisciplinary research and collaboration within the HEIs.
- The concept of providing conditions for the emergence of new, high quality research directions/topics, especially those with application potential.

Maximum 300 words per point.

Self-assessment:

- **A system of support for attracting international and national grant projects**

Masaryk University has a multi-layer system of project support that enables researchers in applying for funding in diverse national and international projects. At the central level, **Grant Office (GO)** of the Research Office at Rectorate comprises experienced research managers who act as methodological support and consultancy service for project support units at all OUs. GO staff is strongly represented in national and international RMA networks (CZARMA and EARMA), keeping up with current trends and contributing to development of programmes and policies that promote high-quality research without excessive bureaucracy.

GO at RMU also provides **direct consultancy** to researchers applying to prestigious funding programmes – the ERC grants, MSCA Postdoctoral Fellowships (MSCA-PF) and all Horizon Europe projects where MU coordinates an international consortium. The fact that Masaryk University is the most successful Czech institution in Horizon Europe demonstrates the power of this support system.

² Student grants, support for PhD students, postdocs and early career scientists.

All 6 ERC grants from Horizon Europe, most of 18 MSCA-PF/ERA Fellowships, and 7 coordinated Widening projects were directly supported from GO at Rectorate.

Very straightforward motivation to apply for most prestigious international funding is provided by several schemes of **Grant Agency of Masaryk University (GAMU)**. MUNI Award in Science and Humanities (MASH), now with senior and junior component, has been initiated already in 2017 and since then, every year it has brought to MU an outstanding scientific figure with an ERC or clear potential to win an ERC soon. Additionally, applicants for all kinds of international grants in any role can apply for small-scale funding to support project preparation.

Incentives to apply for international funding are provided also via performance-based funding allocation. Within the performance component (see also Section 4.11.), the grant-related indicators have 30% weight in total. Foreign grants have the highest weight, followed by prestigious national grants (e.g. EXPRO a JUNIOR STAR).

- **A system for project consultancy/management/administrative support.**

As noted above, central-level **Grant Office (GO)** at Rectorate acts as a **consultancy and training centre for project support** at faculties, research institutes and departments (OU). The GO regularly organizes a meetings of grant office staff from OUs of MU and supervises the information system for project administration, ISEP, which is allows full tracking of projects across the university from a single-entry point. Since 2023, the central GO is running a “landing” course for project officers new to their role.

All the units benefit from **central GO services provided directly to researchers**. For researchers new to MU, or with the ambition to get more engaged in international funding, the GO offers help with **shaping a funding strategy**. The GO also supports grant writing in several high-profile cases:

(1) ERC Support Scheme: Complex support to ERC candidates using both internal resources and external consultants.

(2) MSCA-PF Writing: The central GO has designed a programme to help young researchers cope with the proposal writing of MSCA-PF. The support scheme helped raise the success rate in HE funding to about 25%; including Seal of Excellence funding from OP VVV, about 80% of fellows applying to MU get supported.

(3) Support to Horizon Europe Coordinators: MU researchers can get in-depth consultancy of proposals on par with what well established private consultants can offer. Recently, 7 Widening projects and 1 Research Infrastructures project got the support from central GO, with success rate of 100%.

The central GO also organizes a diverse **training and awareness raising** programme for researchers – Info Days on most frequented national calls, workshops for ERC and MSCA-PF applicants, lectures on funding landscapes and writing of competitive funding proposals. The traditional flagship of event organized annually is the [Grants Week](#), showcasing the Horizon Europe projects implemented at MU and networking their investigators.

- **Science management (e.g., personnel and financial capacity for R&D&I transfer, personnel and financial capacity of the project acquisition support system, science managers, data analysts, business and innovation advisors, etc.).**

On top of the central services described above, project management and acquisition at MU is supported by a **decentralised network of grant offices at OUs**. Twice a year, the central GO provides

new managers with a comprehensive overview of system and tools for managing research projects at MU through a dedicated “**Programme for Project Support Officers**”.

Central expert and service **CSSE - Centre for Scientometric Support and Evaluation** staffed 4 FTE is dedicated to the research assessment agenda. CSSE members develop and secure central evaluative activities: 1) research assessment, 2) funding, and 3) monitoring (bibliometric analyses). CSSE provides on-demand publication portfolios for individuals, analyses for faculties (yearly bibliometric monitoring of the performance) and strategic analyses for the MU senior leadership, such as profile research topics or collaboration. CSSE in the respective period conducted ca. 70 individual analyses, 60 faculty analyses, more than 100 department analyses and dozens of ad hoc analyses (rankings, international collaboration, grants, research integrity issues etc.).

Transfer Office (TTO) of MU is established as a separate economic unit, outside of Rector’s Office. To facilitate seamless and efficient establishment and development of spin-off companies, the university also established a daughter company **MUNI Ventures**. For details about the TT, please, see the Section 4.4.

MU also has a dedicated unit to support development of professional competences, including soft and transferable skills related to research and innovation – **CERPEK**.

From 2022 to 2024, Masaryk University enhanced its **publication repository**, developed **Open Access** and **FAIR Data support**, introduced the **Data Stewardship Wizard**, and strengthened **Diamond Open Access publishing**. MU's Open Science team now operates with 3 FTE and first-level support at faculties is provided by a network of approximately 30 methodologists, transitioning into data steward roles. Details of open science practice and strategy at MU are described in Section 4.4.

- **The existence of internal funding schemes.**

Internal funding schemes for R&D&I at MU are organized within the framework of the [Grant Agency of Masaryk University \(GAMU\)](#), which represents approximately 10% of institutional support for the LCDRO. GAMU has been established in 2010 and since then continuously adapted to provide incentives for institutional change where needed. The current schemes of GAMU are:

(1) MASH (MUNI Award in Science and Humanities): Major long-term grants to attract leading researchers from abroad to MU, length and financial allocation similar to ERC with an even higher degree of flexibility. From 2020 to 2023, GAMU published separate calls for young researchers with potential to become leaders in their fields (MASH Junior). The most recent 2024 call integrated junior category directly in the main MASH competition. Since 2020, MASH brought 3 leading researchers to MU; MASH Junior was awarded to 13 researchers. 2 holders of MASH Junior (Peter Fabian, Madalina Moraru) and 1 recent MASH holder (Jan Křetínský) were awarded ERC grants.

(2) CAREER RESTART (Support for Integration of Researchers after a Career Break): 2-year grants to provide top-up to salary and some research costs to scientists after parental or long-term sick leave. Ca. 12 CAREER RESTART grants are awarded each year.

(3) HORIZONS (Support for Preparation of International Grant Projects): Small-scale grants to support preparation of international research projects.

(4) MUNI SCIENTIST (Award for Outstanding Research Results): Personal prize for major achievements of the previous academic year.

(5) Complementary and “seal of excellence” schemes for DIOSCURI (initiative of Max Planck Society) and **Junior Star** (competition of Czech Science Foundation to support establishment of new research groups).

(6) Grants to support top students in research leading to **excellent diploma theses**.

Complementary internal funding schemes may be established also on the level of faculties, e.g. [Internal Grant Agency FM MU](#) running since 2022.

- **Strategy/opportunities for establishing new research teams (including international ones) and supporting them within the HEI (e.g. sharing of R&D&I equipment, laboratory and information facilities, administrative support, etc.).**

On the central level, the **GAMU MASH (incl. Junior)** grants serve as the main incentive for international recruitment and establishment of research teams at the whole university. However, it is the responsibility of faculties and research institutes to establish the new research teams at MU. In most cases, new research team leaders are hired ad hoc, often in connection with infrastructural development.

Notable newly established research direction connected to the strategic project of MU is the [Health Economics, Policy and Innovation Institute \(HEPII\)](#) at Faculty of Economics and Administration. The HEPII leader and MASH Junior holder, Jakub Hlávka, came from University of Southern California to start up a new research direction synergic with major new life science research centres and infrastructures – CREATIC and BioPharma Hub.

CREATIC and BioPharma Hub (BPH) are themselves the centrepieces for establishment of new research teams. One outstanding example of is the team of Peter Fabian, by coincidence also coming from University of Southern California. Immediately after coming to MU with support of MASH Junior, Peter won the funding to establish [Dioscuri Centre for Stem Cell Biology and Metabolic Diseases](#) and also was awarded an ERC Starting Grant.

Systemically, the best practice approach to establishment of new research teams is running at CEITEC, which has research group at the very centre of its organizational structure. Every year or two, **CEITEC** runs an open recruitment for new research group leaders, selecting typically one or two top candidates to join the centre. The selected research group leaders get baseline funding, office and laboratory space, and access to core facilities (research infrastructures). Performance of the groups is evaluated after 3 and 5 years and those who demonstrate excellent performance get a permanent status. Among the recently hired group leaders, Petr Těšina was awarded an ERC Starting Grant.

- **Support system for students and early career researchers.**

Within the framework of Programme for Strategic Management of Universities, MU runs a broad range of activities aiming at comprehensive competence development of doctoral students and their supervisors. For several years, the activities to support training and development promoting career growth in academia, private sector and elsewhere, have been clustered under the heading of **MUNI PhD Academia**. This includes e.g. Summer School of Pedagogical Competences, MUNI PhD Career Days, or the FRESHERS course running in each semester and focused on research competences. The doctoral students not only gain useful knowledge and skills, but we see as a strong benefit also their networking across scientific areas and department of MU. Sharing of experiences is also highlighted in activities for supervisors, which seek to professionalize their approach and attitude.

To contribute to internationalization of research careers, MU is building on a long-standing collaboration with [Czexpats in Science](#), an organization uniting Czech scientists world-wide, connecting this international community with Czech research environment and introducing international best practice in research management in Czechia. Czexpats organized four PI Forum

events in Brno so far, providing an open space for principal investigators to meet and share they insights on topics such as science communication or lab management.

International exposure and top-notch training is also facilitated by frequent involvement of MU teams in **MSCA Doctoral Networks** – in the evaluated period, the university has participated in 11 such projects, including 2 where MU has been the coordinator.

- **A system to support excellent science (e.g. support for excellent scientists, research teams, PhD students, collaborations, infrastructure, etc.).**

All the tools and activities described above create a central framework that supports excellence in science and incentivises faculties and research institutes (OU) of MU to invest in quality. The operational environment for excellence is then created by the OU and their policies. They are encouraged to approach their research strategically through the contract-based financing. Excellent results in science are rewarded through GAMU award MUNI SCIENTIST and Award for Excellent Results in Doctoral Studies. This gives outstanding scientists the much deserved visibility at the university level and inspires the academic community to be ambitious in their work.

Important systemic component of environment for research is the governance of **research infrastructures (RI) at MU**. Despite being diverse and distributed, RIs at MU are supported by a dedicated RI officer at the central level. More details on the RI landscape of MU are listed in Section 4.9. Notably, the quality and reputation of MU infrastructures is demonstrated by the prominent position of MU in Research Infrastructures programme of Horizon Europe. MU has participated in **21 HE RI projects** so far with EU contribution close to 4 million EUR. This includes projects coordinated by MU – establishing new ESFRI RI on human exposome [EIRENE](#) or organizing the global ICRI 2022 conference. Very recently, a project building up the RI roadmap of Ukraine was awarded to a consortium led by MU.

- **A system of support for interdisciplinary research and collaboration within the HEIs.**

Masaryk University strives to create environment that nurtures collaboration among the diverse scientific disciplines pursued in its faculties and research institutes. One of the foremost venues fostering interdisciplinary dialogue is [MUNI Seminar Series](#). Each semester, several leading international speakers are invited to present their research in three academic fields: Social Sciences and Humanities, Life Sciences, and Mathematics, Physics, and Computer Science. The Life Science string has the longest tradition, running from 2015, and inspired the establishment of a series across all fields university. The MUNI Seminar Series also integrates [Mendel Lectures](#), a series with a tradition starting in 2002 which has welcomed over 140 esteem scientist including **16 Nobel Prize laureates to Brno**, greatly contributing to the visibility of MU and the city.

Until 2023, GAMU annually published calls for interdisciplinary projects, supporting typically 3 intra-university collaborations on new topics spanning major domains of research (life sciences, physical sciences and engineering, social sciences and humanities). This scheme boosted synergies in research especially between ICT and life sciences / medicine (9 projects starting 2020 and later), but did not fully deliver on the potential to integrate social sciences and humanities with other research domains of the university (4 recent projects – on quantum computing, human activities in the Arctic, stress in urban setting, forensic software).

An inspiring practice is active at CEITEC, which already since 2018 runs [Jaroslav Koča Bridge Fund](#). This dedicated fund aims at CEITEC PhD candidates, designed to foster interdisciplinary projects between Life Sciences and Material Science at CEITEC.

- **The concept of providing conditions for the emergence of new, high quality research directions/topics, especially those with application potential.**

There are two principal directions determining how new research topics and directions are introduced at MU:

Top-down direction is determined by the Strategic development project “**Innovations for Healthy and Secure Societies**”. This pathway entails the construction of **BioPharma Hub**, which integrates the newly established **Faculty of Pharmacy** into the University Campus in Bohunice and creates **Centre of Preclinical Research**. Synergic research directions are emerging also outside of BioPharma Hub, increasing its impact by providing a dedicated platform for development of Advanced therapy medicinal products (ATMPs) in the **CREATIC centre of excellence** or exploring the economic, regulatory and social aspects of innovation in medicine through the **Health Economics, Policy and Innovation Institute (HEPII)**.

Most research development, however, takes place **bottom-up** at the level of faculties and research institutes and is strongly connected to recruitment policy and practice – hiring of talented research leaders who then determine autonomously what research topics to focus on. This is supported by GAMU programmes such as MASH, and the incentives and environment transfer the generated knowledge are facilitated by the TTO. The rector also has a special budget for rewarding projects and initiatives with high strategic priority. Of course, the hiring is strongly determined by available research infrastructure, synergies with research directions already established at the university, and needs to enable ambitious interdisciplinary collaboration. For instance, when MU applied for and later received funding for a major (almost 20 mil. EUR) [RES-HUM](#) project in the Excellence Research call of OP JAK / ESIF, there was a need to establish a strong archaeogenetics expertise at MU. A new leader coming from Max Planck for Evolutionary Anthropology, Zuzana Hofmanová, was recruited to start up this research direction; and it is an excellent synergy not only to archaeology, but also with the well-established medical genomics facilities at MU.

4.3 Quality control system for R&D&I environment

The HEI will briefly describe the system of internal and external evaluation of research units, including the following aspects:

- Internal and external evaluation of R&D&I quality: This includes the evaluation of R&D&I by the HEI’s authorities, the evaluation of research teams (if such a system exists), and the involvement of international scientific councils or other independent advisory bodies in quality control and of R&D&I management.
- The ethical aspects of research: This includes adherence to ethical principles and good scientific practice, compliance with related legislation (codes of ethics, ombudspersons, ethics committees and ethics hotlines, and systems for reporting whistleblowing and ethical misconduct).

The HEI shall demonstrate the functioning of the quality control systems in the R&D&I environment by examples (e.g., brief information on the evaluations carried out and their results, specific examples of the use of whistleblowing or the handling of ethical violations, etc.).

Maximum 500 words plus 200 words for each example described (max. five).

Self-assessment:

- **Internal and external evaluation of R&D&I quality**

At MU, both internal and external assessment of R&D&I quality are standardized components of institutional governance system. Internal research and doctoral studies evaluation are performed at the level of each department and doctoral degree programme in five-year cycle. The overall system and processes have been managed with support of a dedicated working group (OU representatives) since 2018. The assessment model was inspired by the Dutch SEP and the UK REF and respects the principles of good international practice in research assessment and bibliometrics (DORA, Leiden manifesto, Agreement on Reforming Research Assessment, Scope framework). The model focuses on research quality criteria, societal impact, doctoral studies and institutional strategy and is based on informed peer-review of self-evaluation reports and on-site visits of international expert panels. The first cycle of this evaluation (**IRDE – Internal Research and Doctoral studies Evaluation**) has been held in 2022.

Second layer of internal assessment are regular **annual evaluations** of the faculties and research institutes have with the top leadership of the university. Although this evaluation is not focused only on research, research assessment is a significant part. As a background information, detailed bibliometric analysis for each OU is provided by CSSE. This analysis reflects activity, visibility (journals), citation impact and collaboration. The scope of the analysis reflects research area specificities. Starting in 2026, the annual evaluation interviews will also include monitoring of commitments resulting from contracts signed in 2025.

For MU, as an institution with a high international ambition, it is crucial to continuously seek the opinion of external experts, as only they can independently and impartially evaluate it. For this purpose, in 2015 the university established the International Scientific Advisory Board of Masaryk University (**ISAB MU**). The board is composed of four internationally renowned scientists (from 2024 five), one of whom is appointed as Chairperson of the Board. Members are among the world-leaders in their fields and are appointed and approved to represent the main MU scientific directions. The board meets regularly, however due to the pandemic situation of COVID the meeting was not held in 2020 and in 2021 it was held online.

EXAMPLE 1: Internal Research and Doctoral studies Evaluation (IRDE) at MU in 2022

The evaluation was conducted during 2022 at all OUs (ICS in 2023). During this evaluation 109 evaluated units, mostly departments, in some cases clusters of departments, at CEITEC research groups and 109 doctoral degree programmes (DDPs) were evaluated by 20 field specific evaluation panels. Panels consisted of 94 experts, of which 89 came to Brno. As a result, university received 109 evaluation reports (for each evaluated unit and DDP) and 11 summary reports (for each OU). Reports contained evaluation of research and study of evaluated units and DDPs and most importantly, recommendations for improvements. IRDE had several important impacts:

- sustainable and meaningful internal evaluation model has been developed - we observe change of the culture of evaluation,
- IRDE led to a deepening and improvement in the communication and cooperation of units dedicated to the evaluation and quality of research and doctoral studies (CSSE, Quality Office, Internal Evaluation Board)
- obtained recommendations became the basis for the strategies in the Contract, a new funding component (Contract-based financing).

EXAMPLE 2: International evaluation of research at CEITEC

Independent research evaluation is well-developed at CEITEC, with the first run in 2012, the second in 2014, the third in 2018 and the fourth in 2022 as a part of IRDE. During the evaluation, all research groups (RGs) are assessed by expert panels designed for specific research programmes/disciplines. RGs are categorized as junior or senior based on the leader's prior experience in managing research

teams, with promotions to senior status determined through evaluation by the CEITEC International Scientific Advisory Board (ISAB). The CEITEC ISAB also conducts evaluations of senior RGs every 4-5 years to provide recommendations for scientific development. Persistent underperformance may result in the dissolution of a research group. More than twenty top experts from leading scientific institutions from around the world evaluate the work of CEITEC scientists. CEITEC organises evaluations of scientists solely by foreign experts, which guarantees that they will be genuinely independent and transparent. The aim is to gain a picture of the current situation and to receive expert recommendations that could be implemented in individual Research Groups. Simultaneously the progress of the institute as a whole in the previous period is assessed.

EXAMPLE 3: Council for Strategic Research Projects of the Masaryk University (RSVP)

Quality control in the strategic development of R&D&I at MU, especially concerning investments in research infrastructures, is performed by the **Council for Strategic Research Projects (RSVP)**. Its main task is screening of major Research projects submitted by the university to various funding agencies, e.g. Horizon Europe Teaming for Excellence call, calls of EU Structural Funds (Operational Programme managed by Ministry of Education or EU Recovery Fund). The RSVP also screens major equipment purchases individually. The Council is composed of representatives of all parts of the university nominated by deans or directors. It has been functioning since 2015 and was overhauled in 2021. It focuses on strategic purchases of equipment over 400.000 EUR (incl. VAT), lower cost items are in the full responsibility of faculties. In 2023 only, it reviewed 27 projects worth nearly 100 mil EUR and 42 pieces of equipment worth 40 mil EUR.

EXAMPLE 4: MU Internal Evaluation Board

The [Internal Evaluation Board](#) is a self-governing academic body of Masaryk University established within the [internal system of quality assurance and evaluation](#) of educational, creative and related activities.

In its work, the Internal Evaluation Board ensures in particular:

- manages the course of internal evaluation of the quality of educational, creative and related activities of Masaryk University;
- approves proposals for accreditation, extension of accreditation or extension of the period of validity of degree programmes accreditation;
- decides on the granting of authorization to implement degree programmes;
- controls the fulfilment of quality assurance requirements for the activities of Masaryk University resulting from legal regulations and internal regulations of Masaryk University;
- prepares a report on the internal evaluation of the quality of educational, creative and related activities at Masaryk University and supplements to this report;
- provides methodological assistance in the processes of quality assurance of degree programmes at Masaryk University;
- receives suggestions related to the implementation of degree programmes.

- **The ethical aspects of research**

The Research Ethics Committee (REC) has been at MU established in 2015. It is an independent multidisciplinary body and is a fundamental part of the system that ensures research quality and the compliance with research ethics standards at MU. Every project that involves research on human subjects (including work with biological material of human origin) and requires approval by an ethics committee, must be approved by the MU Research Ethics Committee (with exception of projects

implemented at the Faculty of Medicine, which runs its independent Ethics Board of the Faculty of Medicine). There are also other committees within the university that deal with the evaluation of ethical aspects of research, such as: Animal Welfare Body, MU official responsible for questions related to GMOs, lawyers specializing in research, MU Director of Security. REC MU has been registered in the Office for Human Research Protections database.

Masaryk University is committed to the protection of rights in its Code of Ethics, in the measures for the implementation of the HR Award and in other documents. These rights must be protected effectively, impartially and efficiently. Support and protection of whistleblowers and victims of violations of these rights is provided thanks to a dedicated **ombudsperson**, to whom students, applicants and employees can turn to for help.

Within the period under review MU published two [methodological documents](#) engaged in good scientific practice, namely scientific publishing: **Masaryk University's attitude towards the publisher MDPI** in 2023 and **Masaryk University's statement on scientific publishing** in 2024.

Additionally, the University campus library provides services such as a [control of potential predatory journals](#), which is free of charge for all PhD students and academic staff of MU.

4.4 Sustainability and resilience of R&D&I

The HEI will describe the arrangements for sustainability and increasing the resilience of R&D&I, if such a system exists, and provide examples of its implementation. These include:

- The sustainable development concept (strategy, objectives, plan and implementation).
- Social responsibility strategy.
- A knowledge transfer system, if it is established at central level.³
- The third role, the transfer of R&D&I results to society and interaction with local actors.
- The concept of research data management (data collection, access and sharing of data, use of the information obtained for R&D&I management, responsibility for data files, archiving and backup of data).
- Ethics and personal data protection.
- Intellectual property protection.
- Ensuring institutional resilience (resistance to foreign influence, cyber security, risk prevention, prevention of misuse of R&D&I and knowledge transfer results, a system to prevent or mitigate the negative impacts of R&D&I and knowledge transfer in society).
- Digitisation and the use of smart technologies.
- The institutional strategy for Open Science 2.0/Open Access (if one exists), including information on the operation of the institutional repository or similar tools.
- A system for training undergraduate and postgraduate students as well as staff in the field of intellectual property protection and technology transfer.

The HEI will demonstrate the effectiveness of its procedures by examples (e.g., the number of people trained in intellectual property protection and technology transfer, data on the usage of Open Access repositories, handling of risk incidents, etc.).

Maximum 300 words per point.

Self-assessment:

- **The sustainable development concept (strategy, objectives, plan and implementation).**

³ If the knowledge transfer system is decentralised to the unit level, the HEI shall describe how the system works.

In the period under review, Masaryk University approved several key strategic documents that address the issue of sustainable development in R&D&I, linked them with the United Nations Sustainable Development Goals (SDGs) and started their implementation with regular monitoring:

1. [MU Strategic Plan for 2021–2028](#)

The Strategic plan of Masaryk University for the years 2021–2028 (SP MU) is a fundamental conceptual development document determining the direction of the University in the long term in education, **research**, social role, and in its infrastructure development.

The link between SP MU, R&D&I and sustainable development is especially highlighted in:

- **Objective 2.1: Contribute to addressing global and local challenges through basic and applied research and the application of its results in society in the areas of health and the quality of life, education, historical and cultural heritage, **sustainable development**, technological progress, security, rights and equality in society.**

2. [Sustainable Masaryk University 2025–2028](#)

This strategy is a unified plan that builds on and develops the adopted Masaryk University Strategic Plan 2021-2028 in the area of sustainable development. It is based on MU's mission, values and vision, which include key elements of sustainability in all SDGs, and thus develops not only environmental, but also economic and social aspects in a long-term perspective, including R&D&I as a special priority. Recently MU became the national leader in [global sustainability ranking](#).

3. Specialized strategies

- [Masaryk University Responsible Public Purchasing Strategy 2023-2028](#)
- [MU Strategy for Sustainable Waste Management and Waste Prevention 2023-2028](#)
- [Masaryk University Strategy for Sustainable Energy Management 2024-2028](#)

An overall review is also available in **annual sustainability reports**:

<https://sustain.muni.cz/en/about-us/strategies-and-goals/sustainability-reports>

• **Social responsibility strategy**

During the period being evaluated, Masaryk University approved several key strategic documents that address the issue of social responsibility and started their implementation with regular monitoring. [Social responsibility](#) is one of the four pillars of sustainability at MU. Main topics of social responsibility at MU are Partnerships, Memberships & Awards, Care for employees, support for disadvantaged groups and equal opportunities, Counselling and Healthy University.

Already in 2000, the University established [Teiresias Centre](#) as a flagship centre for the support of students with special needs, first in Czechia with a uniquely diverse portfolio of activities, including research and development of novel methods and tools. The centre provides services for all students of MU with sensory and other disabilities. Its mission is to guarantee accessibility of all study programmes at Masaryk University.

Within [MU Strategic Plan for 2021–2028](#) is social responsibility highlighted in:

- **Objective 3.2: Act as a credible and strategic partner which, ..., **actively contributes to solving local and global challenges, raises new issues and cultivates public discussion.****
- **Objective 3.3: Support altruistic initiatives initiated by students and staff aimed at the public through an **open environment to help those in need, by developing association activities and by volunteering.****

With the onset of the COVID-19 crisis, MU supported the strong responsibility culture among its staff and students by establishing a [volunteering platform and a dedicated app MUNI HELPS](#). Since then, the platform helped connect around 4000 volunteers who are ready to contribute to tackling of crisis of all kinds, such as the refugee crisis caused by war in Ukraine or natural disasters (tornado in South Moravia, floods in North Moravia).

- **A knowledge transfer system, if it is established at central level.**

Since 2005, the [Technology Transfer Office](#) (TTO MUNI) has been an integral part of MU. TTO MUNI is an independent institutional unit providing support and conditions for the **practical application** of university's research results. **It offers services in technology/knowledge transfer (TT) to all MU departments.** The [key TT activities](#) are methodologically and substantively centralised, ensuring the necessary personnel, methodological and technical frameworks. On a top of that, in 2014 MU TTO established, and recently also led the national technology transfer platform [Transfera](#).

TTO MUNI:

- manages **intellectual property of MU** and cooperates in its identification, protection and commercial exploitation (licensing, spinoffs, application consulting, contract research).
- supports cooperation with companies by building the **university's internal environment and defining the internal rules**. It initiates opportunities for meeting scientists with company representatives or finds resources for collaborative research.
- supports the development of functional environment for technology transfer by a diverse mix of activities. Some target the **academic community**, e.g. student training, workshops, round tables, TT Day and more. Others are aimed at the **general or professional public**, especially building long-term partnerships in the field of **applied research**.

TTO staff are involved in areas that facilitate and guide the translation of R&D results into practical applications. This includes professional competencies in the field of **intellectual property protection, licensing, legal support**, as well as searching for **application partners and negotiating conditions for cooperation**.

In 2024, MU established a fully owned subsidiary, [MUNI Ventures](#) which aims to facilitate the transformation of academic research into **successful commercial projects**, enhance university's **innovation initiatives**, and **strengthen partnerships with industry**. Furthermore, MUNI Ventures is authorised to represent the university in **investment funds**, work with **investors**, support the development of university **spin-off companies**, and acquire **equity stakes in these companies**.

- **The third role, the transfer of R&D&I results to society and interaction with local actors.**

In addition to its primary roles, education and scientific research, Masaryk University actively engages with society. This third role reflects the university's direct contribution to society through various initiatives.

Masaryk University maintains long-term cooperation with the JIC (South Moravian Innovation Center), which supports the growth of innovative businesses in the region. This partnership provides students, researchers, and aspiring entrepreneurs with access to a wide range of services focused on entrepreneurship, innovation, and technology transfer. JIC also facilitates strategic cooperation in 4 key sectors identified in the #brnoregion, and MU is an important stakeholder in all of them: **(1) [Aerospace](#)**: involvement Brno Space Cluster, first Czech space telescope QUVIK. **(2) [Cybersecurity](#)**: leading the Cybersecurity Hub (joint venture of three Czech universities, endorsed by national security authority NUKIB), close connection to policy making through Faculty of Law. **(3) [Electron microscopy](#)**: especially CEITEC contributes to orchestration of the regional community, e.g. around

the Days of Electron Microscopy. **(4) [Game industry](#)**: involvement in Game Cluster and main supplier of talents to the regional developers.

South Moravian region has also established a dedicated agency to facilitate innovations in public sector across the region: [JINAG](#). MU is a major academic partner to the agency, helping to develop and deploy the innovations, e.g. in energy sector, mobility, environment, or health care services.

In the recent period, MU has significantly transformed its approach to lifelong learning and has become one of the pioneers in Europe in integrating the concept of **micro-credentials** into its educational programs. Micro-credentials at MU clearly evaluate and certify the **skills and knowledge acquired through short-term courses**, providing flexible and effective learning opportunities for various target groups. MU actively shares its know-how in implementing micro-credentials with other universities, thereby setting standards of good practice and acting as a **leader in innovations in lifelong learning**.

- **The concept of research data management (data collection, access and sharing of data, use of the information obtained for R&D&I management, responsibility for data files, archiving and backup of data).**

Masaryk University has adopted Research Data Strategy in 2022 together with university-wide MU [Open Science Strategy 2022-2028](#) establishing the basic services and support. We are now actively developing more detailed Research Data Management (RDM) Strategy and Policy which aims to establish clear guidelines for data collection, access, sharing, and long-term preservation in line with **FAIR** (Findable, Accessible, Interoperable, Reusable) principles in current [European Open Science Cloud \(EOSC\)](#) landscape. This detailed RDM Strategy and Policy will be submitted to the university leadership for approval in Q2/2025 and will be integrated into the updated university-wide Open Science Strategy 2022-2028. To support researchers in implementing **effective data management practices**, MU has already introduced a university tool for Data Management Plan creation called **Data Stewardship Wizard**. This tool provides structured guidance for planning and managing research data throughout its **lifecycle**, ensuring compliance with **institutional and funding requirements**. For handling sensitive research data, MU operates the [Sensitive Cloud](#), a dedicated infrastructure designed to provide secure storage, processing, and sharing capabilities while maintaining compliance with legal and ethical standards. There is a university directive that describes the basic definitions of data management at the university. This directive together with other directives dealing with personal data protection, ethical standards etc., creates a university legal context for research data management.

The expertise and support that Masaryk University can offer to its research within the RDM is as well reflected in the fact that Masaryk University is strategically positioned as a **leader of European Open Science Cloud (EOSC)** initiative in the Czech Republic (leading the national implementation project [IPs EOSC-CZ](#)). Experts from Masaryk University are thus working not only on the institutional level of research data management, but also on the national one, bringing **synergies** between these expertise and reshaping how the RDM is done in the Czech Republic.

- **Ethics and personal data protection.**

As already identified in Section 4.4., ethical issues in research are safeguarded by a dedicated university committee and a specific committee for medical research at the Faculty of Medicine.

For matters of moral and academic integrity and academic freedom, the university has established [Masaryk University Code of Ethics](#). The Code covers areas such as conflicts of interest, plagiarism, fabrication and falsification of research data or documentation, or publication ethics. MU values

academic integrity as its core value, not just a concept. Every member of the academic community is expected to embody honesty, fairness, respect, and responsibility, both on and off campus. The **MU Ethics Committee** oversees adherence to these principles, ensuring that academic integrity is upheld in all activities of the university.

Personal data protection is managed by the **MU Data Protection Officer**, with a dedicated department at the Rectorate. The relevant regulations are comprehensively summarized at MU [website](#). The project management IT system ISEP requires applicants to flag project where personal data are part of the research, so that relevant projects can be easily identified and checked for compliance with GDPR.

- **Intellectual property protection.**

Masaryk University has a well-established system for protecting [intellectual property \(IP\)](#), managed by its Technology Transfer Office (TTO). The TTO is responsible for various aspects of technology transfer, including IP protection, establishing spin-off companies, negotiating licenses, and other related activities. The TTO manages a portfolio that consists of MU's intellectual property, including pending patent applications, granted patents, registered utility models, and trademarks.

The TTO supports researchers by evaluating their inventions, assisting with drafting patent applications, and coordinating the patenting process. In recent years, there has been a noticeable shift from **Czech national** applications and utility models **to international** patent applications. This trend reflects the growing quality of inventions and a strategic focus on securing meaningful IP protection on a global scale.

While IP protection is a crucial tool for technology transfer, it is most effective when applied to high-quality inventions. Historically, the TTO has filed over 250 priority applications, and currently, more than 150 patents remain in force.

- **Ensuring institutional resilience (resistance to foreign influence, cyber security, risk prevention, prevention of misuse of R&D&I and knowledge transfer results, a system to prevent or mitigate the negative impacts of R&D&I and knowledge transfer in society).**

Preparation of internal guidelines against foreign influence (illegitimate influencing) at MU began in late 2023 with establishment of local team led by prof. Miroslav Mareš, a leading researcher in security studies. The team developed internal regulation on **Knowledge Security**, which is in force since February 2025. The regulation covers protection **(1) against unauthorized access to or transfer of knowledge of MU in towards high-risk entities, (2) against influencing of research and education at MU in favour of high-risk entities, (3) against negative consequences of collaboration of MU with high-risk entities**. In April 2024, MU appointed a dedicated security manager, who is responsible for implementation of the regulation on Knowledge Security.

Cybersecurity is one of the flagship research areas of MU. Faculty of Informatics, Institute of Computer Science, Faculty of Law, and Faculty of Social Studies form an interdisciplinary hub capable of addressing security in cyberspace for diverse angles. MU teams are an essential partner to national authorities such as **National Cyber and Information Security Agency (NUKIB)** and are actively involved in international collaboration, including partnership in two European cybersecurity competence centre pilots ([CyberSec4Europe](#), [CONCORDIA](#)) and cross-regional excellence hub with Estonia ([CHESS](#)). Along with two leading Czech technical universities, MU established a dedicated entity, [CyberSecurityHub^{CZ}](#), which supports NUKIB in deployment of important cybersecurity measures, including running of European Digital Innovation Hub (EDIH) on cybersecurity and hosting pilot of [Czech Quantum Communication Infrastructure \(CZQCI\)](#). Thus, the [Cyber Security Team of](#)

Masaryk University (CSIRT-MU) draws on extensive knowledge and networks in protecting the cyber environment of the university. CSIRT-MU by itself is involved in numerous initiatives funded by Ministry of Interior, Technology Agency of the Czech Republic, or the EU (**SOC CER**, **ResilMesh**). The services provided by CSIRT-MU include incident handling, information & warnings, penetration testing, and user education & training.

- **Digitisation and the use of smart technologies.**

MU is at the forefront of digitization and using technology to improve education and research as well as minimizing bureaucracy and administrative burden. Most of the administrative tasks at the university **can be and are done without paper**.

For example:

- Students can enroll using their **digital id**, and all their tasks and requests are handled by the internal study system (IS MU). Password reset can be done **securely and remotely via digital id**.
- We were the country's first university to issue **electronic alongside physical** diplomas.
- Temporary employees can sign their contracts with our **IT systems**, even if they do not have electronic certificates.
- Managerial decisions are made and recorded in our **own internal system (INET)**, significantly limiting the need for paper circulation.
- Most of the **contracts are signed electronically**.
- We are using and further developing our **data warehouse** to enable faster data-driven decision making by the leaders of the university as well as faculties. We also use it to automatically generate reports for some grant providers, reducing admin work on these grants.

We are continuing to simplify the processes and infrastructure available to users, aiming to make the entire ecosystem more **user-friendly and cost-effective**. We have completed mapping all administrative processes and are now designing new, digitally transformed ones, which will support the implementation of the **new ERP (Enterprise Resource Planning) system**. Our goal is to **centralize IT services** to avoid redundancy. For example, we have a centralized system for managing all computers (PCs and laptops), greatly reducing the administrative burden for IT teams. We operate a central platform where users can **create and manage their websites**, ensuring both efficiency and enhanced security. Finally, we have top-tier cybersecurity teams that handle **incident response**, actively search for **vulnerabilities**, and **educate users on safe online practices**.

- **The institutional strategy for Open Science 2.0/Open Access (if one exists), including information on the operation of the institutional repository or similar tools.**

MU has comprehensive Open Science Strategy for 2022–2028, supported by Action Plans for 2022–2024 and 2025–2028 (under development), which outline key steps for implementing **Open Science practices across the institution**. Currently, an update/revision of the strategy is being developed, incorporating new services for research data management from national level (EOSC CZ), Citizen Science and Open Source.

Current version of the Strategy has 24 goals in 3 areas (**Open Access, FAIR Data, Open Science support**). The revision of 2025 is going to bring two more areas: **Citizen Science** and **Open Source**.

Practical impact of the strategy: MU has an Open Science methodologist in each faculty and institute (an expert who helps researchers with Open Access, research data management, Open

Science tools, etc.). The period 2022-2024 was mainly focused on the creation of a support network for the university

In the period 2022-2024 the MU was able to remake the **University Publication repository**, establish the support **network for Open Access and FAIR Data**, bring practical tools for **DMP (Data Stewardship Wizard)**, support the development of **Diamond Open Access** through its university publishing house and to position itself as a leader of national efforts within the Open Science/Research Data Management area through leading the EOSC CZ initiative. Furthermore, the Open Science as a topic has also been integrated into ongoing educational activities, such as Freshers, and courses, such as a university-wide course or lifelong learning programs. The next period will be focused on practical implementation towards the concept of Open Science/RDM as everyday practice of MU researchers.

- **A system for training undergraduate and postgraduate students as well as staff in the field of intellectual property protection and technology transfer.**

MU provides comprehensive training in intellectual property and related fields, including technology and knowledge transfer, project management, ethics, and entrepreneurship education.

Currently, MU offers **over 30 courses designed to foster innovative thinking and entrepreneurship**, including university-wide courses such as *From Idea to Business, Innovation and Entrepreneurship*, and the highly successful freelancer-focused course *From Student ID to Business ID*. A complete overview of activities, courses, events, and initiatives can be found on the dedicated [website](#).

Experts from the TTO, in collaboration with external specialists, share their expertise on intellectual property protection, commercialization, and spin-off company formation. This knowledge is imparted not only through university-wide courses but also through specialized courses and seminars tailored to the specific needs of faculties and university departments.

Since 2021, the TTO has organized the **student competition [Start Your Business \(SYB\)](#)** as a complement to entrepreneurship education. This competition encourages students to think critically, identify problems, and develop innovative solutions. It promotes entrepreneurial thinking, including risk assessment and management, while also helping students build valuable connections for collaboration. Participation in SYB offers additional benefits, such as expert feedback from experienced business professionals, opportunities to refine and promote business plans, and hands-on experience in business development and entrepreneurship. Between 2021 and 2023, 77 student teams entered the competition.

The TTO also launched the [Entrepreneurial Counselling Centre](#) which supports students and aspiring entrepreneurs through personal consultations aimed at helping them start or develop their business ideas.

Additionally, the TTO introduced an e-learning course designed to help university employees understand the fundamentals of intellectual property and technology transfer at Masaryk University. Follow-up seminars or training sessions are also available based on the specific needs of faculties or MU's departments.

PERSONNEL POLICY

4.5 Structure of human resources

The HEI shall describe the current state, age structure, degree of internationalization and development trends of the staff involved in R&D&I, along with their distribution by a job title and gender for the period of 2020–2024 as detailed in annex tables (Tables 4.5.1 to 4.5.3) (including the provision of technical and economic facilities).

Maximum 1000 words.

Self-assessment:

MU is very glad to see that total number of foreign nationals **increased** from 317 FTs in 2020 to 370 FTs in 2024. The largest change in percentage of foreign FTEs, from 13% to 17%, was recorded in the category Researchers in other categories, which includes independent researchers and scientists. A positive change, although not so big, has also occurred in the **senior academic categories** (professors, associate professors and assistant professors).

Despite the introduction of the GEP strategy, the gender composition of staff at MUNI still demonstrates the widespread principle of the “**leaky pipeline**”, with the gender ratio progressively deteriorating with the career stage. Female researchers make up comprise 50-60% in categories Early career researchers, independent researchers and scientists, Assistants, and Assistant Professors, however only 29% Associate Professors and 18% of Professors. Given that active measures to facilitate return of researchers after career breaks such as **GAMU Career Restart** were introduced at the beginning of the evaluated period, we expect that their impact is has yet to materialize and that we may see more positive developments in the coming years.

As far as the age structure is concerned, it is positive that in 2024 most professors were in the 50-59 age group, whereas in 2020 most professors were in the 60-69 age group.

It is worth mentioning that the category Scientific, research and development staff involved in teaching activities, as well as Early career researchers are reported collectively for all the mentioned categories at the Tables 4.5.1 to 4.5.3 **plus academics holding the position of lecturers**. At some OUs, lectures are dedicated exclusively to teaching activities (typically language teaching).

In terms of remuneration, MU has the most competitive figure in the Czech Republic, in the long term.

4.5.1 Staff involved in R&D&I of the university (FTE) in the period under review

Academic/professional position	Total 2020	Of which women [%]	Of which foreign [%] ⁴	Total 2024	Of which women [%]	Of which foreign [%]
Professor	227,1	18%	3%	254,1	18%	4%
Associate Professor	448,9	29%	4%	468,0	29%	5%
Assistant Professor	772,5	47%	4%	840,3	50%	6%
Assistant	122,9	56%	6%	128,9	60%	4%

⁴ Researchers with Slovak citizenship are not considered foreign.

R&D Personnel ⁵	-	-	-	-	-	-
Researchers in other categories ⁶	647,9	49%	13%	745,8	51%	17%
Technical and economic staff ⁷	611,5	67%	8%	753,9	70%	7%
Early career researcher ⁸	504,0	45%	25%	515,8	51%	23%
Scientific, research and development staff involved in teaching activities	1806,8	40%	5%	1964,3	42%	6%
Total number of foreign nationals	317,4	42%	100%	369,5	46%	100%

Note: The categories professor, associate professor, assistant professor, assistant, other scientific, research and development staff, scientific staff not falling into other categories and technical and economic staff are mutually exclusive, i.e. one staff member is reported under one category only. **Scientific, research and development staff involved in teaching activities, as well as early career researchers are reported collectively for all the above-mentioned categories.**

Note: The average number of hours worked is calculated as the ratio of the total number of hours actually worked during the reference period, from 1 January to 31 December, by all staff (including agreement on work activity, excluding agreement on work performance) to the total annual working time pool per full-time employee. The full-time status of the worker in the evaluated unit is always reported. If an employee holds more than one type of full-time job within the evaluated unit, the total sum of the two shall be reported.

4.5.2 Percentage of HEI's staff involved in R&D&I, categorized by age structure, job title, and gender in the year 2020 (number of physical employees and staff)

Academic/professional position	Under 29 years [%]		30-39 years [%]		40-49 years [%]		50-59 years [%]		60-69 years [%]		70 years and over [%]	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0%	0%	1%	2%	19%	12%	26%	30%	33%	32%	21%	24%
Associate Professor	0%	0%	8%	4%	44%	39%	22%	25%	21%	24%	5%	6%
Assistant Professor	0%	0%	38%	36%	42%	42%	13%	14%	7%	6%	1%	1%
Assistant	30%	28%	42%	38%	19%	21%	7%	9%	2%	4%	0%	0%
Early career researcher ⁹	16%	19%	76%	73%	7%	7%	1%	1%	0%	0%	0%	0%
R&D Personnel ¹⁰	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Researchers in other categories ¹¹	23%	23%	42%	39%	23%	26%	7%	9%	4%	2%	2%	1%

⁵ The category "Other scientific, research and development personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

⁶ The category "Researchers not falling under other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

⁷ Who participates in the management and support of R&D&I in the institution.

⁸ See Definition of Terms in Methodology HEI2025+.

⁹ See Definition of Terms in Methodology HEI2025+.

¹⁰ The category "Other scientific, research and development personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹¹ The category "Researchers not falling under other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

Technical and economic staff ¹²	32 %	31%	33 %	32%	22 %	23%	9%	10%	2%	3%	1%	1%
Scientific, research and development staff involved in teaching activities	4%	5%	27 %	29%	37 %	37%	16 %	17%	12 %	10%	4%	3%

Note: The total number of employees/workers as of 31.12. of the calendar year in question is to be given, irrespective of the proportion of full-time equivalents, but only in an employment relationship, i.e. not including persons working parttime agreements. Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

4.5.3 Percentage of HEI's staff involved in R&D&I, categorized by age structure, job title, and gender in the year 2024 (number of physical employees and staff)

Academic/professional position	Under 29 years [%]		30-39 years [%]		40-49 years [%]		50-59 years [%]		60-69 years [%]		70 years and over [%]	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Professor	0%	0%	0%	0%	17%	9%	32%	36%	28%	40%	22%	15%
Associate Professor	0%	0%	4%	1%	40%	34%	30%	32%	18%	26%	7%	7%
Assistant Professor	1%	1%	29%	25%	44%	46%	19%	20%	7%	7%	1%	1%
Assistant	27 %	25%	45%	39%	18%	25%	8%	8%	2%	3%	0%	1%
Early career researcher ¹³	20 %	27%	72%	65%	7%	7%	1%	1%	0%	0%	0%	0%
R&D personnel ¹⁴	-	-	-	-	-	-	-	-	-	-	-	-
Researchers in other categories ¹⁵	26 %	27%	36%	34%	25%	27%	8%	9%	3%	3%	1%	1%
Technical and economic staff ¹⁶	27 %	25%	31%	31%	27%	27%	11%	13%	3%	3%	0%	0%
Scientific, research and development staff involved in teaching activities	3%	4%	22%	22%	37%	39%	22%	21%	11%	11%	5%	2%

Note: The total number of employees/workers as of 31.12. of the calendar year in question is to be given, irrespective of the proportion of full-time equivalents, but only in an employment relationship, i.e. not including persons working parttime agreements. Other types of contractual relationships under the Civil Code that involve purchase of services are not included.

¹² Who participates in the management and support of R&D&I in the institution.

¹³ See definitions in Methodology HEI2025+.

¹⁴ The category "Other scientific, research and development personnel" includes technical and professional personnel who are not directly involved in R&D&I but are indispensable for the research activity (e.g. operators of research facilities).

¹⁵ The category "Researchers not falling under other categories" includes all other staff who cannot be classified under any of the above categories (e.g. independent researcher/scientist).

¹⁶ Who participates in the management and support of R&D&I in the institution.

4.6 Academic and Research Careers

The HEI will briefly describe the central system for HR recruitment, placing particular emphasis on recruitment from outside the HEI, especially from abroad, as well as system of career development of academic and research staff, if such system exists. Information will be provided on:

- Career development rules and legislation related to the recruitment and career development of domestic and foreign employees (e.g. Career Code, HR Award, OTMR policy, etc.).
- International tenders.
- The process of new employee adaptation and mentoring.
- Transparent distribution of institutional time, attitudes towards chaining of contracts and senior academic positions.
- Rules for filling senior positions in the context of R&D&I.
- The rules and support system of sabbaticals.
- Measures for the return of workers after a stay in an external workplace, including a foreign workplace.
- Arrangements for workers to return after maternity/parental leave or other career breaks (e.g. caring for family members).
- Other relevant information at HEI discretion.

The HEI shall provide a reference to an existing career code or similar document (if one exists). The HEI shall describe the effectiveness of the systems used with examples (e.g. a model example of the adaptation process, a specific anonymised example of an academic's career path, statistics on the return after maternity/parental leave or career breaks before and after the implementation of the measures, etc.).

Maximum 300 words per point.

Self-assessment:

- **Career development rules and legislation related to the recruitment and career development of domestic and foreign employees (e.g. Career Code, HR Award, OTMR policy, etc.).**

The MU **Career Code** and its contents are currently being enriched with the elements reflecting the new European Charter for Researchers and the Competence Framework for Researchers issued by the EC (Researchcomp). The Career Code is expected to be published by the end of 2025. For the time being, faculties have the freedom to create their individual ones.

At the central level, there are two ruling documents which cover career related topics: **Guideline of the Personnel Management Department** of the MU Rector's Office, which elaborates on the [Career system at Masaryk University](#) and describes Career development and career growth; Motivational elements for career development and growth, explain where to seek consultancy and advisory support and for training. It also includes what career development self-assessment tools can be found at MU.

The second document is the **Methodological sheet of the Personnel Management Department**, which contains classification of academic and non-academic employees in research and development at Masaryk University and explains the principles and processes for classifying academic and non-academic staff into categories R1-R4 according to the European Framework for Research Careers.

HR Award – MU provides its employees with excellent working conditions and motivational environment for career realization at the European and world level. **Twelve MU units** are among the institutions that successfully implement the European Charter for Researchers principles and

the Code of Conduct for the Recruitment of Researchers. All ten faculties and two MU institutes received the **"HR Excellence in Research"** award from the European Commission. This award represents a commitment to continuously improve working conditions for MU employees to meet European standards.

OTMR – the policy on university level is covered by Masaryk University Selection Procedure Regulations, and every unit has incorporated the central regulation into its own regulations.

- **International recruitment.**

MU's management has set an **increasing trend** in the number of foreign academic, scientific, and non-academic staff as the university's [Strategic goal for 2021-2028](#). The **measures** taken to achieve these goals are **constantly evolving** and include basic standards, e.g. all open academic positions must be **advertised in English**, and the university's career website is updated in parallel with the Czech version. MU also advertises positions on international platforms such as **Find a PostDoc**, **Euraxess**, **Science Journal**, etc.

The regulations of the selection process include internationalisation primarily in the **composition of the selection committee** for the positions of professor, associate professor, researcher III and IV, and associate professor I and II. In addition to other members, the selection committee always includes one **internationally recognised expert who is not affiliated with Masaryk University** or the relevant **health care institution** (in the case of the selection procedure for the position of **Head of Clinic**) and one internationally recognised expert who does **not work permanently in the Czech Republic and is not a Czech citizen**.

There is a university **Welcome Office** ([Centre for International Cooperation MU](#)), which provides **advice and assistance** to international employees coming to work for more than 3 months on various aspects of relocation or administrative matters and obligations related to their stay in the Czech Republic.

- **The process of new employee adaptation and mentoring.**

The induction of new employees is well covered in all units. All employees undergo orientation procedures as MU strives to create a supportive environment that facilitates a smooth and successful transition for new employees. The procedures consist of events and tasks:

- Before the first working day of new employee – preparation of the working place
- Welcome day/Orientation – get to know management of the unit, practical information on whom to contact if in need
- The employee receives an adaptation plan and Brochure for new employees
- Mandatory training sessions on General Health and Safety Training (E-learning IS MU) and Laws and Regulations (E-learning IS MU)

Example of the **systemized Adaptation** on the central level:


Before the onboarding
18.7.2024
6/6

1


2
After the onboarding
16.9.2024
5/7

Feedback, a pleasant working environment, information and interest from all onboarding participants are important during the adaptation process. A useful tool, and not only for new RMU employees, is the RMU [New Employee Information Booklet](#), which contains information about the organisational structure of MU and RMU, internal regulations, ICT, working hours, staff training and evaluation, employee benefits and many other areas.

The adaptation application also includes an adaptation questionnaire to be completed by the employee and his/her line manager at the end of the adaptation period. The answers obtained are used to set up the employee's individual development plan for the first year of his/her employment at RMU (for the following year, the employee's individual development plan is developed as part of the RMU employee evaluation process) and also help to improve the set-up of the adaptation process at RMU.

A quality adaptation process is the cornerstone of the employee-employer relationship.


Employee: Your first/second day: initial administrative and operational activities
6/6


Employee: Your first/second day: getting to know your supervisor, mentor, job description, colleagues and workplace
3/3


Employee: Your first/second week
4/4


Employee: The following period until the end of the probationary period
3/6

To be completed at the latest: 30.12.2024

☒

1 - Independent performance of work tasks and handover of the entrusted agenda

☒

2 - Other training required for the job

☒

3 - Visiting other departments, attending meetings

☐

4 - Evaluation of the adaptation process and probationary period, setting tasks for the next period, completing an adaptation questionnaire, drawing up an individual development plan
 Not implemented

If you have not completed an adaptation questionnaire, which includes an individual development plan, it is not possible to offer development activities and training events for employees. It also means that you have no interest in training activities or adaptation problems.


Fill in questionnaire

During the adaptation process, there is an important role of a **mentor** who supports the new employee and serves as a first point of contact to help with internal system, orientation, etc.

Otherwise, the development of mentoring is a topic of discussion, depending on the resources available, and MU will apply for such resources within the funding calls. There is also interest from university units to participate in such calls - e.g. CEITEC participated in the **EU-LIFE Pathfinder in 2024**. Two postdoctoral women researchers have been supported by the programme and a CEITEC researcher is participating as a mentor.

- **Transparent distribution of institutional time, attitudes towards chaining of contracts and senior academic positions.**

MU is developing the idea of having a clear period of institutional time, the discussion is ongoing. MU always aims for one contract only, and the attitude towards the chaining of contracts is bound by law, which MU follows.

- **Rules for filling senior positions in the context of R&D&I.**

The recruitment of staff, including academic employees, follows the [Masaryk University Selection Procedure Regulations](#). These regulations ensure that the process for filling senior positions is clear and structured, defining requirements for both the process and the roles involved. Senior roles in R&D&I require open, transparent selection processes with specific qualifications, including an international profile and an interview either in person or remotely. Selection procedures must be advertised publicly, and the process is overseen by a selection committee. The committee includes a representative from the unit and an internationally recognized expert, especially for high-level roles. The committee evaluates candidates based on predefined criteria.

- **The rules and support system of sabbaticals.**

MU has established rules for Sabbatical leave in the Directive, and as a part of a Strategic plan of Masaryk University for 2021 – 2028, there is a need for growing trend of academic, research and non-academic staff with work experience outside MU, especially **acquired abroad**. Sabbatical leave as described by MU can also take place in the Czech Republic, but it is heavily recommended to spend the time devoted for Sabbatical leave abroad. Various OUs also have motivational packages to support short-time relocation financially. MU is diving into a viable concept of Sabbatical leave also as a part of emerging Wellbeing strategy in the context of reconciling family and work life.

- **Measures for the return of workers after a stay in an external workplace, including a foreign workplace.**

MU does not have a policy specifically aiming at return of researchers from workplaces in other sectors or other countries. However, MU provide guidance and support to all returning employees which include a wide range of educational instruments regarding the IT system, Infrastructure, Social Safety, Health and Safety instructions, etc. We also follow a policy of open international recruitment – which, arguably, often results in reintegration of researchers who have previously worked at MU, but that is not the core goal. Rather, it is the realistic result of the lack of attractiveness of Brno and Czechia to expats from leading research institutions. Czech nationals have a strong tendency to return to their country of origin, also in cases where they achieved major scientific results during their PhD studies, postdocs, or as principal investigators. Foreign nationals with similar track-record would more frequently opt for careers in research institutions of greater renown, especially in Western and Northern Europe or in the US. Thus, it is challenging to internationalize research staff in senior positions while maintaining scientific excellence; and attracting Czech expats is a much more feasible way of bringing in international experience and networks. Still, we have no clear preference for direct returns, which would be a step away from straight-on inbreeding, but not a full departure from the practice that conserves the academic environment in most Czech research institutions.

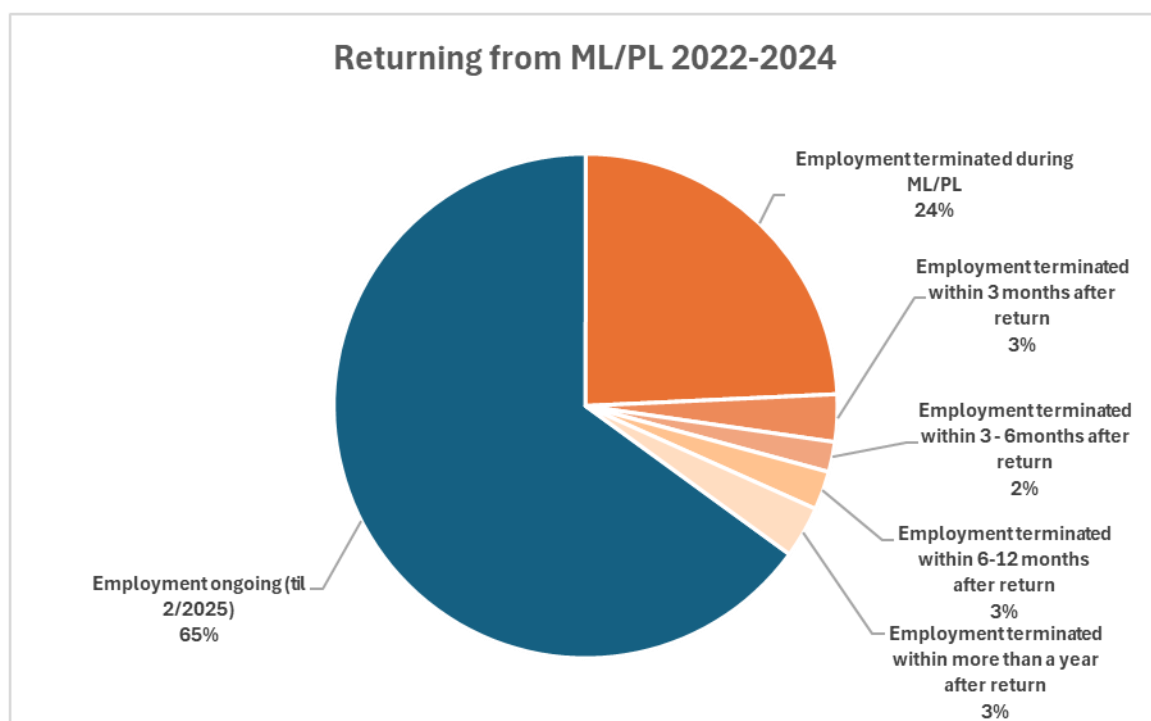
- **Arrangements for workers to return after maternity/parental leave or other career breaks (e.g. caring for family members).**

MU has established a dedicated grant scheme to support the return of researchers to the university after career breaks. [CAREER RESTART](#) scheme of GAMU is open to applicants after maternity/parental leave as well as after long-term illness or caring for family members. Each year, approximately 12 CAREER RESTART grants are awarded. The grants provide an annual funding of approx. **20 ths. EUR** for a **two-year duration**; most of the financing must be incurred as top-up to the researchers' salary, while up to 40% can be invested in research costs such as consumables.

While it is not feasible to provide a central childcare facility for the whole university due to its spread across the city, large number of OU has developed their independent kindergartens or has agreement with private childcare providers. In September 2023 MU also introduced a new benefit to support parents returning to work after maternity leave, offering a kindergarten or playgroup tuition allowance. This benefit allows employees to cover school fees for their children using as part of the social fund of the university.

Returning from ML/PL/unpaid leave to care for a child up to 4 years of age - statistics

In the period 2022-2024, the ML/PL/unpaid leave to care for a child up to the age of 4 ended for 363 people. In 236 cases (65%), **employment is still ongoing, which is a successful return**. In ¼ of the cases (24%), the employment ended during the ML/PL or on the day it ended. Only 8% of employment after return from ML/PL ended within 1 year of return. A further 3% ended after 1 year.



- **Other relevant information at HEI discretion.**

CERPEK (Competence Development Centre) offers both MU students and employees various courses. Originally, CERPEK aimed at increasing the level of pedagogical competencies, especially for new MU teachers, but the range of education and development has increased. Nowadays, the leading material for development employees through CERPEK is [„The Staff Training Catalogue “](#), which is intended for all MU employees and serves to introduce development and training topics in the areas of soft competencies, hard competencies, language competencies, competences for managers, and complex development programmes.

Success stories

To provide an outlook on specific career paths of MU researchers, the MU units are proudly sharing several success stories.

- 1. [Iva Dřimalová](#), a lecturer at Masaryk University's Department of Mathematics and Statistics, received the Rector's Award for Outstanding Educators in 2023.

- 2. [Monika Kratochvílová](#), an assistant professor at the Institute of Physiology, Faculty of Medicine, received the Martina Roesel Memorial Grant to support her cancer research while managing childcare.
- 3. [Dominika Nožičková](#), made the most of every opportunity during her studies. She was awarded the prestigious Josef Hlávka Prize for her outstanding scientific work.

EVALUATION of employees

Career planning and development is brought through the yearly evaluation dialogue each employee have with their superior. **The evaluation system for academic staff (EVAK)** is used at all units that have wide autonomy to customize the evaluation for their needs. The need and will to participate in the evaluation process is gradually increasing. Currently, with **OP JAK funding**, MU is creating a **unified evaluation system for both academic and non-academic staff**, aiming to incorporate the best features from EVAK and the non-academic staff evaluation system. The new system will also include other tools for career planning and development, such as connections to employee education recognized or organized by CERPEK.

4.7 Gender equality measures

The HEI will briefly describe the measures relating to the application of gender equality in the areas required for assessment criteria 4.5, 4.6, with an emphasis on:

- Gender equality in recruitment and career development.
- Legislation and documents regulating gender equality (e.g. Gender Equality Plan, Action Plans, strategic documents for equality, including links to overarching strategies, etc.).
- The filling of leadership positions (including gender balance in leadership positions, see Table 4.7.1).
- Nominations to professional bodies.
- Evaluation and remuneration.
- Measures to reconcile the work and family life of researchers (flexible working hours, flexible forms of work, maternity/parental leave management, facilitating child/dependent care, age management in relation to gender).
- Measures to eliminate negative workplace behaviour such as mobbing and sexual harassment.

The HEI shall provide evidence of the examples from practice (e.g. use of flexible working hours, dealing with cases of mobbing or sexual harassment, compliance with the principles of gender equality in HEI professional bodies, etc.).

Maximum 300 words per point.

Self-assessment:

- **Gender equality in recruitment and career development.**

The new [MU Selection Procedure Regulations](#) were implemented in all organizational parts of MU in 2023. These procedures are fully compatible with the principles of the Open, Transparent, and Merit-based Recruitment, **gender balance and anti-discriminatory principles and equal and correct approach during recruitment and selection is assured**. A bilingual e-learning course was also developed to train members of gender-balanced selection committees at MU, with an emphasis on the need for an **equal and fair approach** in recruitment and selection. The **Jobs. MU application** was modified to enable the collection of gender-differentiated data.

For career development support MU elaborated and published at the end of 2022 the Guideline on [Career system at Masaryk University](#) that provides the information and guidance for the employees regarding:

1. Career development and career growth
2. Motivational elements for career development and growth
3. Consultancy and advisory support for career development and growth
4. Self-assessment tools for career development and growth

A [web platform](#) bringing together relevant information regarding the career opportunities at MU is developed and all relevant information for current employees are also placed in Internal MU Portal.

- **Legislation and documents regulating gender equality (e.g. Gender Equality Plan, Action Plans, strategic documents for equality, including links to overarching strategies, etc.).**

In the years 2022- 2024, MU implemented the **Gender Equality Plan 2022–2024 (GEP MU)**. Over the period under review equal opportunity aspects have already become an integral part of newly issued and updated **internal regulations and policies**, and a balanced approach to gender representation in leadership or decision-making positions and advisory bodies has continued to be achieved. The use of **gender-sensitive language** on websites, social media and in communication between MU management and units and the academic community and students has also become standard. **Gender-sensitive courses** to students outside the mother disciplines are offered. The portfolio of education and awareness activities organized by CERPEK, Rector's office and various MU units reflected the GEP content areas. MU continued to expand the scope of **gender data collection**, including through the use of newly created **data warehouses**.

More about the actions and measures realized in 2022- 2023 can be found in the [Annual MU report 2022](#), [Annual MU report 2023](#), and also in the [Masaryk University Annual Sustainability Report](#).

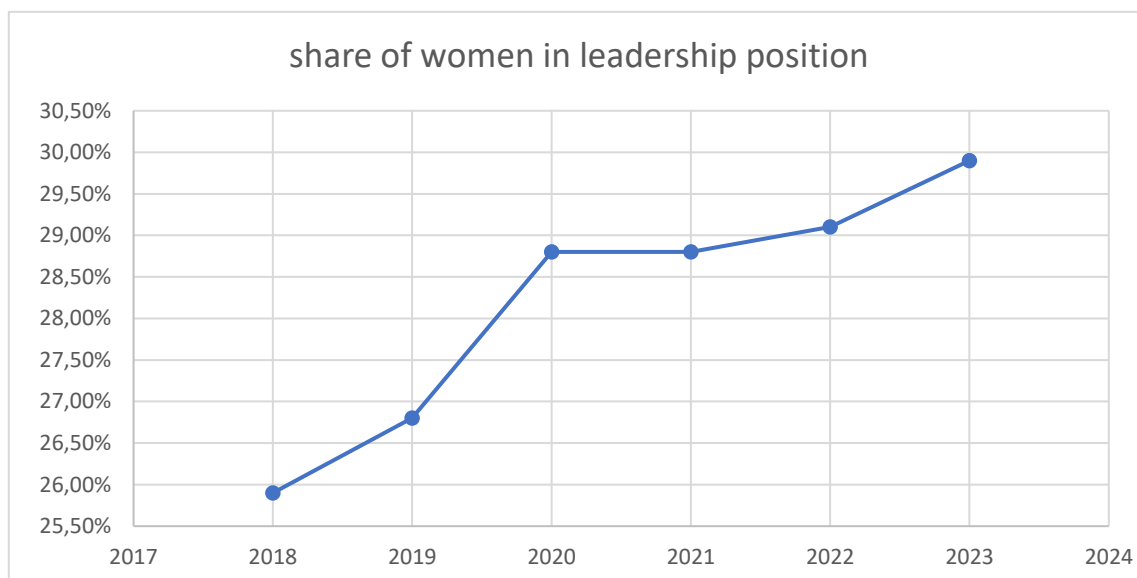
A new **Gender Equality Plan for 2025-2028** was developed based on gender audits conducted at MU from April to September 2024. The plan addresses areas like organizational culture, work-life balance, recruitment, leadership equality, sexual harassment prevention, research, and data monitoring. **The audits' findings, including statistical data, surveys, and interviews, form the foundation of this plan.**

The overarching strategies: Masaryk University's management follows the European Union's gender equality objectives for 2020-2025 ([Equality Union: Gender Equality Strategy 2020-2025](#)), the national updated [Gender Equality Strategy 2021-2030](#) and everything is also aligned with the **Masaryk University Strategic Goals**.

- **The filling of leadership positions (including gender balance in leadership positions, see Table 4.7.1).**

Generally, achieving a balanced representation of men and women is one of the areas of **Gender Equality Policies (GEP)**, and Masaryk university attempts to ensure adequate representation of both genders not only in leadership positions but also among members of committees, councils, and other advisory bodies. As can be seen in Table 4.7.1. there is an increase from **27% in 2020 to 30% in 2024 for women in leadership positions**. However, Table 4.7.1. does not include leadership positions at faculty/institute level. In the graph below, in addition to the positions included in Table 4.7.1., we also show women in positions **as heads of departments, institutes and research centres in the longer term, 2018-2023**. We can see a **steady increase** in the proportion of women in leadership

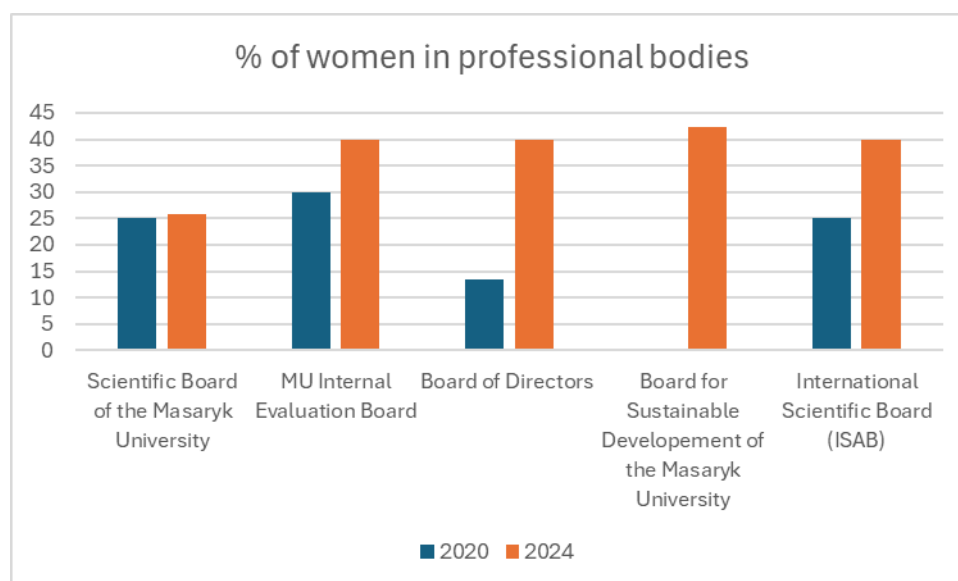
positions. This reflects the university's ongoing efforts to address gender disparity and create a more inclusive and diverse work environment at **all levels of leadership**.



- **Nominations to professional bodies.**

Nomination processes are described in university documents and parts of documents such as the Organizational Rules, the Election Rules of the Academic Senate, the Rules of Procedure of the Scientific Council, etc. These documents do not contain **requirements/rules** for the representation of both genders among candidates or **quotas** for the representation of both genders in elected positions, bodies, or their election and other committees, but according to statistics on their current composition (Fig.1), it is clear, that measures for the **GEP 2022 - 2024** are already being implemented.

Fig. 1



Recommendations were also given to the organizers of meetings of bodies and committees at MU regarding predetermined and clear dates and time frames for regular meetings of bodies and committees at MU within working hours, allowing for a hybrid form of meetings.

Formal procedures for candidacies and selections for leadership and decision-making roles as well as advisory bodies are also continuously reviewed and are then supplemented with any recommendations.

- **Evaluation and remuneration.**

Evaluation

Masaryk University conducts regular staff evaluation, which is governed by MU Directive No. 5/17 – Staff Evaluation. Internal performance appraisals are conducted annually, with the specific date of data collection required for the appraisal determined by the appraiser according to the needs of the relevant MU unit.

Each employee is evaluated **separately according to their job duties, type of contract** (part-time, full-time) and any other pertinent circumstances. The evaluation considers all main areas of activity: teaching, research and organisational activities beneficial for the university as well as leadership roles and academic positions. Moreover, it includes the personal, professional and social conduct of the employee and adherence to the applicable MU rules (such as the Code of Ethics and the Employment Code). **Planning the employees' professional development and main activities** is also part of the staff evaluation. Methodological support for staff evaluations is provided by the Personnel Management Office at the MU Rector's Office

The results of the evaluation are primarily used to:

- Provide reciprocal feedback.
- Compensate employees objectively based on performance.
- Help employees recognise their strengths and weaknesses.
- Create and develop the relationship between senior and junior employees.
- Identify and resolve any bottlenecks in the workflow.

Student and employee achievements are recognised with the Masaryk University medals, rector's awards, dean's awards etc.

Remuneration

The remuneration for MU employees is governed by the [Masaryk University Internal Wage Regulation](#). Employee wage rates are gender-neutral and are determined based on the agreed type of work in accordance with the wage rate classifications included in Annexes 1 and 2 within the wage regulation.

- **Measures to reconcile the work and family life of researchers (flexible working hours, flexible forms of work, maternity/parental leave management, facilitating child/dependent care, age management in relation to gender).**

MU has made significant efforts to maximize **legal work-from-home** options to support work-life balance, **particularly for parents**. The university defines flexible working hours and arrangements through its Directive [WORKING HOURS ORGANIZATION](#). According to Section 3 of the directive, MU offers adjustments to working hours, workload, and telework options for

a) pregnant employees,

b) employees with children under 15,

c) employees caring for a dependent person.

Section 5 outlines that the head of an MU unit determines flexible working hours, with part-time and flexible workers following similar rules as full-time employees. Section 7 also permits telework, with its availability and type being determined by the unit head.

MU provides detailed **guidelines on maternity and parental leave** in its **Maternity leave, postnatal paternity care and parental leave handbook**. Comprehensive information on the various stages of maternity and parental leave can be also found on the MU Employee Portal.

To further support the **integration of researchers after a career break**, the university introduced the [CAREER RESTART](#) (more in Sections 4.2 and 4.6). This grant scheme allowed the return of **11 women and 1 man** to a research career in **2022** and **12** projects to facilitate the return of researchers to their careers were financially supported in **2023**.

As part of its Gender Equality Plan (GEP) for 2022-2024, MU is also focusing on **childcare options** for young children. This includes partnerships with **5 children's groups** and **1 babysitting care** that offers 4 groups, in which we place children according to their age and individual specifics. Faculty centres **Dět-ko, Pidimuňátka** complement the portfolio of the caring services for parents. The university also offers its employees a benefit in the form of a contribution to kindergarten or children's group tuition fees.

- **Measures to eliminate negative workplace behaviour such as mobbing and sexual harassment.**

Protection of rights at MU

The Masaryk University established in the year 2023 the position which is known as ombudsman or [ombudsperson](#). Students, applicants for studies, employees, job applicants and graduates can turn to her for help if they believe that their rights or the rights of others have been violated. The ombuds maintain confidentiality, impartiality and independence. The rules for dealing with negative workplace behaviour are set by Masaryk University Directive No. 1/2023 [PROTECTION OF RIGHTS](#).

Measures against sexual harassment and other forms of gender-based violence, [Guidelines for resolving sexual harassment incidents at MU](#) were introduced in 2022, and a network of trained professionals was created to provide counselling to victims, witnesses and those accused of sexual harassment. Training for academic and other staff has been provided at MU since 2022 to prevent conflicts in this area.

The adoption of measures against sexual harassment and other forms of gender-based violence has been the responsibility of the university ombuds since April 2023. To prevent conflicts in this area, MU provided **training** for academic and non-academic employees in 2023; the topic of ethics has been included in the onboarding process and training and is addressed in the **handbooks for new employees at all constituent parts**. This know how was developed with the help of Charles university and it was freely provided to other universities within Research universities association.

4.7.1 Gender balance in management positions

Senior staff	2020		2024	
	Men	Women	Men	Women
Rector	1	0	1	0
Vice-Chancellor	5	2	4	3

Dean ¹⁷	9	1	8	2
Academic Senate	147	71	143	83
Scientific/Artistic/Academic Council	260	87	284	99
Quaestor	0	1	1*	1*
Board of Directors	13	2	9	6

Note: If one person holds more than one of these positions within the HEI, he/she will be counted in each.

*There was a change of personnel at the position during the year.

4.8 Mobility of academic and research staff (including sectoral and inter-sectoral mobility)

The HEI shall describe in a concise and structured manner its strategies and objectives for the mobility of academic and research staff (including PhD students), with particular emphasis on mobility related to the development of excellent science and interdisciplinary (intersectoral) mobility. The HEI shall identify potential barriers to mobility, including gender-based barriers. The HEI shall provide information on long-term stays abroad by its own academic staff or, conversely, by foreign staff at the HEI being evaluated.¹⁸

The achievement of the set objectives will be demonstrated by the HEI by describing specific examples of mobility or by brief statistics on mobility during the period of 2020–2024.

Maximum 500 words plus 200 words for each example given (max. five examples with a specific description of the relevance of mobility to the stated objectives).

Self-assessment:

As a recognized academic institution, Masaryk University is part to a large number of international collaboration agreements – often teaching-focused, but their networking value clearly spans to the research mission of the university. This is especially the case of Erasmus+ **European University Alliance EDUC**, which has received direct funding also from Horizon 2020 and Horizon Europe, among many other Erasmus+, CEEPUS, or bilateral agreements and membership in Utrecht Network or Compostela Group of Universities.

The MU Strategic Plan 2021-2028 involves several measures that concern promotion of international mobility (the mobility itself is not a goal, but means to achieve Strategic goal 2.3 – increasing international recognition of the scientific performance of MU), specifically:

- Use of the institute of extraordinary professors for the **recruitment and employment of top senior academics and researchers from abroad**.
- Strengthening use of **creative sabbaticals** and supporting the horizontal mobility of academics and researchers between institutions.
- Expansion of targeted support to **attract excellent scientists from abroad** and development of a system for their subsequent integration in the environments of the Czech Republic, Brno and the university.

The Strategic Plan also emphasizes the mobility of doctoral students (Strategic Goal 2.4), extending beyond national legislation by expecting at least one semester abroad to qualify for the degree (with

¹⁷ or other head of a relevant work unit of a higher education institution under Section 22(1) of the Higher Education Act performing R&D&I activities, regardless of the designation.

¹⁸ Long-term mobility means an uninterrupted period of more than three months.

a legal requirement of a minimum one-month stay). Dedicated central support for doctoral student mobility has an annual budget of 0.5 million EUR.

The strategic aim of increasing international and intersectoral research mobility is operationally implemented through a **broad portfolio of projects and initiatives at different levels**. Important enabler of mobility promoting excellence in science are **Marie Skłodowska-Curie Actions (MSCA)** in H2020 and HE. In the evaluated period, MU has been part of **47 MSCA projects worth almost 10 million EUR**:

- 11 Doctoral Networks (ITN in H2020) including 2 where MU has been the coordinator of international consortium;
- 9 Staff Exchange projects (RISE in H2020) including 4 coordinated by MU;
- 26 Postdoctoral Fellowships (IF and WF in H2020; including ERA Fellowships); additional 52 postdoctoral fellow who scored above 70 points in MSCA were supported thanks to “Seal of Excellence” funding from OP VVV and OP JAK.

This level of participation in MSCA is exceptional in the region of Central and Eastern Europe, with only two traditional universities from capital cities (Charles University in Prague and University of Ljubljana) slightly surpassing this performance. Projects in the Widening programme of Horizon Europe, such as the Excellence Hubs (CHESS and ADDIT-CE), Twinings (INTEG-RNA, BioMedAI, CENTERPEACE, HARP), or Pathways to Synergies (COLOSSE) also include dedicated measures to promote mobility.

Barriers can be seen (especially in SSH disciplines) e.g. anchored in academic culture influenced by post-communist heritage and concurrent starting points, such as imposter syndrome, low language self-confidence, but also work-life balance priorities. We try to reduce these barriers by providing dedicated support for researchers undergoing mobility in GAMU; but we also incentivise internationalisation in other ways than mobility itself, although the mobility is a priority as well.

EXAMPLE 1: Conques in the Global World. Transferring Knowledge: from Material to Immaterial Heritage

Conques, running in 2021-2024, was a H2020 MSCA Staff Exchange project coordinated by MU, the principal investigator being **Ivan Foletti from the Faculty of Arts**. The project implementation is rooted in intersectoral and international mobility within a network of 8 institutions from Czechia, France, Germany, Italy, and the US. **Conques the city is a UNESCO world heritage site** known as one of the most beautiful places in France, an important tourist, historical and political area, bringing together architecture, archaeology and monuments from the 9th to the 21st century. Conques the project was a deeply interdisciplinary endeavour combining expertise from art history, history, anthropology, music and performance studies, archaeology, archaeometry, digital technology, and visual studies – helping shed light on how Conques’ identity was built in the Middle Ages and how its history was reinvented in the 19th and 20th centuries.

EXAMPLE 2: PRORISK – Best chemical risk assessment professionals for maximum Ecosystem Services benefit

In H2020, MU was also awarded an MSCA Doctoral Networks project as the coordinator. PRORISK, running in 2020-2024, brings together a **consortium of 18 universities, research institutions, enterprises and partner organisations in 9 European countries and Canada**. Vision of PRORISK is to provide a unique value by creating a novel platform for **training a network of doctoral candidates in the field of advanced Environmental Risk Assessment (ERA)**. The doctoral candidates involved in PRORISK have been prepared to work as future experts at the interface between the key concepts of sustainable protection of ecosystems and health - i.e. adverse outcome pathways (AOPs) and ecosystem services. The young researchers developed the critical capability to synthesize processes across different levels of biological organization and different mechanistic, ecosystem and socio-

economical concepts. This empowers them to shape future regulatory missions protecting the ecosystems services and assuring thus sustainability of ecosystem services and prosperity long beyond the PRORISK project.

EXAMPLE 3: [InterTAU – Integrative structural biology of pathological tau protein, an appealing therapeutic target for Alzheimer's disease modifying drugs](#)

Another H2020 MSCA Staff Exchange project, running in 2020-2025, is focused on **methods of prevention, diagnosis and disease-modifying therapies for tauopathies, including Alzheimer's disease**. The main aim of InterTAU is the detailed structural and biophysical characterization of tau protein and its variants in monomeric, oligomeric and fibril states relevant for AD and other tauopathies. The InterTAU consortium is both **highly intersectoral** – with three companies from Czechia, Slovakia and Austria – and international – with partners not only from Europe, but also US, Argentina and Indonesia. The results of InterTAU will be directly translated into innovation in pharmacological development through the non-academic partners.

EXAMPLE 4: [FANTOM – Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of resistance](#)

The second MSCA Doctoral Network coordinated by MU, FANTOM, is funded by Horizon Europe and scheduled to run in 2023-2026. The network is composed of **7 beneficiaries and 12 associated partners in 5 EU countries, recruiting 10 doctoral candidates**. It is a result of long-term international integration in European Research Initiative on Anaplastic Lymphoma Kinase (ALK)-related malignancies and a clinical network European Intergroup for Childhood Non-Hodgkin Lymphoma. FANTOM will cosset and nurture the recruited researchers to become confident, competent, independent and well-connected European scientists with excellent career perspectives welcomed into these established networks. The research programme of FANTOM will address the clinical problems posed by Anaplastic Large Cell Lymphoma (ALCL) typified by aberrant ALK expression. Applying innovative model systems and multi-omics technologies, some performed to a single cell level, the biology of ALCL including the roles of the immune system and tumour stroma will be uncovered. These data will be applied to the development of (non-invasive) biomarkers and novel therapeutic approaches that will culminate in the design of clinical trials to address the issues of chemotherapy toxicity, over-treatment and drug resistance.

EXAMPLE 5: [COLOSSE - Central European Platform for Plasma-Enabled Surface Engineering](#)

Mobility of researchers and internationalization of research is not solely the domain of MSCA – all (collaborative) H2020 and HE projects contribute to building of networks across Europe and beyond. Most significantly, this is the case of Widening projects – some are presented in Section 4.12, and here we would like to highlight one example which has internationalization as its main aim. The Pathways to Synergies project COLOSSE is implemented by consortium core from Czechia and Slovakia, which seeks to strengthen its connection to world leading R&I centres including associated partners from Sweden, Austria and Germany. **The project involves direct funding of staff exchange, hiring of postdocs from abroad, and diverse training activities for researchers and research managers.**

RESEARCH INFRASTRUCTURE

4.9 Research infrastructure

The HEI will describe the system for acquiring/optimizing expensive instruments and equipment, as well as refurbishing outdated expensive instruments. The HEI will also briefly present the internal organisation of the research infrastructure (including technology, expensive instruments, and instrumentation)¹⁹. The HEI will describe the system of sharing (including external research entities) of instruments and instrumentation, including expensive instruments and instrumentation units, referred to as 'core facilities' (if such a system exists). The HEI will demonstrate the effectiveness of the systems with examples (e.g., specific instruments acquired/optimised and their relevance to the achievement of research objectives, examples of sharing of expensive instruments and instrumentation, statistics on sharing of expensive instruments and instrumentation, etc.). The HEI will briefly comment on the data in Table 4.9.1.

The HEI shall also indicate whether it hosts large research infrastructure projects. The name and a brief description will be provided.

Maximum 500 words plus 200 words for each example given (max. five examples).

Self-assessment:

Masaryk University hosts 15 large research infrastructures (LRI) nationally funded – 8 in the area of Health and Food, 2 in Environmental Sciences, 2 in Physical Sciences and Engineering, 2 in Social Science and Humanities, and 1 in e-Infrastructures. **In 5 LRI, MU is the coordinator (CEPLANT, CIISB, CZECRIN, GGP-CZ, RECETOX-RI)**. The national LRI scheme is instrumental in enabling operation and investments in research infrastructures whose impact and importance reaches beyond Masaryk University. Where relevant, national-level LRI are integrated with EU-level ESFRI infrastructures, resulting in MU involvement in **12 ESFRI projects**. In one case (2021 Roadmap update), **MU is the coordinator of an ESFRI infrastructure EIRENE** (detailed in Example 1). Involvement of MU in another 4 ESFRI infrastructures is under discussion – eLTER (biodiversity – MU shall host European data centre), OPERAS (scholarly publishing), eBRAINS (neuroscience), ERINHA (BSL3/4 facilities). Beyond the national and international level, MU has **shared institutional facilities** (called core facilities) spread across 7 faculties – also an important part of the university research ecosystem.

MU has been strong advocate and pioneer of open access to research infrastructures, especially following the large investment wave of early 2010s from EU Structural Funds. CEITEC has been a major flagship in research infrastructure management, operating its facilities in core facility mode, often with a strong connection to ESFRI infrastructures (esp. CIISB/INSTRUCT, CzechBioImaging/EuroBioImaging). MU capitalized on the management expertise with establishment of new position of **Research Infrastructures Coordinator** at Rectorate level in 2021. The RI coordinator (1 FTE, previously working at CEITEC is strongly involved in ESFRI (member of Czech delegation and vice-chair of Implementation Group), as an independent expert and evaluator, allows competent university-wide support of Research infrastructures and Core Facilities, establishing a strategy for their management, incl. promotion, funding (incl. external sources), experience sharing, etc. The formal decision-making body on research infrastructure development is the **Council for Strategic Research Projects (RSVP)**, which is detailed as an example in Section 4.3.

Notably, MU is not only active in individual research infrastructures but also acts at the systems level on national and international level. The university organised the global **ICRI 2022 conference** under the Czech Presidency of European Union in cooperation with the Ministry of Education and European Commission. ICRI 2022 brought together 450 delegates from across the world, included

¹⁹ The definition of research infrastructure is set out in the Framework for State Aid for Research, Development and Innovation (2014/C 198/01) and Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in accordance with Articles 107 and 108 of the Treaty.

hosting of the ESFRI Forum meeting, and is generally seen as the top-level international meeting on research infrastructures.

Moreover, MU will coordinate **Research Infrastructures for the Future of Ukraine: Roadmap for Sustained Growth and Recovery (RIFF)** project which is part of the efforts to support Ukraine in the field of research and university education. Its aim is to produce the first Ukrainian research infrastructures roadmap. The project starts in September 2025.

Table 4.9.1 summarises the costs of **all infrastructure related to research at the university**. It does not identify the narrowly defined research infrastructures linked to Czech LRI roadmap.

EXAMPLE 1: [Environmental Exposure Assessment Research Infrastructure \(EIRENE\)](#)

The RECETOX centre of excellence at Faculty of Science has been pursuing research in environmental toxicology for decades with strong international significance – since 2005 it has been the National Centre for Persistent Organic Pollutants (POPs), later including a regional centre on POPs authorized by the UN Environment Programme. Since 2016 RECETOX RI is listed on the Czech Roadmap of LRIs. Gradually, RECETOX broadened its focus to address complex determinants of human health in the environment – and was supported by a variety of funding mechanisms including all major Widening schemes: Teaming, Twinning, and ERA Chair. Recognizing the critical importance of international cooperation and research infrastructure component to advance the human exposome research, RECETOX sought to establish a pan-European research infrastructure. This led to successful application for establishment of a **new research infrastructure – EIRENE – in the 2021 ESFRI Roadmap update, with MU as the coordinator**. EIRENE supports interdisciplinary human exposome research in the cross-cutting area of environment & health bridging expertise in chemistry, biology and toxicology, environmental & human exposure and risk assessment, epidemiology, biostatistics, bioinformatics, pharmacokinetics, and geospatial modelling. MU coordinates the effort to prepare the EIRENE research infrastructure for full implementation through the [EIRENE PPP](#) Horizon Europe project.

EXAMPLE 2: [Czech Infrastructure for Integrative Structural Biology \(CIISB\)](#)

Another ESFRI infrastructure where MU plays a major role is INSTRUCT ERIC – distributed European research infrastructure for structural biology. This has been achieved through the CIISB – a partnership of CEITEC and BIOCEV centres of excellence – which act as a **full scale [INSTRUCT Centre](#)**. The flagship technology offered at CEITEC is cryo-electron microscopy, which motivated a good number of excellent researchers to join MU, and thanks to integration in INSTRUCT (and participation in H2020 transnational access projects, most recently [iNEXT-Discovery](#)) also attracts external users from across the world. Thus, it strongly contributes to the building up of MU reputation world-wide, through interactions and participation in production of cutting-edge results. Notably, the Cryo-electron microscopy and tomography core facility (CEMCOF) of CEITEC is not a simple service provider. CEMCOF is on the frontline in development of innovative techniques (in collaboration with key electron microscopy manufacturers, many of which have R&D facilities in Brno). The full value of CIISB is, however, not in its focus on a single flagship technology but the comprehensive offer of integrative structural biology methods, including biomolecular NMR, proteomics, crystallography and more. Since 2016 CIISB is listed on the Czech Roadmap of LRIs and funded by MEYS.

EXAMPLE 3: [Generations and Gender Programme Czech Republic \(GGP-CZ\)](#)

Masaryk University actively seeks to promote system of research infrastructures also beyond the technologically demanding research areas where expensive equipment is needed. The university has been involved in international **research infrastructures in the area of social sciences and humanities (SSH)** for a long time (e.g. CLARIN/DARIAH/CLARIAH/LINDAT) and has sought to provide access to experimental facilities for SSH openly (e.g. HUME Lab – details below). Most recently, in 2024, the Czech contribution to the European large-scale [Generations & Gender Programme](#) has been included in the Czech Roadmap of LRIs under the coordination of MU. The GGP-CZ infrastructure seeks to collect and process data about contemporary Czech family, about parents and children, about partnerships and intergenerational relationships. Czechia has joined the global GGP already in 2005 and the recent inclusion on LRI roadmap is a recognition of the effort and a major opportunity to sustain the scale and quality of the survey with a clear open access policy.

EXAMPLE 4: [Experimental Humanities Laboratory \(HUME Lab\)](#)

HUME lab is a unique and innovative facility with cutting edge equipment for excellent research aimed at increasing our understanding of human interaction and addressing key theoretical issues central to the study of social cognition through experimental approaches. It is a shared institutional facility, not directly integrated in international research infrastructure networks and not listed on the national LRI roadmap. Still, it is open to welcoming users from outside of MU, [e.g. within the EDUC university alliance](#). HUME Lab provides a state-of-the-art facility and equipment for **experimental research focused on a variety of aspects of the human condition** as seen from the perspective of different disciplines within the Social Sciences and Humanities (**anthropology, archaeology, economics, education, history, linguistics, psychology, and religious studies**). In addition to conducting controlled laboratory experiments, the research infrastructure also provides the means for developing a field and natural experimental paradigm (some laboratory equipment is portable to facilitate usage in natural field settings). An integral part of the infrastructure consists of a multifunctional web-based platform with a central database, which enables the creation, administration and evaluation of a broad range of experimental batteries as well as open-access sharing of research findings.

EXAMPLE 5: [BioPharma Hub](#)

The biggest investment project ongoing at MU after 2020 is BioPharma Hub. This major construction project funded with over 100 million EUR from the EU Recovery Fund (NextGenerationEU) is the most recent development phase of University Campus in Bohunice, already the **largest life science campus in Central Europe**. The BioPharma Hub, whose construction shall be finalised in summer 2026 will house Faculty of Pharmacy, facility for small scale **production of pharmaceuticals under GMP conditions** as well as research infrastructures of the **Preclinical Research Centre**, which is a joint enterprise of Faculty of Science and Medicine. The facilities shall work on the same sharing principles as the earlier established CEITEC core facilities. Preclinical research infrastructure will provide an important and as of yet missing bridge between fundamental research (with particular strength at CEITEC, but major results coming up also from Faculty of Science and Faculty of Medicine) and clinical research (Faculty of Medicine and university hospitals), leveraging a broad variety of (traditional) animal models as well as cutting edge organ-on-chip and bioprinting technologies.

4.9.1 Summary of expenditure/costs on research infrastructure and equipment for the period under review (including related non-investment and personnel costs).

Costs/expenses in thous. CZK/EUR/year	2020	2021	2022	2023	2024	Total value of assets ²⁰
Costs/expenses related to the acquisition of small fixed assets for R&D&I	36 668/ 1 446	27 766/ 1 095	28 924/ 1 141	19 880/ 784	23 139/ 913	136 378/ 5 380
Cost of repairs and maintenance of equipment	40 992/ 1 617	30 403/ 1 199	30 741/ 1 213	26 800/ 1 057	31 553/ 1 245	160 489/ 6 331
Acquisition of tangible (DH) and intangible (DN) assets for R&D&I (investments)						
Of which software	0	0	0	0	0	0
Of which other intangible fixed assets	3 927/ 155	3 789/ 149	3 424/ 135	3 287/ 130	434/ 17	14 862/ 586
Of which land, buildings and structures	73 761/ 2 910	17301/ 682	26 079/ 1 029	63 428/ 2 502	101 184/ 3 991	281 754/ 11 115
Other intangible fixed assets (machinery, apparatus, equipment, etc.	364 819/ 14 391	273 262/ 10 780	316 457/ 12 484	362 547/ 14 302	293 571/ 11 581	1 610 656/ 63 537
Total infrastructure spending in years ²¹	520 168/ 20 519	352 521/ 13 906	405 626/ 16 001	475 943/ 18 775	449 881/ 17 747	2 204 140/ 86 948

²⁰ Enter the sum of the row.

²¹ Enter the sum of the column.

FINANCES

4.10 Budget and structure of financial resources

The HEI shall provide and comment on an overview of the total R&D&I budget in the period of 2020–2024, broken down by organisational units of the evaluated HEI and by source of funds (Table 4.10.1). The HEI shall also comment on the shares of total costs/outputs covered by public and non-public sources by type of R&D&I for the period under evaluation as shown in Table 4.10.2.

As complementary data, the university will provide an overview of prestigious research projects obtained during the period of 2020–2024 (ERC²², MSCA²³, HHMI²⁴, HFSP²⁵, NSF²⁶, Horizon Europe²⁷, NIH²⁸, Wellcome Trust²⁹, EDF³⁰, OP JAK³¹, OP TAK³², NPO³³, GA ČR³⁴, TA ČR³⁵ etc.). Include information on the amount of funding received and whether the HEI were principal investigator or co-investigator in Tables 4.10.3, 4.10.4 and 4.10.5.³⁶

In addition, the HEI will describe in more detail up to five of the most important projects from the list of prestigious individual projects abroad (ERC, MSCA, HHMI, HFSP, NSF, etc.), providing basic information at the HEI's discretion and regardless of the funder: title, field of expertise, agency, amount of funding, other project participants, and other relevant information as appropriate.

A maximum of 500 words plus 200 for each example of a prestigious international individual project given.

Self-assessment:

Masaryk University remains the most successful Czech institution in Horizon Europe (HE), as it was in Horizon 2020, both in terms of number of participation and contracted EU contribution. In the evaluated period, this meant a very significant share of total R&D&I financing coming from foreign sources, about 14% (foreign sources other than EU are marginal). **MU is clearly leading in HE in Czechia, is comparable to best-performing universities in post-communist countries** (University of Ljubljana and University of Tartu) and financially does well also if we take similarly sized universities

²² The European Research Council (ERC) is part of the 'Excellent Science' pillar of Horizon Europe. The ERC funds cutting-edge research by supporting individual Principal Investigators and their research teams.

²³ Marie Skłodowska-Curie Action (MSCA) is part of the "Excellent Science" pillar of Horizon Europe and is also aimed at supporting young researchers, including PhD students.

²⁴ Howard Hughes Medical Institute - a non-profit organization in the USA significantly supporting international biomedical research.

²⁵ Human Frontier Science Program - an international programme to support research, particularly in the natural sciences and computer science.

²⁶ National Science Foundation (USA).

²⁷ Horizon Europe - the EU's 9th Framework Programme for research and innovation, running from 2021-2027.

²⁸ National Institutes of Health (NIH) - an agency under the United States Department of Health and Human Services. NHI is a major player in project support for biomedical research.

²⁹ major UK private foundation supporting mainly biomedical research.

³⁰ European Defence Fund.

³¹ Operational Programme Jan Ámos Komenský - Priority 1 - Research and Development - multiannual programme under the Ministry of Education, Youth and Sports. Within the framework of the OP JAK it is possible to draw financial resources from the European Structural and Investment Funds (ESIF) in the period 2021-2027.

³² Operational Programme Technologies and Applications for Competitiveness. The European Regional Development Fund (ERDF) is available in the period 2021-2027 to co-finance business projects in the areas of research, development and innovation, digitalisation and digital infrastructure, business development, smart and sustainable energy and the circular economy.

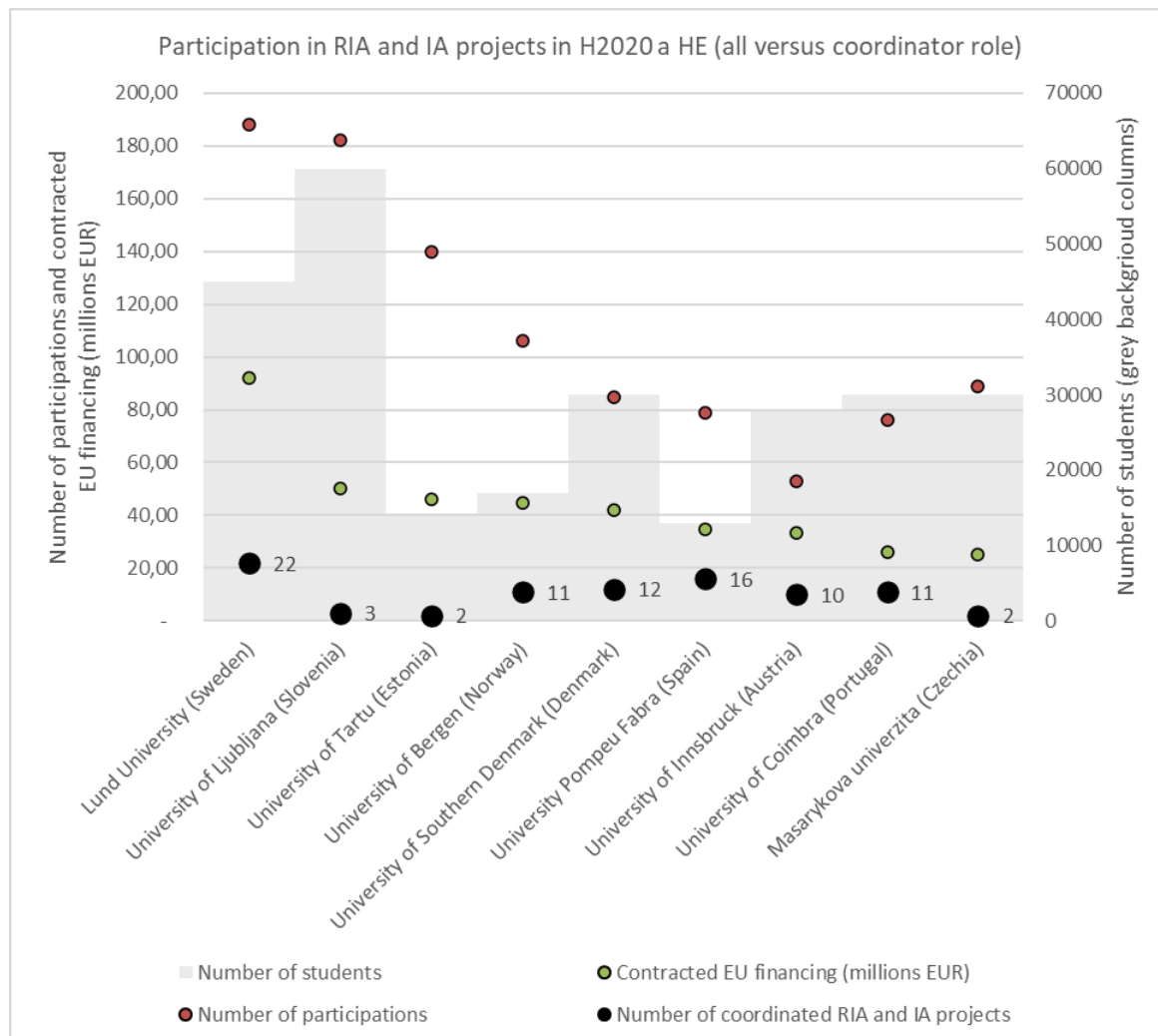
³³ National Recovery Plan - under Pillar 5 - Research, Development and Innovation of the National Recovery Plan, the Recovery and Resilience Facility (RRF) is available for the period 2022-2026.

³⁴ Grant Agency of the Czech Republic.

³⁵ Technology Agency of the Czech Republic.

³⁶ The military and the police HEIs, as parts of the organisational unit of the state, are treated specifically in terms of the possibility to participate in the projects.

from Western and Northern Europe as the benchmark. Yet, we can point also out one challenge that MU faces concerning participation in European programme – a challenge that MU has in common with other well-performing universities from post-communist countries: the universities coordinate a very low number of consortium projects focused on research and innovation (so-called RIA and IA actions) – see figure below.



As can be seen in Table 4.10.1., most OUs have a similar pattern of distribution of funding as whole MU. The exceptions are Faculty of Education and Faculty of Sports Sciences, where the percentages of public funding in the Czech Republic are 90% and 86% while the share of public funding from abroad is close to 0 %. Faculty of Economics and Administration has on the other hand higher share of public funding from abroad (36%) than other OUs and the MU as a whole (14%). Institute of Computer sciences has higher percentage of funding from other sources (56%) than other OUs and the MU as a whole (15%). Table 4.10.2 shows that basic research accounts for almost 88% of the total costs/outputs by type of R&D&I financed by public and non-public sources. This is in line with the R&D&I capacities of the MU, where basic research is a predominant type of research.

Given that the requested examples are to be of individual projects, we selected to highlight some our most recent ERC holders with focus on their stories, demonstrating why and how did they choose to pursue research careers at Masaryk University.

EXAMPLE 1: Pavel Plevka – Structural Virology – [BioPhage](#) / [PICOSTRUCTURE](#) – ERC-CoG-2021 / ERC-StG-2013

Pavel Plevka came to Masaryk University at the time of establishment of CEITEC, in 2014. Already before arriving from his previous workplace at Purdue University in US, he was supported by MU to secure a Starting Grant from the ERC, the first ERC to be hosted by Masaryk University – with focus on structures of picornaviruses. Pavel's research has been instrumental to the start-up of cryo-electron microscopy facilities, enabled CEITEC to develop excellence competence in the technology before it became widespread. Along with his ERC, Pavel continuously developed new research topics and directions, e.g. with support of GAČR grants. When his first ERC was drawing to its end, he developed one of the research strands – phage infection in bacterial biofilm – into an ERC Consolidator Grant. He was not successful on the first attempt, having received ERC CZ for a short duration, but in the end, his dedication led to ERC Consolidator Grant award from the 2021 call (implemented 2023-2027). In the meantime, Pavel also received GAČR EXPRO for structural studies of enterovirus replication and gradually took increasing responsibilities for institutional management – starting from the CIISB research infrastructure and ultimately becoming the Director of CEITEC at MU in 2023.

Phage infection of bacterial biofilm (BioPhage); ERC Consolidator Grants 2021; € 1 992 976; GA No. 101043452; Pavel Plevka

EXAMPLE 2: David Kosař – Judicial Studies – [INFINITY](#) / [JUDI-ARCH](#) – ERC-CoG-2020 / ERC-StG-2015

David Kosař came to Masaryk University after defending his PhD at the New York University School of Law in 2013 – and instantly became a strong figure in promoting excellent research at the Faculty of Law, which has often been seen as more focused on professional education with national relevance. David was awarded ERC Starting Grant in the 2015 call, as the first MU researcher in the domain of social sciences and humanities. The Starting Grant was focused on formal aspects of judiciary; and at the first possible occasion, David formulated another project for the Consolidator call in 2020, this time aiming at informal judicial institutions. This Consolidator Grant application was successful at first try. Besides his major achievements in research funding, David has been instrumental to establishment of Judicial Studies Institute, a second research-oriented unit at the Faculty of Law. For years in 2021-2025, he was Head of the Department of Constitutional Law and Political Science; and as a full professor, he contributes to education of next generations of experts.

Informal Judicial Institutions: Invisible Determinants of Democratic Decay (INFINITY); ERC Consolidator Grants 2020; € 1 999 750; GA No. 101002660; David Kosař

EXAMPLE 3: Peter Fabian – Developmental Biology – MERLIN – ERC-StG-2023

Peter Fabian joined Masaryk University in 2022 after a postdoc at University of Southern California. The catalyst for his move to MU was the MASH Junior award and the upgrading of facilities at Bohunice Campus with BioPharma Hub. Shortly after joining MU, Peter received an ERC Starting Grant and is also one of the three Czech researchers awarded with [Dioscuri centre of excellence](#) (a joint venture of Max Planck Institute and MEYS) – both grants worth about 1,5 million EUR. His research is focused on fundamental processes underlying the development and maintenance of vertebrate organs using powerful genomic, genetic, and high-resolution imaging with zebrafish models. In his ERC research, Peter is particularly focusing skeletal development, contributing to understanding and treatment of e.g. Alkaptonuria, aka “black bone disease”.

Metabolic regulation of the skeletal stem cell niche (MERLIN); ERC Starting Grants 2023; € 1 499 821; GA No. 101117555; Peter Fabian

EXAMPLE 4: Petr Těšina – Structural Biology – NeuroQuality – ERC-StG-2023

Petr Těšina joined Masaryk University in 2023 as a junior group leader at CEITEC. He successfully applied for an ERC Starting Grant with MU as host institution while he still was a postdoc at Ludwig-Maximilians-Universität München. Very recently, Petr was also awarded an [EMBO Installation Grant](#)

(only one Czech researcher per years receives this prize). Petr investigates the ribosome-associated quality control (RQC) pathway. Previously, he studied RQC in yeast cells, and now he will focus on the pathway in human cells and try to understand how errors in RQC are linked to neurological disorders. The critical factor for Petr's decision to pursue his research at MU was the availability of cryo-electron microscopy facilities at CEITEC – the bet on securing and developing this technology in early 2010s has proven to be a major booster of MU competitiveness a decade later.

Mechanisms of human co-translational quality control and it's role in neural tissue (NeuroQuality); ERC Starting Grants 2023; € 1 400 000; GA No. 101117861; Petr Těšina

EXAMPLE 5: Jan Křetínský – Computer Science – InOVationCS – ERC-CoG-2024

Jan Křetínský came to Masaryk University in 2023, securing the GAMU MASH grant. Previously, he held a tenure-tracked associated professor position at Technical University of Munich, which he joined after a postdoc at IST Austria in 2015. Jan is the most recent ERC holder hosted by MU – his ERC Consolidator Grant is due to start in September 2025. His current research objective is to utilize the power of learning in software verification and controller-synthesis to overcome both the traditional scalability challenges as well as the recent data-driven ones, stemming from the increasing use of artificial intelligence and machine learning. The findings from this research may advance the reliability of complex systems in fields such as autonomous driving or robots operating among humans; which is why Jan's team actively pursues collaboration with car manufacturers. Jan was also awarded the [Neuron prize for promising young scientists](#) in 2024, which is one of the most prestigious recognitions in Czech context (Pavel Plevka and David Kosař are also among Neuron laureates).

Intelligence-Oriented Verification&Controller Synthesis (InOVationCS); ERC Consolidator Grants 2024; € 1 995 000; GA No. 101171844; Jan Křetínský

4.10.1 Total budget of the HEI

Name of the HEI unit	Total budget in thous. CZK/EUR	Percentage of public funding in the Czech Republic	Share of public funding from abroad in %	Percentage of funding from other sources
Faculty of Medicine	2 047 235/ 80 759	80%	11%	9%
Faculty of Pharmacy	160 849/ 6 345	78%	18%	4%
Faculty of Arts	1 347 542/ 53 157	77%	9%	14%
Faculty of Law	352 473/ 13 904	62%	15%	22%
Faculty of Social Studies	893 293/35 238	81%	10%	9%
Faculty of Science	4 868 097/ 192 035	68%	14%	17%
Faculty of Informatics	853 553/ 33 671	79%	9%	12%
Faculty of Education	312 473/ 12 326	90%	0%	10%
Faculty of Sport Studies	98 998/ 3 905	86%	0%	14%
Faculty of Economics and Administration	395 033/ 15 583	60%	36%	5%
CEITEC	3 022 820/ 119 243	69%	16%	15%
CEITEC-Central Management Structure	12 712/ 501	88%	8%	4%
Support Centre for Students with Special Needs	4 029/ 159	93%	0%	7%
Technology Transfer Office	63 027/ 2 486	84%	0%	16%
Institute of Computer Sciences	554 103/ 21 858	25%	20%	56%
Language Center	14 623/ 577	49%	0%	51%
Rectors Office	398 017/ 15 701	70%	29%	1%
Masaryk university TOTAL	15 428 444/ 607 451	71%	14%	15%

4.10.2 Share [%] of total costs/outputs by type of R&D&I paid from public and non-public sources

	2020	2021	2022	2023	2024	Total
Basic research	91	89	91	82	85	87,6
Applied Research	7	10	8	17	12	10,8
Experimental development and innovation	2	1	1	1	3	1,6
Total	100	100	100	100	100	100

Note: For definitions see Definition of Terms in Methodology HEI2025+.

4.10.3 Projects supported by a foreign provider

In the role of beneficiary							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK/EUR)				
			2020	2021	2022	2023	2024
EU	Horizon Europe / CSA / Widening	CREATIC - Central European Advanced Therapy and Immunotherapy Centre	- / -	- / -	- / -	257024 / 10139	- / -
EU	Horizon 2020 / CSA / Widening	CETOCOEN Excellence - CETOCOEN Excellence	233727 / 9220	- / -	- / -	- / -	- / -
EU	Horizon Europe / COFUND / Health	PARC - Partnership for the Assessment of Risks from Chemicals	- / -	- / -	148830 / 5871	- / -	- / -
EU	Horizon Europe / CSA / Widening	ExcellPharmTech - Center of Excellence in Advanced Pharmaceutical Technologies	- / -	- / -	- / -	63350 / 2499	- / -
EU	Horizon 2020 / CSA / Widening	R-Exposome Chair - R-Exposome Chair: Unlocking the potential of RECETOX in Exposome research	63223 / 2494	- / -	- / -	- / -	- / -
EU	Horizon 2020 / ERC / Consolidator Grant	PeptideKillers - Peptide Killers of Bacteria	- / -	- / -	58711 / 2316	- / -	- / -
EU	Horizon 2020 / ERC / Advanced Grant	CRAACE - Continuity and Rupture in Central European Art and Architecture, 1918-1939	57114 / 2253	- / -	- / -	- / -	- / -
EU	Horizon 2020 / ERC / Consolidator Grant	INFINITY - Informal Judicial Institutions: Invisible Determinants of Democratic Decay	- / -	50700 / 2000	- / -	- / -	- / -
EU	Horizon 2020 / ERC / Consolidator Grant	BioPhage - Phage infection of bacterial biofilm	- / -	- / -	- / -	50523 / 1993	- / -
EU	Horizon 2020 / ERC / Consolidator Grant	DISSINET - Networks of Dissent: Computational Modelling of Dissident and Inquisitorial Cultures in Medieval Europe	- / -	50497 / 1992	- / -	- / -	- / -
EU	Horizon 2020 / ERC / Consolidator Grant	DECOR - Dynamic assembly and exchange of RNA polymerase II CTD factors	46771 / 1845	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Widening	ADDIT-CE - Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central Europe	- / -	- / -	- / -	42182 / 1664	- / -
EU	Horizon 2020 / ERC / Starting Grant	LeukemiaEnviron - SIGNALING PROPENSITY IN THE MICROENVIRONMENT OF B CELL CHRONIC LYMPHOCYTIC LEUKEMIA	38025 / 1500	- / -	- / -	- / -	- / -
EU	Horizon 2020 / ERC / Starting Grant	MERLIN - Metabolic regulation of the skeletal stem cell niche	- / -	- / -	- / -	- / -	38025 / 1500
EU	Horizon 2020 / ERC / Starting Grant	JUDI-ARCH - The Rise of Judicial Self-Government: Changing the Architecture of Separation of Powers without an Architect	38025 / 1500	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Widening	CHESS - Cyber-security Excellence Hub in Estonia and South Moravia	- / -	- / -	- / -	36200 / 1428	- / -
EU	Horizon 2020 / ERC / Starting Grant	NeuroQuality - Mechanisms of human co-translational quality control and it's role in neural tissue.	- / -	- / -	- / -	- / -	35490 / 1400
EU	Horizon Europe / CSA / Widening	A4L_BRIDGE - Alliance4Life Bridging the Research and Innovation Gap in Life Sciences	- / -	- / -	- / -	- / -	35008 / 1381
EU	Horizon 2020 / RIA / Research Infrastructures	EOSC-Life - Providing an open collaborative space for digital biology in Europe	35008 / 1381	- / -	- / -	- / -	- / -
EU	Horizon 2020 / COFUND / Health	HBM4EU - European Human Biomonitoring Initiative	33944 / 1339	- / -	- / -	- / -	- / -

EU	Horizon Europe / CSA / Widening	EDUC-WIDE - Empowering EDUC for Inclusive Development of the ERA	- / -	- / -	- / -	- / -	27606 / 1089
EU	Horizon Europe / RIA / Health	ASP-belong - Augmented Social Play (ASP): smartphone-enabled group psychotherapeutic interventions that boost adolescent mental health by supporting real-world connection and sense of belonging	- / -	- / -	- / -	21928 / 865	- / -
EU	Horizon Europe / RIA / Health	INQUIRE - Identification of chemical and biological determinants, their sources, and strategies to promote healthier homes in Europe	- / -	- / -	19950 / 787	- / -	- / -
EU	Horizon Europe / RIA / Health	DISCERN - Discovering the causes of three poorly understood cancers in Europe	- / -	- / -	- / -	19596 / 773	- / -
EU	Horizon Europe / CSA / Widening	HARP - Hopeful and resilience perspective in climate change education to inspire (promote) action competence	- / -	- / -	- / -	- / -	19342 / 763
EU	Horizon Europe / CSA / Widening	CENTREPEACE - Central and Eastern European Security Cooperation Cluster	- / -	- / -	- / -	- / -	17922 / 707
EU	Horizon Europe / CSA / Widening	BioMedAI TWINNING - BioMedAI TWINNING	- / -	- / -	17517 / 691	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	iNEXT-Discovery - Infrastructure for transnational access and discovery in structural biology	16655 / 657	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Doctoral Network	EDiTE-EJD - European Joint Doctorate in Teacher Education	16351 / 645	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Food and Bioeconomy	SPRINT - SUSTAINABLE PLANT PROTECTION TRANSITION: A GLOBAL HEALTH APPROACH	15869 / 626	- / -	- / -	- / -	- / -
SNSF	PROMYS	Tau tubulin kinase 2 in ciliogenesis: mechanisms and functions	15625 / 616	- / -	- / -	- / -	- / -
EU	Horizon Europe / IA / Food and Bioeconomy	SoilWise - An open access knowledge and data repository to safeguard soils	- / -	- / -	- / -	15489 / 611	- / -
EU	Horizon Europe / RIA / Digital and Industry	DiCiM - Digitalised Value Management for Unlocking the potential of the Circular Manufacturing Systems with integrated digital solutions	- / -	- / -	- / -	15464 / 610	- / -
EU	Horizon 2020 / ERC / Consolidator Grant	LaDIST - Large Discrete Structures	14906 / 588	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Health	CERTAINTY - A CELLulaR immunoTherapy virtuAI twin for personalised cancer treatmeNT	- / -	- / -	- / -	14297 / 564	- / -
EU	Horizon 2020 / CSA / Health	A4L_ACTIONS - Alliance for Life Sciences: From Strategies to Actions in Central and Eastern Europe	- / -	14221 / 561	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Staff Exchange	CONQUES - Conques in the Global World. Transferring Knowledge: from Material to Immaterial Heritage	- / -	13638 / 538	- / -	- / -	- / -
EU	Horizon 2020 / CSA / Widening	INTEG-RNA - Integration of RNA Biology for Next-Generation Scientists	- / -	13005 / 513	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	ONCOBIOME - Gut OncoMicrobiome Signatures (GOMS) associated with cancer incidence, prognosis and prediction of treatment response.	12751 / 503	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Widening	COLOSSE - Central European Platform for Plasma-Enabled Surface Engineering	- / -	- / -	- / -	- / -	12574 / 496

EU	Horizon Europe / MSCA / Doctoral Network	FANTOM - Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of resistance	- / -	- / -	- / -	12016 / 474	- / -
EU	Horizon Europe / MSCA / Doctoral Network	CaLiForNIA - Cartan and differential geometry, Lie theory, quantum groups and non commutative geometry For novel and Innovative Applications to quantum algorithms and geometric deep learning	- / -	- / -	- / -	- / -	12016 / 474
EU	Horizon 2020 / MSCA / Doctoral Network	PRORISK - Best chemical risk assessment professionals for maximum Ecosystem Services benefit	11915 / 470	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Doctoral Network	i-CONN - Interdisciplinary connectivity: Understanding and managing complex systems using connectivity science	11915 / 470	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Digital and Industry	CyberSec4Europe - Cyber Security Network of Competence Centres for Europe	11838 / 467	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Doctoral Network	NaToxAq - Natural Toxins and Drinking Water Quality - From Source to Tap	11788 / 465	- / -	- / -	- / -	- / -
EU	Horizon 2020 / IA / Digital and Industry	SAPPAN - Sharing and Automation for Privacy Preserving Attack Neutralization	11534 / 455	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	EDIRex - EurOPDX Distributed Infrastructure for Research on patient-derived cancer Xenografts	11357 / 448	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Digital and Industry	SinFonia - Synthetic biology-guided engineering of Pseudomonas putida for biofluorination	11027 / 435	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Digital and Industry	CONCORDIA - Cyber security cOmpeteNce fOR Research and INNOvAtion	11027 / 435	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Health	ENDOMIX - Understanding how endocrine disruptors and chemical mixtures of concern target the immune system to trigger or perpetuate disease	- / -	- / -	- / -	- / -	11002 / 434
EU	Horizon Europe / RIA / Research Infrastructures	CRAFT-OA - Creating a Robust Accessible Federated Technology for Open Access	- / -	- / -	- / -	10723 / 423	- / -
EU	Horizon 2020 / RIA / Health	ERGO - Breaking down the wall between human health and environmental testing of endocrine disruptors: EndoCRine Guideline Optimisation	10596 / 418	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Staff Exchange	InterTAU - Integrative structural biology of pathological tau protein, an appealing therapeutic target for Alzheimer's disease modifying drugs	10317 / 407	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Food and Bioeconomy	SIEUSOIL - Sino-EU Soil Observatory for intelligent Land Use Management	10165 / 401	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	EXPANSE - Exposome Powered tools for healthy living in urBAN Settings	10115 / 399	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Widening	TRIAD - TRIAD: Enhancing Synergism on Telomere Function in Health and Disease	- / -	- / -	- / -	- / -	10064 / 397
EU	Horizon Europe / RIA / Climate	Li4life - NOVEL DOMESTIC BATTERY GRADE LITHIUM CARBONATE VALUE CHAIN FOR GREEN LIFE	- / -	- / -	- / -	- / -	10039 / 396

EU	Horizon Europe / RIA / Health	BEATsep - Biomarkers established to stratify sepsis long-term adverse effects to improve patients' health and quality of life	- / -	- / -	- / -	- / -	9963 / 393
EU	Horizon 2020 / RIA / Climate	ICARUS - Integrated Climate forcing and Air pollution Reduction in Urban Systems	9887 / 390	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Research Infrastructures	EIRENE PPP - Environmental Exposure Assessment Research Infrastructure Preparatory Phase Project	- / -	- / -	9836 / 388	- / -	- / -
EU	Horizon Europe / RIA / Climate	IMP_ACT - Impact Assessment for Action Competence	- / -	- / -	- / -	- / -	9481 / 374
EU	Horizon Europe / IA / Security	ResilMesh - ResilMesh: Situation Aware enabled Cyber Resilience for Dispersed, Heterogenous Cyber Systems	- / -	- / -	- / -	9405 / 371	- / -
EU	Horizon Europe / RIA / Health	In-Touch - In-Touch: Implementation of a person-centered palliative care iNtervention To imprOve comfort, QUality of Life and social engagement of people with advanced dementia in Care Homes	- / -	- / -	- / -	- / -	9329 / 368
EU	Horizon Europe / RIA / Research Infrastructures	Fragment-Screen - From fragments to high affinity binders interfacing integrated structural biology, medicinal chemistry and artificial intelligence	- / -	- / -	- / -	9177 / 362	- / -
EU	Horizon 2020 / RIA / Societies	EnTrust - Enlightened trust: An examination of trust and distrust in governance – conditions, effects and remedies	9050 / 357	- / -	- / -	- / -	- / -
EU	Horizon Europe / EIC / Pathfinder	RELIEVE - First Closed-loop non-Invasive Seizure Prevention System	- / -	- / -	- / -	9050 / 357	- / -
EU	Horizon 2020 / IA / Climate	ReCiPSS - Resource-efficient Circular Product-Service Systems	9025 / 356	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Societies	iMARECULTURE - Advanced VR, iMmersive serious games and Augmented REality as tools to raise awareness and access to European underwater CULTURal heritage.	8492 / 335	- / -	- / -	- / -	- / -
EU	Horizon 2020 / CSA / Widening	URBAN_X - External and Internal Human Exposure in Urban EXposome	8492 / 335	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Health	SONATA - Situation-aware OrchestratiON of AdapTive Architecture	- / -	- / -	- / -	- / -	8467 / 334
EU	Horizon 2020 / RIA / Health	OBERON - An integrative strategy of testing systems for identification of EDs related to metabolic disorders	8366 / 330	- / -	- / -	- / -	- / -
EU	Horizon 2020 / CSA / SWAFS - Strengthening ERA	EDUC-SHARE - EUROPEAN DIGITAL UNIVERCITY - RESEARCH AND INNOVATION WITH AND FOR SOCIETY	- / -	8340 / 329	- / -	- / -	- / -
EU	Horizon Europe / RIA / Societies	Aspire - Decision making of aspiring (re)migrants to and within the EU: the case of labour market-leading migrations from Asia	- / -	- / -	- / -	7985 / 315	- / -
EU	Horizon Europe / RIA / Food and Bioeconomy	GoodByO - Multi-commodities microbial-driven BiOrefinery based on food-processing industry wastes, biogenic CO2 and bioprocess wastewaters	- / -	- / -	- / -	- / -	7808 / 308
EU	Horizon Europe / RIA / Food and Bioeconomy	BENCHMARKS - Building a European Network for the Characterisation and Harmonisation of Monitoring Approaches for Research and Knowledge on Soils	- / -	- / -	- / -	7808 / 308	- / -

EU	Horizon Europe / CSA / Research Infrastructures	ICRI 2022 - International Conference on Research Infrastructures (ICRI) 2022 in Brno	- / -	7605 / 300	- / -	- / -	- / -
EU	Horizon Europe / RIA / Food and Bioeconomy	SOILPROM - Modelling pollutant transport across the soil-water-atmosphere continuum, and impacts on ecosystem services	- / -	- / -	- / -	- / -	7478 / 295
EU	Horizon 2020 / RIA / Research Infrastructures	eLTER PLUS - European long-term ecosystem, critical zone and socio-ecological systems research infrastructure PLUS	7123 / 281	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	EOSC-ENTRUST - EOSC-ENTRUST: A European Network of TRUSTed research environments	- / -	- / -	- / -	- / -	7123 / 281
EU	Horizon 2020 / RIA / Health	AURORA - Actionable eUropean ROadmap for early-life health Risk Assessment of micro- and nanoplastics	- / -	6895 / 272	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	SpecSpiderVenom - Venomics of Prey-Specialised Spiders in the Evolutionary and Ecological Context	- / -	- / -	6642 / 262	- / -	- / -
EU	Horizon 2020 / COFUND / Climate	ERA-PLANET - The European network for observing our changing planet	6540 / 258	- / -	- / -	- / -	- / -
EU	Horizon 2020 / IA / Climate	e-shape - EuroGEO Showcases: Applications Powered by Europe	6338 / 250	- / -	- / -	- / -	- / -
EMBO	Installation Grants	Molecular basis of aberrant splicing of CFTR exon 9	6338 / 250	- / -	- / -	- / -	- / -
EMBO	Installation Grants	Structural studies of human and animal pathogens from the order Picornavirales	6338 / 250	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	PullEd-MS - Finding unknown endocrine disrupting compounds through target pull-down assay filtration, effect direct analysis and ultra-high resolution mass spectrometry for a comprehensive efficient workflow.	6160 / 243	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Widening	MILESTONE - Upstream synergies to overcome Locked-in effects in widening regions and broaden internationalization pathways for sustainable innovation and competitive grant applications	- / -	- / -	- / -	- / -	6135 / 242
EU	Horizon Europe / MSCA / Doctoral Network	HOMEAGE - Advancing Research and Training on Ageing, Place and Home	- / -	- / -	- / -	6008 / 237	- / -
EU	Horizon 2020 / MSCA / Doctoral Network	ROPES - Roles of ePitranscriptomic in diseases	5957 / 235	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Doctoral Network	LightDyNAMics - DNA as a training platform for photodynamic processes in soft materials	5881 / 232	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Climate	DRYvER - Securing biodiversity, functional integrity and ecosystem services in DRYing river networks	5831 / 230	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Societies	POLIIICE - Powerful Lawful Interception, Investigation, and Intelligence	- / -	- / -	5628 / 222	- / -	- / -
EU	Horizon 2020 / MSCA / Staff Exchange	CoBeN - Novel Network-Based Approaches for Studying Cognitive Dysfunction in Behavioral Neurology	5476 / 216	- / -	- / -	- / -	- / -

EU	Horizon 2020 / CSA / SWAFS - Strengthening ERA	ORION - Open Responsible research and Innovation to further Outstanding kNnowledge.	5247 / 207	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Food and Bioeconomy	PAPILLONS - Plastic in Agricultural Production: Impacts, Lifecycles and LONG-term Sustainability	- / -	5222 / 206	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Societies	ySKILLS - Youth Skills	5095 / 201	- / -	- / -	- / -	- / -
EU	Horizon 2020 / CSA / Research Infrastructures	"INSTRUCT-ULTRA - Releasing the full potential of Instruct to expand and consolidate infrastructure services for integrated structural life science research	5070 / 200	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Health	RES-Q PLUS - Comprehensive solutions of healthcare improvement based on the global Registry of Stroke Care Quality	- / -	- / -	4918 / 194	- / -	- / -
EU	Horizon Europe / CSA / Research Infrastructures	FHERITALE - FOOD, HEALTH AND ENVIRONMENT RESEARCH INFRASTRUCTURES TO TACKLE EMERGING PRIORITIES	- / -	- / -	- / -	- / -	4588 / 181
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	BORCA - Borel combinatorics and Approximations	- / -	- / -	- / -	4538 / 179	- / -
EU	Horizon Europe / CSA / Health	IHEN PROJECT - INTERNATIONAL HUMAN EXPOSOME NETWORK PROJECT	- / -	- / -	- / -	4436 / 175	- / -
EU	Horizon Europe / MSCA / Staff Exchange	CaLIGOLA - Cartan geometry, Lie and representation theory, Integrable Systems, quantum Groups and quantum computing towards the understanding of the geometry of deep Learning and its Applications	- / -	- / -	- / -	4436 / 175	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	QDHassay - In vitro and In-cell characterization of Quadruplex-duplex hybrids: conformation, folding, and recognition by drug-like ligand molecule	- / -	- / -	4208 / 166	- / -	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	QDHassay - In vitro and In-cell characterization of Quadruplex-duplex hybrids: conformation, folding, and recognition by drug-like ligand molecule	- / -	- / -	4208 / 166	- / -	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	ROMSUR - The role of shared micromobility modes in the resilience of urban transportation systems: New challenges and opportunities	- / -	- / -	- / -	- / -	4208 / 166
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	MULTIPLE - The Effect of Media Multitasking on Online Prosocial and Antisocial Behavior	- / -	- / -	- / -	- / -	4208 / 166
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	MetaChange - A decision within a decision: Exploring the psychological, electrophysiological and computational mechanisms underlying changes of mind and metacognitive judgements.	- / -	- / -	- / -	4208 / 166	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	PINGED - Personalizing virtual brains with neurodegenerative disease: noninvasive stimulation approach	- / -	- / -	- / -	4208 / 166	- / -
EU	Horizon Europe / MSCA /	ROMSUR - The role of shared micromobility modes in the resilience of urban transportation systems: New challenges and opportunities	- / -	- / -	- / -	- / -	4208 / 166

	Postdoctoral Fellowship						
EU	Horizon Europe / CSA / Research Infrastructures	AARC TREE - Authentication and Authorisation for Research Collaboration Technical Revision to Enhance Effectiveness	- / -	- / -	- / -	- / -	4208 / 166
EU	Horizon 2020 / MSCA / Staff Exchange	RNADIAGON - Excellence in research and development of non-coding RNA DIAGnostics in ONcology	4208 / 166	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	CINECA - Common Infrastructure for National Cohorts in Europe, Canada, and Africa	4132 / 163	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	DEEPLearnRBP - Using Deep Learning to understand RNA Binding Protein binding characteristics	3980 / 157	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	LanguageOfDNA - Deciphering the Language of DNA to Identify Regulatory Elements and Classify Transcripts Into Functional Classes	3980 / 157	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	INFERNO - Per- and polyfluoroalkyl substances impact on reproductive health of firefighters	- / -	3980 / 157	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	DeMGeo - Demarginalizing Medieval Georgia: The History of Art History between Colonial Perspective and Nationalist Appropriation (1921–1991)	- / -	- / -	3980 / 157	- / -	- / -
EU	Horizon 2020 / RIA / Climate	SHELTER - Sustainable Historic Environments hoListic reconstruction through Technological Enhancement and community based Resilience	3904 / 154	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Societies	MEDIADELCOM - Critical Exploration of Media Related Risks and Opportunities for Deliberative Communication: Development Scenarios of the European Media Landscape	- / -	3904 / 154	- / -	- / -	- / -
EMBO	Installation Grants	Deep Learning for Genomic and Transcriptomic Pattern Identification	3803 / 150	- / -	- / -	- / -	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	CrossInteractions - Models with cross interactions between partial dynamical processes aiming to understand significant or abrupt dynamic changes.	- / -	- / -	3803 / 150	- / -	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	VegTrends - Assessing long-term trends in the vegetation of European habitats and evaluating the effectiveness of protected areas	- / -	- / -	3803 / 150	- / -	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	RENAISSANCE - Advanced biomarker discovery for earlier diagnosis and improved prognosis of NAFLD stages via high resolution mass spectrometry.	- / -	- / -	- / -	3803 / 150	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	FRANKIE - Impact of exposure to chemicals to the onset and progression of Lewy Body Dementia	- / -	- / -	- / -	3803 / 150	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	CatModStab - Categorical Model theory, Stability theory and applications	- / -	- / -	- / -	- / -	3803 / 150

EU	Horizon Europe / MSCA / Postdoctoral Fellowship	RENAISSANCE - Advanced biomarker discovery for earlier diagnosis and improved prognosis of NAFLD stages via high resolution mass spectrometry.	- / -	- / -	- / -	3803 / 150	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	PHAGE - Structure and dynamics of PHage Attachment and Genome Ejection (PHAGE)	- / -	- / -	- / -	3803 / 150	- / -
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	CoeusCy7 - Aril-fused Heptamethine Cyanine dyes, Synthesis, Photophysics, and Photochemistry	- / -	- / -	- / -	- / -	3803 / 150
EU	Horizon Europe / MSCA / Postdoctoral Fellowship	POL2PHASE - Control of RNA Polymerase II and Transcription Factors via IDRs	- / -	- / -	- / -	- / -	3803 / 150
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	QuinADAR1 - Protection from malaria in the Fulani ethnic group of West Africa involves reduced levels of A-to-I RNA editing by ADAR1	3676 / 145	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	ITRABAE - Investigating the transcriptional regulation of auxin biosynthesis in Arabidopsis embryo	- / -	3676 / 145	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Postdoctoral Fellowship	Ancestral - Structural and biochemical studies of an ancestral enzyme with dual dehalogenase and luciferase activity	3625 / 143	- / -	- / -	- / -	- / -
EU	Horizon 2020 / MSCA / Staff Exchange	Terpsichore - Transforming Intangible Folkloric Performing Arts into Tangible Choreographic Digital Objects	3321 / 131	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	IRISCC - Integrated Research Infrastructure Services for Climate Change risks	- / -	- / -	- / -	- / -	3169 / 125
EU	Horizon 2020 / JTI / Health	HARMONY - Healthcare Alliance for Resourceful Medicines Offensive against Neoplasms in Hematology - Sofia ref.: 116026	2890 / 114	- / -	- / -	- / -	- / -
EU	Horizon 2020 / CSA / Health	HERA - Integrating Environment and Health Research: a Vision for the EU	2763 / 109	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / SWAFS - Strengthening ERA	ERA_FABRIC - Framing And Bridging Regional research and Innovation ecosystems Capacities for a renewed ERA	- / -	- / -	- / -	2763 / 109	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	EU-OPENSREEN-DRIVE - Ensuring long-term sustainability of excellence in chemical biology within Europe and beyond	2687 / 106	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Societies	InDivEU - Integrating Diversity in the European Union	2586 / 102	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	EOSC-hub - Integrating and managing services for the European Open Science Cloud	2535 / 100	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	INTEGRATE-LMedC - Concept development for a research infrastructure to manage, integrate and sustain large medical cohort studies	- / -	- / -	- / -	- / -	2408 / 95
EU	Horizon 2020 / RIA / Health	VACCELERATE - VACCELERATE - European Corona Vaccine Trial Accelerator Platform	- / -	2332 / 92	- / -	- / -	- / -

EU	Horizon 2020 / MSCA / Staff Exchange	INTERWASTE - Synergising International Research Studies into the Environmental Fate and Behaviour of Toxic Organic Chemicals in the Waste Stream	2180 / 86	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	MyPal - MyPal: Fostering Palliative Care of Adults and Children with Cancer through Advanced Patient Reported Outcome Systems	2180 / 86	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Societies	ROBUST - ROBUST Crisis Governance in Turbulent Times – Mindset, Evidence, Strategies	- / -	- / -	2129 / 84	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	IMPULSE - IMProving User experience, Long-term sustainability and Services of EU-OPENSREEN	- / -	- / -	- / -	- / -	2079 / 82
EU	Horizon 2020 / ERC / Proof of Concept	FitSleep - Fabricating Non-Invasive Temporal Interference Devices for Obstructive Sleep Apnea which Electrically activate the Hypoglossal Nerve	- / -	- / -	- / -	- / -	1901 / 75
EU	Horizon 2020 / MSCA / Staff Exchange	ProteRNA - Proof of Concept for a Platform for the Fast and General Elucidation of the Interaction Between Proteins and RNA	- / -	1876 / 74	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	OpenAIRE-Advance - OpenAIRE Advancing Open Scholarship	1851 / 73	- / -	- / -	- / -	- / -
EMBO	Conferences and training	Eukaryotic RNA Turnover and Viral Biology	1801 / 71	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	EOSC4Cancer - A European-wide foundation to accelerate Data-driven Cancer Research	- / -	- / -	1648 / 65	- / -	- / -
EU	Horizon 2020 / EuroHPC / Digital and Industry	IO-SEA - IO Software for Exascale Architecture	- / -	1622 / 64	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	AHEAD2020 - Integrated Activities for the High Energy Astrophysics Domain	1470 / 58	- / -	- / -	- / -	- / -
EMBO	Conferences and training	EMBO Practical Course on Light Sheet Microscopy	- / -	- / -	1450 / 57	- / -	- / -
EU	Horizon 2020 / JTI / Digital and Industry	CELEBio - CENTRAL EUROPEAN LEADERS OF BIOECONOMY NETWORK	1369 / 54	- / -	- / -	- / -	- / -
EU	Horizon 2020 / JTI / Health	HARMONY PLUS - HEALTHCARE ALLIANCE FOR RESOURCEFUL MEDICINES OFFENSIVE AGAINST NEOPLASMS IN HEMATOLOGY – PLUS	1369 / 54	- / -	- / -	- / -	- / -
EU	Horizon 2020 / CSA / Digital and Industry	FIN-TECH - A FINancial supervision and TECHNOlogy compliance training programme	1268 / 50	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Research Infrastructures	R-NMR - Remote NMR (R-NMR): Moving NMR infrastructures to remote access capabilities	- / -	- / -	1268 / 50	- / -	- / -
EU	Horizon 2020 / JTI / Health	PD-MIND - Parkinson Disease with Mild cognition Impairment treated with Nicotinic agonist Drug	1039 / 41	- / -	- / -	- / -	- / -
EU	Horizon Europe / CSA / Research Infrastructures	GGP-5D - The Generations and Gender Programme Preparatory Phase Project	- / -	- / -	989 / 39	- / -	- / -
EU	Horizon 2020 / CSA / Research Infrastructures	eLTER PPP - eLTER Preparatory Phase Project	634 / 25	- / -	- / -	- / -	- / -
EU	Horizon Europe / MSCA / Researchers' Night	METAMORPHOSIS - METAMORPHOSIS	- / -	- / -	- / -	- / -	254 / 10

EMBO	Conferences and training	YIP Cancer Sectoral Meeting EMBO	- / -	- / -	- / -	- / -	224 / 9
EU	Horizon Europe / RIA / Research Infrastructures	ISIDORE - Integrated Services for Infectious Disease Outbreak Research	- / -	- / -	177 / 7	- / -	- / -
EU	Horizon 2020 / MSCA / Staff Exchange	PANGAIA - Pan-genome Graph Algorithms and Data Integration	- / -	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	ATHLETE - Advancing Tools for Human Early Lifecourse Exposome Research and Translation	- / -	- / -	- / -	- / -	- / -
EU	Horizon 2020 / CSA / Health	EuroGCT - European consortium for communicating gene- and cell-based therapy information.	- / -	- / -	- / -	- / -	- / -
Total			930537 / 38088	187513 / 7397	299695 / 11822	648026 / 25563	337736 / 13323
In the role of another participant							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK/EUR)				
			2020	2021	2022	2023	2024
NIH	Research Program-- Cooperative Agreements (U19)	A global syphilis vaccine targeting outer membrane proteins of Treponema pallidum	6532 / 258	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	EU-RESPONSE - European Research and Preparedness Network for Pandemics and Emerging Infectious Diseases	2941 / 116	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	EOSC Future - EOSC Future	- / -	2712 / 107	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	EPIC-XS - European Proteomics Infrastructure Consortium providing Access	2282 / 90	- / -	- / -	- / -	- / -
EU	Horizon 2020 / CSA / Research Infrastructures	PedCRIN - Paediatric Clinical Research Infrastructure Network	2256 / 89	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	OSCARS - O.S.C.A.R.S. - Open Science Clusters' Action for Research and Society	- / -	- / -	- / -	- / -	2079 / 82
EU	Horizon 2020 / RIA / Research Infrastructures	TRANSVAC2 - European Vaccine Research and Development Infrastructure	1648 / 65	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	ATMO-ACCESS - Solutions for Sustainable Access to Atmospheric Research Facilities	- / -	1521 / 60	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	EATRIS-Plus - Consolidating the capacities of EATRIS-ERIC for Personalised Medicine	1268 / 50	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	BY-COVID - Beyond COVID	- / -	1166 / 46	- / -	- / -	- / -
EU	Horizon 2020 / COFUND / Health	EJP RD - European Joint Programme on Rare Diseases	1115 / 44	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	TENSION - Efficacy and safety of thrombectomy in stroke with extended lesion and extended time window: a randomized, controlled trial	1115 / 44	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Health	NISCI - Antibodies against Nogo-A to enhance plasticity, regeneration and functional recovery	1115 / 44	- / -	- / -	- / -	- / -

		after acute spinal cord injury, a multicenter European clinical proof of concept trial					
EU	Horizon 2020 / JTI / Health	ConcePTION - Building an ecosystem for better monitoring and communicating of medication safety in pregnancy and breastfeeding: validated and regulatory endorsed workflows for fast, optimised evidence generation	1065 / 42	- / -	- / -	- / -	- / -
EU	Horizon 2020 / RIA / Research Infrastructures	ELIXIR-CONVERGE - Connect and align ELIXIR Nodes to deliver sustainable FAIR life-science data management services	862 / 34	- / -	- / -	- / -	- / -
EU	Horizon Europe / RIA / Health	INVENTS - Innovative designs, extrapolation, simulation methods and evidence-tools for rare diseases addressing regulatory needs	- / -	- / -	- / -	- / -	811 / 32
EU	Horizon 2020 / RIA / Health	TTV GUIDE TX - PERSONALISATION OF IMMUNOSUPPRESSION BY MONITORING VIRAL LOAD POST KIDNEY TRANSPLANTATION - A RANDOMISED CONTROLLED PHASE II TRIAL	- / -	710 / 28	- / -	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	EATRIS-CONNECT - EATRIS-CONNECT	- / -	- / -	- / -	- / -	684 / 27
NIH	Developmental Research Program (DRP)	RNA sequencing of Treponema pallidum subspecies pallidum	- / -	- / -	618 / 24	- / -	- / -
EU	Horizon Europe / RIA / Research Infrastructures	AgroServ - Integrated SERVICES supporting a sustainable AGROecological transition	- / -	- / -	583 / 23	- / -	- / -
FFG	Energieforschung 8. Ausschreibung	Materials for efficient hydrogen production by coupling electrocatalysis and plasmonics	- / -	- / -	578 / 23	- / -	- / -
EU	Horizon 2020 / RIA / Health	PROOF - Penumbral Rescue by Normobaric O=O Administration in Patients With Ischaemic Stroke and Target Mismatch ProFile: A Phase II Proof-of-Concept Trial	558 / 22	- / -	- / -	- / -	- / -
EU	Horizon Europe / COFUND / Health	ERA4Health - Fostering a European Research Area for Health Research	- / -	- / -	532 / 21	- / -	- / -
EU	Horizon 2020 / MSCA / COFUND	EI3POD - EMBL Interdisciplinary, International and Intersectorial Postdocs	- / -	- / -	- / -	- / -	- / -
EU	Horizon Europe / MSCA / Doctoral Network	BiocatCodeExpander - Genetic code expansion for biocatalysis and enzyme engineering doctoral network	- / -	- / -	- / -	- / -	- / -
EU	Horizon Europe / MSCA / Doctoral Network	PRESSURE - Preventing Therapy Resistance in Esophageal Cancer Using Advanced Models and Molecular Signatures	- / -	- / -	- / -	- / -	- / -
Total			22757 / 898	6109 / 241	2311 / 91	- / -	3574 / 141

Note: For co-sponsorship projects, please only indicate the amount of funding for the evaluated HEI.

4.10.4 Projects supported by the Czech provider

In the role of beneficiary							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK/EUR)				
			2020	2021	2022	2023	2024
GA ČR	EXPRO (excellence grants similar to ERC-AdG)	15 projects	283819 / 11196	180202 / 7109	- / -	124530 / 4912	- / -
GA ČR	JUNIOR STAR (excellence grants similar to ERC-StG)	10 projects	- / -	75007 / 2959	44251 / 1746	46751 / 1844	- / -

GA ČR	Junior grants	27 projects	161056 / 6353	- / -	- / -	- / -	- / -
GA ČR	International projects	36 projects	44429 / 1753	56643 / 2234	48743 / 1923	50223 / 1981	24133 / 952
GA ČR	POSTDOC INDIVIDUAL FELLOWSHIP	3 projects	- / -	- / -	10264 / 405	4826 / 190	- / -
GA ČR	Standardní projekty	313 projects	721032 / 28443	192941 / 7611	271276 / 10701	325455 / 12838	175023 / 6904
Ministry of Culture	NAKI and other research projects	39 projects	31827 / 1256	775 / 31	781 / 31	81054 / 3197	2487 / 98
Ministry of Defense	Assorted research projects	3 projects	7632 / 301	- / -	22974 / 906	- / -	- / -
Ministry of Education	Mobility	32 projects	2220 / 88	1980 / 78	431 / 17	1181 / 47	1073 / 42
Ministry of Education	QUANTERA	2 projects	6247 / 246	- / -	- / -	- / -	- / -
Ministry of Education	JPND	2 projects	227 / 9	- / -	374 / 15	- / -	- / -
Ministry of Education	ERC CZ	4 projects	172759 / 6815	- / -	- / -	- / -	16106 / 635
Ministry of Education	INTER-EXCELLENCE	29 projects	74441 / 2937	- / -	- / -	17729 / 699	33497 / 1321
Ministry of Education	EXCELES	1 project: National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI)	- / -	- / -	1107567 / 43691	- / -	- / -
Ministry of Education	OP JAK – Priority 1 – Research and Development	11 projects	- / -	- / -	56679 / 2236	1036625 / 40893	656572 / 25900
Ministry of Education	OP VVV – Priority 1 – Strengthening capacities for excellent research	19 projects	2339307 / 92280	- / -	- / -	- / -	- / -
Ministry of Education	Large research infrastructures	9 projects	450561 / 17774	- / -	- / -	631012 / 24892	16178 / 638
Ministry of Education	Antarctic research	3 projects	- / -	- / -	20000 / 789	20000 / 789	18000 / 710
Ministry of Interior	Security research projects	21 projects	89996 / 3550	53889 / 2126	10153 / 401	87886 / 3467	6446 / 254
Ministry of Health	Agency for Health Research	94 projects	298174 / 11762	129696 / 5116	149504 / 5898	65542 / 2585	86327 / 3405
Ministry of Agriculture	ZEMĚ I + II	6 projects	8384 / 331	5500 / 217	- / -	- / -	10168 / 401
Ministry of Foreign Affairs	Assorted research projects	6 projects	454 / 18	413 / 16	350 / 14	1218 / 48	297 / 12
TAČR	BETA2 (public procurement)	6 projects	21041 / 830	924 / 36	1850 / 73	- / -	- / -
TAČR	Doprava 2020+ (Transport)	1 project	- / -	- / -	- / -	4424 / 175	- / -
TAČR	ERA-NET Partnerships	6 projects	3294 / 130	5545 / 219	4303 / 170	- / -	4671 / 184
TAČR	ÉTA + SIGMA DC3 (applied research in social sciences and humanities)	56 projects	156931 / 6191	21209 / 837	- / -	65972 / 2602	- / -

TAČR	GAMA + SIGMA DC1 (pre-application research)	2 projects	20052 / 791	- / -	- / -	- / -	14960 / 590
TAČR	SIGMA DC5 (targeted applied research)		- / -	- / -	- / -	- / -	84056 / 3316
TAČR	THÉTA1+2 (energy)	3 projects	7705 / 304	- / -	- / -	- / -	3501 / 138
TAČR	TREND (technology leaders)	1 project	- / -	- / -	- / -	1341 / 53	- / -
TAČR	ZÉTA (young researchers)	8 projects	31290 / 1234	- / -	- / -	- / -	- / -
Total			4932878 / 194591	724724 / 28589	1749500 / 69014	2565769 / 101214	1078552 / 42546
In the role of another participant							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK/EUR)				
			2020	2021	2022	2023	2024
GA ČR	EXPRO	4 projects	71885 / 2836	- / -	- / -	- / -	- / -
GA ČR	International projects	5 projects	2027 / 80	2415 / 95	4218 / 166	11728 / 463	- / -
GA ČR	Standard projects	98 projects	131836 / 5201	22961 / 906	57594 / 2272	63011 / 2486	33203 / 1310
Ministry of Culture	NAKI	2 projects	1717 / 68	- / -	- / -	2318 / 91	- / -
Ministry of Industry and Trade	OP PIK and OP TAK	18 projects	17521 / 691	25809 / 1018	- / -	15621 / 616	12017 / 474
Ministry of Industry and Trade	TRIO	5 projects	28348 / 1118	- / -	- / -	- / -	- / -
Ministry of Education	Mobility	1 project	8 / 0	- / -	- / -	- / -	- / -
Ministry of Education	JPND	2 projects	- / -	- / -	- / -	- / -	581 / 23
Ministry of Education	INTER-EXCELLENCE	4 projects	6328 / 250	- / -	- / -	2063 / 81	- / -
Ministry of Education	EXCELES	4 projects	- / -	- / -	969508 / 38245	- / -	- / -
Ministry of Education	OP JAK – Priority 1 – Research and Development	18 projects	- / -	- / -	- / -	307704 / 12138	835430 / 32956
Ministry of Education	OP VVV – Priority 1 – Strengthening capacities for excellent research	12 projects	316995 / 12505	- / -	- / -	- / -	- / -
Ministry of Education	Large research infrastructures	17 projects	239448 / 9446	- / -	- / -	452461 / 17849	- / -
Ministry of Interior	Security research projects	7 projects	12301 / 485	- / -	13304 / 525	8820 / 348	5859 / 231
Ministry of Health	Agency for Health Research	61 projects	143633 / 5666	52868 / 2086	36658 / 1446	39449 / 1556	50974 / 2011

Ministry of Agriculture	ZEMĚ I + II	9 projects	12267 / 484	3150 / 124	2980 / 118	- / -	9347 / 369
TAČR	BETA2 (public procurement)	3 projects	5455 / 215	498 / 20	- / -	- / -	- / -
TAČR	DELTA (international collaboration)	1 project	- / -	- / -	- / -	- / -	2638 / 104
TAČR	Doprava 2020+ (Transport)	3 projects	1094 / 43	2906 / 115	2126 / 84	- / -	- / -
TAČR	EPSILON (applied research in industry)	13 projects	42147 / 1663	- / -	- / -	- / -	- / -
TAČR	ERA-NET Partnerships	2 projects	4209 / 166	- / -	- / -	- / -	- / -
TAČR	National Centres of Competence	8 projects	14854 / 586	- / -	- / -	106900 / 4217	- / -
TAČR	ÉTA + SIGMA DC3 (applied research in social sciences and humanities)	35 projects	46616 / 1839	3917 / 155	- / -	9305 / 367	- / -
TAČR	SIGMA DC5 (targeted applied research)	2 projects	- / -	- / -	- / -	- / -	27608 / 1089
TAČR	Environment for life	5 projects	2742 / 108	16474 / 650	1770 / 70	4217 / 166	- / -
TAČR	THÉTA1+2 (energy)	4 projects	12398 / 489	- / -	8376 / 330	- / -	- / -
TAČR	TREND (technology leaders and newcomers)	19 projects	4860 / 192	38672 / 1526	- / -	41674 / 1644	2380 / 94
TAČR	ZÉTA + SIGMA DC2 (young researchers)	3 projects	1409 / 56	- / -	- / -	- / -	2047 / 81
Total			1120098 / 44185	169670 / 6693	1096534 / 43256	1065271 / 42023	982084 / 38741

Note: Please summary list GA CR, TA CR and other departmental projects. For co-sponsor projects, please indicate the financial volumes for the HEI. Projects financed from EU structural funds and focused exclusively on R&D&I (e.g. OP JAK, OP TAK, NPO) and projects financed from regional sources focused exclusively on R&D&I list individually. For co-sponsoring projects, please indicate the financial volumes for the evaluated HEI only.

4.10.5 Projects supported from non-public sources

In the role of beneficiary						
Provider / Investor	Project name	Support (in thousands CZK/EUR)				
		2020	2021	2022	2023	2024
United Nations	Global Development, Review and Update of National Implementation Plans under the Stockholm Convention on Persistent Organic Pollutants - BIH, MNG, GEO, MKD	- / -	- / -	27792 / 1096	- / -	- / -
United Nations	Review and Update of the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs) in Albania, Armenia and Kazakhstan	- / -	- / -	20675 / 816	- / -	- / -
Chan Zuckerberg Science Initiative	OME-Zarr support for Java/Fiji	- / -	- / -	- / -	- / -	9168 / 361
Chan Zuckerberg Science Initiative	Processing of large image data in Fiji - ImgLib2/BigDataViewer ecosystem	- / -	- / -	8345 / 329	- / -	- / -

US Army	Models, Algorithms, and Tools for Solving Adversarial Security Problems	- / -	- / -	8228 / 326	- / -	- / -
Silicon Valley Community Foundation	Identification of weak public keys in the wild	6418 / 253	- / -	- / -	- / -	- / -
United Nations	Pilot project on PCB inventory updating and validation and opportunities for scaling up funding for PCB elimination	- / -	- / -	- / -	- / -	4312 / 170
Czech Olympic Committee	Non-invasive investigation of muscle typology and its subsequent application in training	- / -	- / -	- / -	- / -	2350 / 93
European Space Agency	Quick Ultra-Violet Kilonova surveyor	- / -	- / -	1441 / 57	- / -	- / -
United Nations	Implementation of the fourth phase of the global monitoring plan (GMP) for persistent organic pollutants (POPs)	- / -	- / -	- / -	- / -	1236 / 49
Otevřeno, z.s.	Developing communicative competence in linguistically heterogeneous classrooms	- / -	- / -	- / -	1110 / 44	- / -
Otevřeno, z.s.	Map of professional development for students of education	- / -	- / -	- / -	1000 / 39	- / -
European Climate Foundation	The Slovak Public and Climate Protection 2021	- / -	887 / 35	- / -	- / -	- / -
European Climate Foundation	Climate Change in the Czech Mind 2020: In Times of the (Post-)Coronavirus Crisis	790 / 31	- / -	- / -	- / -	- / -
John Templeton Foundation	The Genome of Melody: applying bioinformatics to study the evolution of plainchant and sacred song	- / -	- / -	- / -	686 / 27	- / -
GÉANT	PBSPPro-Kubernetes Connector for Seamless HPC Submission	- / -	- / -	669 / 26	- / -	- / -
Otevřeno, z.s.	Nonviolent communication in teaching Czech language didactics	- / -	- / -	552 / 22	- / -	- / -
University of Kentucky	Brno Longitudinal Study of Roma and Non-Roma Youth	543 / 21	- / -	- / -	- / -	- / -
International Atomic Energy Agency	IAEA - CRP - Measurement of neutron leakage from 180(p,n) reaction	- / -	- / -	507 / 20	- / -	- / -
United Nations	Visualization of mercury monitoring, emission and release data	- / -	- / -	- / -	- / -	485 / 19
Otevřeno, z.s.	Study tools to increase competence in the Czech language for individuals with a different mother tongue	- / -	- / -	360 / 14	- / -	- / -
Wheaton College	Revisiting feeling of threat and agency detection – a preregistered virtual reality study	- / -	- / -	359 / 14	- / -	- / -
Society of Antiquaries of London	A prehistoric mountain site in Northern Oman	- / -	274 / 11	- / -	- / -	- / -
assorted	30 projects	729 / 29	353 / 14	510 / 20	713 / 28	1014 / 40
Total		8480 / 334	1514 / 60	69438 / 2740	3509 / 138	18565 / 732
In the role of another participant						
Provider / Investor	Project name	Support (in thousands CZK/EUR)				
		2020	2021	2022	2023	2024
NOMIS STIFTUNG	Structure and function of the human ribonucleosome	- / -	- / -	4658 / 184	- / -	3898 / 154
adelphi research gemeinnützige GmbH	Exchange Group: Just transition in the European car industry	749 / 29	- / -	- / -	- / -	- / -
Bill and Melinda Gates Foundation	Genomic epidemiology of Treponema pallidum strains infecting women and men in low-income countries to inform syphilis vaccine development (INV-036560)	- / -	609 / 24	- / -	- / -	- / -
John Templeton Foundation	Existential security, secular institutions, and group norms: Explaining the rise of non-theism	- / -	- / -	- / -	966 / 38	- / -

Center for Functionally Integrative Neurosciences	Identification of sensory and cognitive characteristics from magnetic resonance (MR) data	- / -	- / -	- / -	516 / 20	- / -
European Space Agency, Education Office	Implementation of ESERO in the Czech Republic	- / -	- / -	- / -	75 / 3	- / -
Spencer Foundation	Investigating Educational Policy-Making and its Responsiveness to Challenges in the World. A Qualitative Research Study in Four Transitioning Contexts: Georgia (USA), Poland, Czech Republic, and Wales	- / -	- / -	- / -	42 / 2	- / -
Total		749 / 29	609 / 24	4658 / 184	1599 / 63	3898 / 154

Note: Indicate, for example, sponsorship donations, resources generated from other own economic activities, foreign subsidy programmes of private entities.

4.11 Rules for the use of institutional support for the LCDRO

The HEI will describe the strategy and rules for the use of institutional support for the LCDRO in the management of institutionally supported research activities (e.g., prioritisation of research topics by the HEI according to individual needs, internal grant agencies, incentive tools, support for excellent science) and the method for distribution of institutional support to individual departments/research teams for the period of 2020–2024. The impact on the management of institutionally supported research activities will be described by the HEI using specific examples (e.g. distribution of institutional support in the period of 2020–2024 depending on the evaluation results, examples of supported excellent science projects, etc.).

Maximum 500 words plus 200 words for each example given (max. five examples).

Self-assessment:

The MU rules have significantly changed in 2019, along with changes at the national level. Although the national evaluation system has changed in 2017, the MEYS (national) funding formula had been in a long period of volatile transitions. Perhaps for that reason Czech universities usually conserved their (widely criticised) publication metric-based funding systems. MU was first and until 2024 the only university which cut the unwanted direct link between the national and institutional budgeting system immediately in 2019, which translated publication points to money and therefore limited the institutional strategies. This cut has not only a practical, but also very strong symbolic effect, along with other methods of evaluation resulting in the focus on quality and strategies. In 2024, the Charles University in Prague followed this approach and implemented a similar system inspired by MU.

Since 2019, the financial support at MU is allocated through the system of 3 basic components with different scope and methodology:

- **The fixed (stabilisation) component** for each OU corresponded to their share in the support in the year before the reform. When the total state support increased, the face value of this component remained the same and the share on total LCDRO moved from 100% in 2019 to 88 % in 2020 and 70 % in 2024 (Fig. 1).
- R&D Support comprising mainly **MU Grant Agency** (GAMU; see 4.2) operation of Rector's Office and some other central support (information resources etc.)
- **The performance component** – the increase of the state support for LCDRO after 2019 was allocated to this component; therefore, the share in the total LCDRO at MU increased from 12 % in 2020 to 30 % in 2024 (Fig. 1). Share of each OU in the performance component is determined by a formula comprising of a system of altogether **11 indicators with different weightings and relevance for two areas of research** – Science, Technology and Medicine (STM) and Social Sciences and Humanities (SSH). The **performance indicators (Fig.2)** are

bibliometric (e.g. share of articles in Q1-Q2 journals for STM or the share of articles in Q1-Q3 in WoS and Scopus, normalized citations, number of eligible monographs for SSH etc.) **and grants-related**. The set of indicators and their weights is different for the STM and SSH group of faculties/institutes and also the budget is split, thus SSH and STM disciplines are compared within their group.

MU's management recognises that investments in high-quality research need to be strategic and long-term. This is why the **stabilisation component accounts for the majority of the redistributed money**. However, any increase in institutional support from 2019 onwards has been subject to a newly established annual redistribution system based on publication and grant performance indicators that take into account selected signals of quality research that MU has decided to reward.

The intentional evolution of the system started within the evaluated period but was finished in 2024/2025 (beyond the evaluated period), so it is important to mention also the concept of contracts replacing the stabilisation part, even though it is very recent.

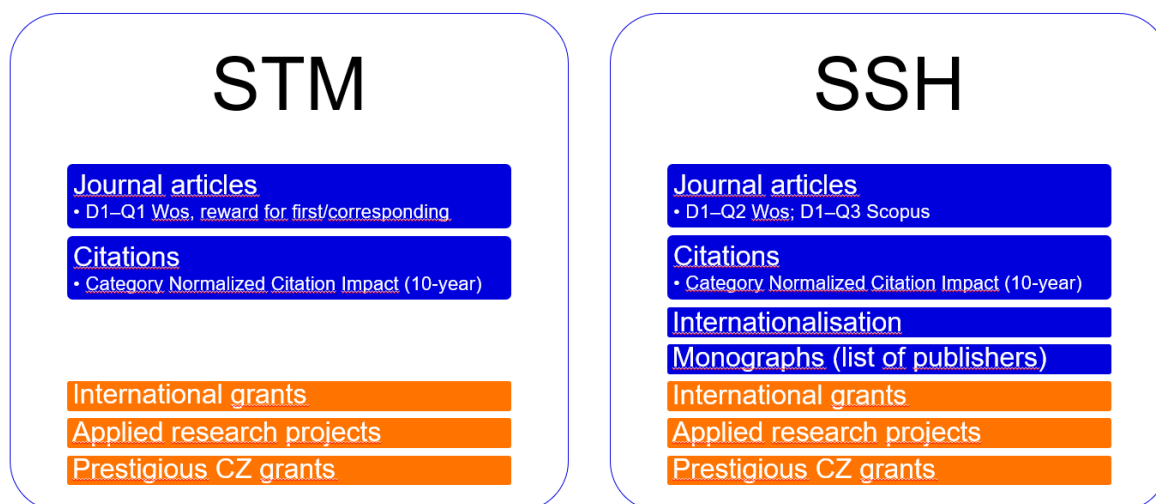
Fig. 1

Financing - RnD budgeting (2019-2024)



Fig. 2

Performance indicators



EXAMPLE 1: The effect of the rules for the use of institutional support for the LCDRO on the academic community

The system is designed to motivate the quality in publishing through the quality signals, but at the same time the proportion is not so high and thus the indicators are not expected to have a destructive effect on the system. At the same time, the stabilization part is intended to support research activities, which are not covered by indicators. Faculties/institutes are motivated to create their own funding systems reflecting disciplinary specificities, i.e. there is no assumption that all individuals will change their publication patterns to fit into the reductive criteria, created for the level of faculties. The proven effect is the change of the mindset: faculties and individuals perceive that the quality is rewarded and that we abandoned the approach of accepting all outcomes (quantity). Also the link to the money is not so straightforward, so the researchers do not measure the “prize of an article” anymore. This provides a good basis for implementing different strategies.

EXAMPLE 2: MASH (JUNIOR) PROJECT - Attracting an aspiring leader in health economics, Jakub Hlávka, with MASH Junior funding

MASH Junior, now integrated with MASH in single call, as provided an excellent platform to improve quality of R&D&I at MU by bringing in excellent researchers from abroad. One of the MASH Junior holders, Jakub Hlávka, came from University of Southern California with clear ambition to influence also the world outside of academia by helping to support informed policy making in the area of health. He acts as the director of an independent association Initiative of Efficient Healthcare and is an advisor to the President of the Czech Republic. Within academia, he started a brand new institute at Faculty of Economics and Administration ([HEPII](#)), managed to set up a completely new study programme of the Applied Health Economics, and for his research got funding Horizon Europe ([In-Touch](#) project) as well as from OP JAK ([AGEING-CZ](#)).

EXAMPLE 3: MASH (JUNIOR) PROJECT - Attracting an excellent astrophysicist, Norbert Werner, with MASH funding

Part of LDCRO allocated to GAMU MASH calls is regularly used to attract leading international scientists to MU. In the 2019 call of MASH, the awarded researcher was Norbert Werner, who previously worked at Eötvös Loránd University in Hungary and Stanford University in the United States. With Norbert coming in, MU got strongly engaged in projects with European Space Agency

and in working on small-scale space telescope [QUVik](#), which is a major contribution to the boom of space industry in Brno. On top of publishing breakthrough results [in leading journals](#), Norbert's activities make the headlines in popular magazines, as he is strongly dedicated to science communication. Thus, the LDCRO support enabled MU to bring in a strong leader that boosts the quality and visibility of its research.

EXAMPLE 4: MASH (JUNIOR) PROJECT - Attracting an excellent material physicist, Jan Kuneš, with MASH funding

Another recent MASH holder, from the 2021 call, Jan Kuneš, is working on theoretical approaches in physics of materials. Jan previously held an ERC Consolidator Grant at Vienna University of Technology, and before that he worked at University of California or University of Augsburg. While he was considering moving to Czechia for family reasons, the MASH funding gave him the key motivation to carry out this intention. In his grant that runs from 2023 to 2028, he will be exploring novel functionalities in oxide perovskites.

More examples of MASH and MASH Junior holders appear in Section 4.10 (Peter Fabian and Jan Křetínský) in connection with their ERC funding.

NATIONAL AND INTERNATIONAL COOPERATION

4.12 Important collaborations in R&D&I

The HEI will describe specific cases of R&D&I collaboration at the national level (maximum five examples) and the international level (maximum five examples), including examples of concrete results and impacts in the field of R&D&I beneficial for the HEI during the period of 2020–2024.

Maximum 300 words per example.

Self-assessment:

NATIONAL EXAMPLE 1: VOICING THE NEEDS OF RESEARCH UNIVERSITIES IN CZECHIA

Masaryk University has been instrumental in the establishment of the **Research Universities Association (RUA) and now MU is leader of RUA**. RUA, founded in 2019, now consists of seven institutions covering all areas of university education - humanities, social sciences, natural sciences and technology. The association is a major voice in Czechia for quality of education, excellence in science, strengthening the scientific infrastructure, exchange of experience and support for the transfer of research results into practice. About 74% of all PhD students. RUA is involved in 77% of all H2020/HE projects among Czech public universities. RUA has a total of 18 ERC Grants between 2019 and 2023. RUA acts as a **partner for national policy making community** in improving the environment for R&D&I, so that domestic higher education can compete with the best universities in the world. Our role in national policy ecosystem is, however, not limited to RUA: MU rector, Martin Bareš, has also been the President of the Czech Rectors Conference in 2021-2023 and the dean of Faculty of Science, Tomáš Kašparovský, is acting president of the Council of Higher Education in Czechia until 2026.

NATIONAL EXAMPLE 2: HEALTH RESEARCH WITH RELEVANCE FOR PUBLIC POLICY

Using the funding of Recovery and Resilience Fund (RRF), Czechia recently set-up networks of excellent research in areas of public interest in the area of health (the **EXCELES programme**) as a reaction to the COVID-19 crisis. Masaryk University coordinates EXCELES network bringing social science contributions to policy making (especially in health, but with strong outreach to other areas of public sector): [National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks \(SYRI\)](#). SYRI is a multidisciplinary effort, bringing together 7 faculties of Masaryk

University, 7 institutes of Czech Academy of Sciences (CAS), and Charles University to perform highly relevant research in 9 major scientific areas.

Beyond SYRI, MU is part of all other EXCELES centres, and MU is an important partner in all of them: (a) [National Institute of Virology and Bacteriology \(NIVB\)](#) connects 4 universities and 4 institutes of CAS, the coordinator being Institute of Organic Chemistry and Biochemistry of CAS; (b) [National Institute for Cancer Research \(NICR\)](#) involves 3 universities, 7 institutes of CAS and is coordinated by Masaryk Memorial Cancer Institute, a research hospital from Brno; (c) [National Institute for Neurological Research \(NINR\)](#) is led by another research hospital from Brno, St. Annes University Hospital, in partnership with 6 universities and 4 institutes of CAS; (d) [National Institute for Metabolic and Cardiovascular Disease Research \(CarDia\)](#) is coordinated by Prague-based research hospital Institute for Clinical and Experimental Medicine and involves 2 universities and 2 institutes of CAS as partners.

The fact that MU, as the only institution along with Charles University, is involved in all the EXCELES centres, demonstrates **its central position in coordination of Czech research and innovation in the area of health (and life sciences more generally).**

NATIONAL EXAMPLE 3: UNDERSTANDING THE RESILIENCE OF HUMAN SOCIETY

Another major boost for R&D&I collaboration at national level was provided by the Excellent Research call of OP JAK programme (European Structural and Investment Funds). Masaryk University received funding as coordinator for the project [“Ready for the Future: Understanding the Long-Term Resilience of Human Culture \(RES-HUM\)”](#). RES-HUM is a collaboration of MU with Institute of Archaeology and Nuclear Physics Institute of the Czech Academy of Sciences, and the National Museum. The project is **deeply interdisciplinary**, with Experts archaeology, art history, anthropology, genetics, geology, climatology, botany, geophysics and nuclear physics contributing. RES-HUM focuses on researching the basic principles of the resilience of human society in a historical perspective and on applying the acquired knowledge to the present.

The Excellent Research projects offer a major opportunity to upscale scientific facilities and expertise in supported fields, with funding per project approximately **20 million EUR**. In the case of RES-HUM, the funding allows enhancement of existing infrastructures, such as the **AMS/RAMSES laboratory** for radiocarbon dating in archaeology and palaeoecology, archaeological field research stations of Masaryk University or the Centre for Early Medieval Studies (CRSS) and also allows the establishment of **new facilities such as the archaeogenetic laboratory ArcheoGen Brno**.

More recently, MU scored another major success in acquiring support for **social sciences and humanities** with OP JAK funding: [4 projects led by MU were supported in a dedicated call](#), each with approx. 6 million EUR funding: “On Our Own: Opportunities and Risks of the Individualization of Society”; “Language in Life: the Nature and Ontogeny of Linguistic Communication (LangInLife)”; “Research on Peripheries for Strengthening the Resilience of Czech Society”; and “Population Ageing and Related Challenges for Health and Social Systems (AGEING-CZ)”.

NATIONAL EXAMPLE 4: SHARING RESEARCH INFRASTRUCTURES

Czech National Roadmap for Large Research Infrastructures (LRI) provides the general conditions for development of excellent R&D&I in Czechia, connecting important facilities, improving coordination of investments in research, and building up research communities that are open to collaboration. **MU hosts 15 LRI as is the coordinator to 5 of them.** The disciplines and supported by the LRI are very diverse, with 8 LRI in the area of Health and Food, 2 in Environmental Sciences, 2 in Physical Sciences and Engineering, 2 in Social Science and Humanities, and 1 in e-Infrastructures. Thus MU acts as an important hub for R&D&I communities of Czechia, supporting and connecting most other universities, institutes of Czech Academy of Sciences, and also industry and public sector.

NATIONAL EXAMPLE 5: SSH ADDRESSING CURRENT SOCIETAL NEEDS

Masaryk University is well represented in **TAČR scheme supporting long-term research collaboration addressing current societal challenges (DC5)**. Among the four DC5 projects supported so far (running 2024-2029), Masaryk University coordinates (1) project focused e-Health (**Developing and Implementing Tools for Data-Driven Decision-Making in Health and Social Care: Utilizing Microsimulation and a Modular eHealth System**) where it builds on well-established partnership with Masaryk Memorial Cancer Institute (MMCI). Further, MU is a partner in two more TAČR DC5 projects: (2) **Research Center for a Resilient, Smart, Innovative and Sustainable Society** and (3) **CZDEMOS4AI: Beneficent Multi-Agent AI Avatar in a Small Democratic Society**. The TAČR DC5 projects further demonstrate the position of MU as national leader in translating its knowledge and expertise in social sciences and humanities and in multidisciplinary research into practical solutions tackling the needs of Czech society.

INTERNATIONAL EXAMPLE 1: TEAMING TO ADVANCE CELL AND GENE THERAPIES

Teaming is a flagship initiative of Horizon Europe Widening programme. Masaryk University already managed to get support for **two centres of excellence** in this extremely competitive framework – after the success of RECETOX in previous evaluation period, MU got the Teaming award for establishment of [**Central European Advanced Therapy and Immunotherapy Centre \(CREATIC\)**](#). CREATIC is a pioneer research facility focused on development and deployment of Advanced Therapy Medicinal Products (ATMPs) – specifically cell and gene therapies. The centre is a partnership Fraunhofer Institute for Cell Therapy and Immunology IZI, Leipzig University and Copenhagen University. CREATIC not only performing R&D to address undiagnosed untreatable rare diseases, paediatric patients with high-risk tumours, and adult cancer patients – importantly, the centre paves the way towards FAIR medicine; a new conceptual way of translating the results to clinical practise, including the new innovative models for reimbursement strategies. CREATIC is already the second Teaming Centre of Excellence hosted by MU. The first centre, CETOCOEN Excellence, is implemented since 2020 and is focused on environment effects on human health. Together, the two Teaming project account to 60 mil. EUR funding.

INTERNATIONAL EXAMPLE 2: EXCELLENCE HUBS DRIVING PARTNERSHIPS OF EUROPEAN REGIONS ACROSS SECTORS – CYBERSECURITY AND TREATING ALZHEIMER'S DISEASE

In the 2022 Work Programme, Horizon Europe introduced a new Widening call – the Excellence Hubs. These are international partnerships of regions, spanning all sectors of quadruple helix in regional innovation ecosystems. Given that South Moravia is a region very active in promotion of innovation and industry-academia partnerships, the Excellence Hubs were a unique opportunity to team up with other regions from Widening countries and pursue joint collaborative R&D&I strategies.

The call turned out to be highly competitive, selecting only 13 projects from over 100 submitted applications to be funded. **Masaryk University has been successful as coordinator with two Excellence Hubs**, which clearly demonstrates both the strength of regional innovation ecosystem and the leading role of MU in it, as well as the quality of international partnerships.

[**Cyber-Security Excellence Hub in Estonia and South Moravia \(CHESS\)**](#) develops a partnership of South Moravia, as a major Czech ICT powerhouse in industry and education, with a strong focus on cyber-security and Estonia, one of the most advanced digital societies globally, with an outstanding e-government infrastructure. Together, we develop a joint cross-border cyber-security R&D&I strategy focusing on six challenge areas: Internet of Secure Things, Security Certification, Verification of Trustworthy Software, Security Preservation in Blockchain, Post-Quantum Cryptography, and Human-centric Aspects of Cyber-security.

Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central Europe

(ADDIT-CE) is a cross-sectoral partnership of South Moravia and Bratislava region in Slovakia. ADDIT-CE is expected to strengthen research and innovation in the field of AD diagnostics and introduce novel technologies into AD clinical management, also helping to design a national plan for combatting dementia in the region.

INTERNATIONAL EXAMPLE 3: LEADERSHIP IN HORIZON EUROPE R&D&I PROJECTS – DIGITALIZATION IN INDUSTRY, YOUTH MENTAL HEALTH, CANCER

While the previous examples demonstrate that Masaryk University is a capable leader in coordination and support actions designed to improve the capacity and networking in EU countries less performing in terms of R&D&I, the principal aim of MU is to frequently coordinate projects in other pillars of Horizon Europe. This proves to be a major challenge, and despite the overall strong track record of participation in Horizon 2020 and Horizon Europe, there are very few cases where MU leads international research projects (RIA and IA actions in Horizon Europe).

Digitalised Value Management for unlocking the potential of the Circular Manufacturing Systems

with integrated digital solutions (DiCiM) running in 2023-2026 is one such case, where MU coordinates a consortium of twelve organisations from academia and industry across eight European countries with total funding of 6 million EUR. The team led by Alena Klapalová from Faculty of Economics and Administration demonstrates integrated digital solutions in four use cases in three industrial sectors (white goods, electronics and automotive).

Augmented Social Play (ASP): smartphone-enabled group psychotherapeutic interventions that boost adolescent mental health by supporting real-world connection and sense of belonging (ASP-belong) running in 2023-2027 with eleven partners from seven countries is a Horizon Europe project which will develop the first full-scale Augmented Social Play intervention, to the point of readiness for widescale deployment in schools globally. MU Faculty of Arts has taken over administrative coordination due to the delayed association of UK to HE (the original coordinator was a British university).

First Closed-loop non-Invasive Seizure Prevention System (RELIEVE) with six partners from nine countries, running 2023-2026, is another case where MU has taken over coordination during Grant Agreement preparation, this time due to financial capacity (original coordinator was a young enterprise). It is also one of the few participations of MU in EIC Pathfinder.

INTERNATIONAL EXAMPLE 4: PAVING THE WAY FOR EXPOSOME RESEARCH IN EUROPE

For decades, the centre of excellence RECETOX at Faculty of Science has been strategically building international leadership in monitoring toxic compounds in the environment, various products and human tissues, and evaluating the risks they pose, as well as their associated toxicological and ecotoxicological health effects. The efforts converged in RECETOX receiving Horizon 2020 Teaming, Twinning, and ERA Chairs projects – all in one call in 2019. But more importantly and more recently, RECETOX has also profiled as leader outside of Widening, in the area of research infrastructures. The **Environmental Exposure Assessment Research Infrastructure (EIRENE)** under the coordination of RECETOX has made it to the roadmap of European Strategy Forum on Research Infrastructures (ESFRI) in its 2021 update. The EIRENE infrastructure supports interdisciplinary human exposome research in the cross-cutting area of environment & health bridging expertise in environmental & analytical chemistry, biology and toxicology, environmental & human exposure and risk assessment, epidemiology, biostatistics, bioinformatics, pharmacokinetics, and geospatial modelling. This success also translates to funding from Horizon Europe, currently with the project Environmental Exposure Assessment Research Infrastructure Preparatory Phase Project (EIRENE PPP) running 2022-2025.

INTERNATIONAL EXAMPLE 5: BUILDING THE RESEARCH DIMENSION OF EDUC EUROPEAN UNIVERSITY

Recently, European University Alliances have become the key driver European integration in the area of higher education – which intrinsically concerns R&D&I as well as education. Masaryk University is part of the **EDUC university alliance**, which has included research dimension in all its project Erasmus+ projects and actively pursues dedicated R&D&I funding from Framework Programmes.

First, the alliance implemented [European Digital UniverCity - Research and Innovation with and for Society \(EDUC-SHARE\)](#) project financed by Horizon 2020, where MU led two out of eight work packages and pioneered an ambitious model of calls for mutual access to research infrastructures. In 2024, EDUC was successful in the highly competitive HE call European Excellence Initiative and managed to secure continuation of the research collaboration with [EmpoWering EDUC for Inclusive Development of the ERA \(EDUC-WIDE\)](#) project. EDUC-WIDE represent a major incentive for researchers to build networks across EDUC, as it offers multiple paths for research collaboration, such as measurement opportunities within EDUC research infrastructures, small-scale collaborative research efforts (Seed Projects), or research fellowships. In addition to R&D&I collaborations, the project addresses themes of **Open Science, Research Assessment, and Career Diversity**.

STUDIES

4.13 Doctoral studies

The HEI will briefly describe the organisation of the doctoral studies (if there are any doctoral study programmes³⁷). HEI will comment on:

- Structure and organization of studies.
- A system of cooperation between PhD students and their supervisors.
- Basic statistics (including drop-out rate, student workload, etc.).
- Information on promotion and recruitment schemes.
- Cooperation within doctoral studies (e.g., Czech Academy of Sciences, application sphere, building open study programmes for foreign nationals and creating international networks of study programmes, "joint degree", "cotutelle", etc.).
- Student care system (e.g. counselling, wellbeing care, career guidance).
- A system for tracking the future careers of graduates³⁸.
- Other relevant data, such as the existence of a doctoral school, basic soft skills courses, etc. at the discretion of the HEI.

The HEI shall support this with appropriate examples (e.g. a model example of doctoral student cooperation with their supervisor, statistics on collaboration within doctoral studies, specific examples within doctoral studies, statistics on the use of student care systems, etc.).

Maximum 300 words per point.

Self-assessment:

As a leading research institution, we recognise that the quality of our doctoral programmes directly shapes the future of science, innovation and academia. That is why doctoral education remains a **top strategic priority** for MU leadership. To raise our doctoral studies to **world-class standards**, we have taken bold steps in three key areas:

³⁷ If the HEI does not organise any doctoral programme, it will explicitly state this information in the self-evaluation report.

³⁸ The HEI will list the top five highest ranked graduates in academia, the private sector, and public administration over the past five years.

1. A New Law, A New Era

For years, MU has been at the forefront of **pushing for transformative change in Czech doctoral education**. Our persistent advocacy helped to secure the introduction of a **new law** designed to increase support for doctoral students, improve graduation rates (which had previously fallen below 50% in the Czech Republic), and ensure that universities take greater responsibility for doctoral education. Recognizing the importance of this change, MU began preparing for the change long before the law was finalized. We proactively improved conditions for doctoral students, prioritising quality over quantity by admitting **fewer students with higher motivation** and **stronger support systems** not only for students, but all other players (supervisors, phd committees, support staff). The implemented changes were based on a thorough recommendation from ISAB, IRDE (details in Section 4.3.) and **internal audit** of doctoral study programmes.

In **September 2025**, the new law will require Czech universities to **double the doctoral stipends** (from 12,000 CZK/480EUR to 25,000 CZK/1000 EUR per month). While many universities are struggling with this financial challenge, MU has strategically secured resources and implemented internal reforms early to ensure **a smooth transition**. The preparatory steps included university-wide increase in minimum remuneration of doctoral students to 15,000 CZK/600 EUR since September 2023 and to 16,000 CZK/640 EUR since September 2024. So, despite some imperfections in the new legislation, MU is ready and committed to leading this transformation.

2. Smarter and more focused doctoral programmes

Despite limited authority to directly restructure PhD programs, MU has taken decisive action to **streamline and modernize doctoral education**. The rector has actively encouraged faculties to redesign programs, making them more **interdisciplinary, efficient, and aligned with international best practices**. As a result, the number of PhD programs has **already decreased**, with further reductions planned as part of accreditation cycles (Fig. 1).

Fig. 1

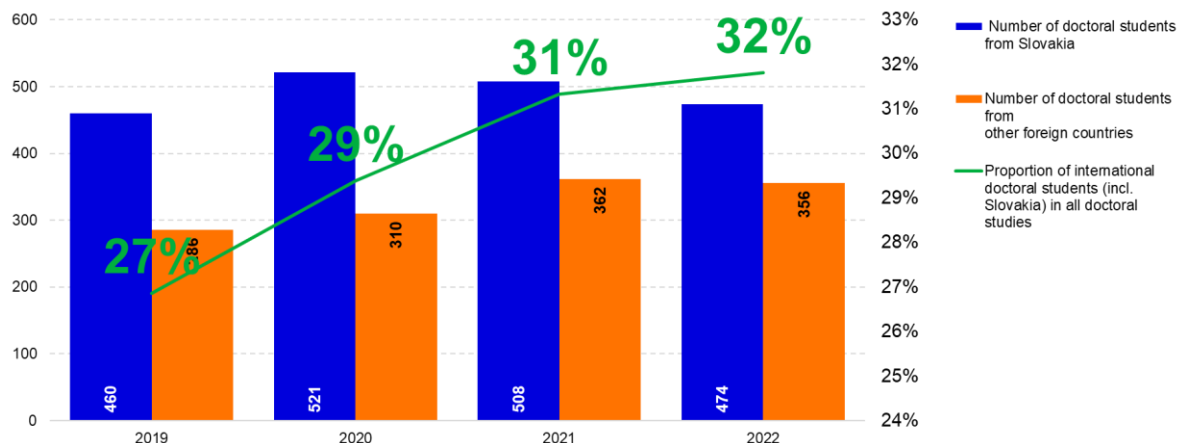
	before 2018 Study fields	2018-2024 Study programmes in Czech	2025-2027 Approved PLAN
LAW	24	7	5
MED	54	15	2
SCI	80	20	~ 15
ARTS	82	31	15
PED	23	8	4
PHARM	10	5	1
ECON	10	6	1
FI	4	1	1
FSS	18	8	5
SPORT	2	1	1
Total	307	102	~ 50

The flagship of the new vision for PhD organization in the new era is the [MUNI Mendel Doctorandus](#), a voluntary program organized by Science faculty for students of five OSs. It presents more challenges but also provides greater motivation for students who choose to enrol. It is recognized as a prestigious program in **Life Sciences**, designed to support professional growth, skill development, and the building of international recognition.

3. Growth of International PhD. Candidates

A key indicator of MU's research excellence is the **steady and significant rise in international doctoral students** (Fig. 2). This long-term trend underscores MU's growing reputation as a leading research university, attracting top talent from around the world.

Fig. 2



- **Structure and organization of studies.**

Doctoral studies at Masaryk University are running at all 10 faculties in more than 150 study programmes. In 2024, over 2000 doctoral candidates were enrolled at MU in full-time or combined study mode. Doctoral candidates are enlisted in doctoral study programmes (DSP) which are accredited at faculties of MU. Currently, MU runs 101 DSP accredited for teaching in Czech language, 69 in English and 2 in German.

The Centre for Doctoral Studies and Academic Affairs at the RMU is responsible for the methodological management of the doctoral studies agenda at MU, and it cooperates closely with the individual faculty departments responsible for this area.

- **A system of cooperation between PhD students and their supervisors.**

Mutual cooperation between doctoral student and supervisor is crucial for the course and successful completion of the doctoral student's studies. The supervisor helps the doctoral student to develop and fulfil the objectives of his/her individual study plan and supports his/her independent professional and professional development, including, as appropriate, in the context of his/her career training. Recommendations outlining the role of the supervisor in supervising a doctoral student as well as other principles of cooperation are summarised in Guidelines of the Research Office of the MU Rector's Office about **Principles and Recommendations for Effective and Quality Doctoral Studies at Masaryk University**.

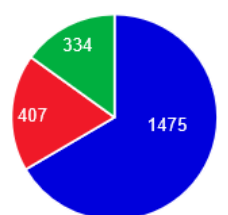
MU strives to continuously improve the quality of cooperation with supervisors, including through **education and training**. During the monitoring period, the university prepared one-day or multi-day workshops for supervisors with national and international lecturers who have been working on this topic for a long time in the European context. Frequently discussed topics included, for example, the role of the supervisor or the mutual exchange of experiences. Workshops were devoted to leadership issues, doctoral student-supervisor relations, time management, etc.

- Basic statistics (including drop-out rate, student workload, etc.).

PhD at MUNI briefly

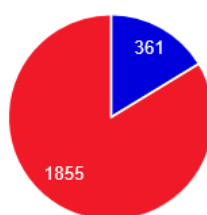
- In 2024, at 10 MU faculties there were more than 2.200 PhD candidates
 - In average they will spend 5,6 years studying their PhD,
 - 24% will finish in 5 years,
 - but 54% won't complete PhD studies.

Nationalities



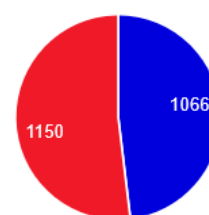
■ Czech ■ Slovak ■ Other

Study modes



■ Fulltime ■ Combined

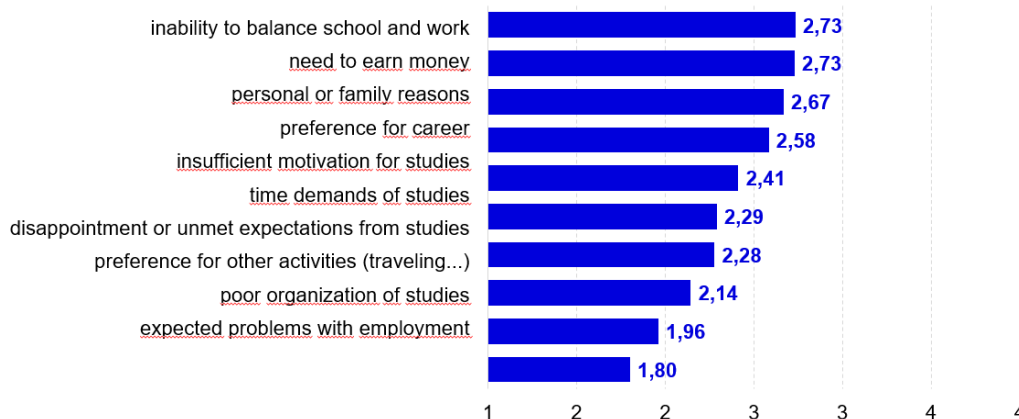
Gender



■ Men ■ Women

Drop-out factors

- **Doctoral Studies, MU**, for the years 2018–2023, **n = 480**
- Average strength of individual factors, rated on a scale from 1 (none) to 4 (very strong)
- A total of **23 factors**, **10 strongest** displayed



- **Information on promotion and recruitment schemes.**

The basic starting point of a quality doctoral study system at MU is, together with a top-notch scientific background and motivating socio-economic conditions, talented and highly motivated candidates who are ready to independently address complex professional topics at the international and intersectoral level. MU, like other universities in the Czech Republic, has long been dealing with problems related to the high rate of academic failure (over 50% of Ph.D. studies are completed unsuccessfully) and the disproportionate lengthening of study time. Therefore, **the admissions criteria are aimed at selecting a smaller number of high quality and truly motivated applicants**, to whom MU will offer adequate

professional and financial support for their dissertation research and other professional support throughout their PhD studies.

CEITEC and RECETOX are examples of good practice in recruiting international students. [CEITEC PhD School](#) is an innovative, interdisciplinary, fast-growing, and internationally oriented programme based on a strategic partnership of leading universities and research institutes in the region that are part of the CEITEC research centre. Thanks to their cooperation the CEITEC PhD School offers access to state-of-the-art infrastructure and training in an interdisciplinary scientific community.

- **Cooperation within doctoral studies (e.g., Czech Academy of Sciences, application sphere, building open study programmes for foreign nationals and creating international networks of study programmes, "joint degree", "cotutelle", etc.).**

MU has been cooperating with the Czech Academy of Sciences for a long time. The cooperation of the institutes of the CAS with the faculties is framed by **partial agreements on cooperation** in the implementation of doctoral study programmes and in the implementation of mutual cooperation.

Collaboration with the application sphere is co-ordinated through the TTO. Since 2021, the TTO has organised the Start Your Business (SYB) student competition as a complement to entrepreneurship education. This competition encourages all MU students (not just PhD students) to think critically, identify problems and develop innovative solutions. Participation in the SYB offers additional benefits such as expert feedback from experienced business professionals, opportunities to refine and promote business plans, and hands-on experience in business development and entrepreneurship. **Between 2021 and 2023, 77 student teams participated in the competition.**

- **Student care system (e.g. counselling, wellbeing care, career guidance).**

Cross-university platform **MUNI PhD Academia** runs a broad portfolio of courses that seek to strengthen the competences of doctoral candidates to prepare them for future careers in and outside of academia. The training offer reflects current trends and development in light of the [European Competence Framework for Researchers](#).

Specifically, MUNI PhD Academia comprises:

- **FRESHERS:** Skills for Research Careers, semestral e-learning course on basic research competences. FRESHERS aims to provide students with complementary knowledge in R&D management and project management. The course strengthens researchers' skills to engage in national and international projects and research structures. Lectures address topics PhD students and young researchers encounter when **building scientific careers**. The course content is regularly updated to reflect current changes in science management. Topics include international exchange in doctoral studies, research project preparation and funding, science communication, intellectual property, authorship, scientific publishing ethics, scientific evaluation, and career opportunities for doctoral graduates. The course covers the following topics: Financing Research, Research Integrity and AI, Research Ethics, Scientific Evaluation, Scientometrics and Publication Ethics, Open Science, Introduction to Intellectual Property Law, Communicating Science, Promotion of Research Results, Research Infrastructures.
- **Ad hoc seminars and workshops organized independently or in collaboration with CERPEK, MU libraries, external institutions etc.** (Open science, research ethics and integrity, project management, communication, work-life balance, stress management, time management)
- **MUNI PhD Welcome Day.** (once a year)
- **MUNI PhD Career Days.** (once a year for three days)
- Support for doctoral candidates to mutual meeting, sharing and networking.

- Workshops for supervisors run by experienced trainers, often from abroad.
- **MUNI Summer school** for PhD students focused on soft skills and teaching interactively.
- **A system for tracking the future careers of graduates.**

The Strategy Office regularly conducts the questionnaire surveys focused on [full-time Master's graduates](#): "**Completion of studies at MU - Reflection and Perspective**" (annual), which allows to track the overall satisfaction with studies at MU, the proportion of graduates in employment at the time of graduation etc. and "**Practical Employment of MU Graduates**" (two-year cycle), which identifies the current placement of graduates and other information. In **2025** the Strategy Office carried out the **first-ever Employment of MU 2024 doctoral graduates in practice survey**. The aim of this survey was to obtain valuable feedback on the quality and effectiveness of the doctoral programme at MU. The aim was also to map the career paths of doctoral graduates and, last but not least, to build a network of alumni who will collaborate with their alma mater and participate in the further development and improvement of the quality of doctoral studies and the institution as a whole. 271 alumni were contacted and 115 responded (response rate 42%).

For the third year running, the university has been organising **MUNI PhD Career Days**, which offers interesting lectures, seminars and workshops for PhD students, focusing on different career paths after graduation, their advantages and possible pitfalls. Their aim is to provide an overview of career options for young researchers (excluding the private and public sectors). Last year, the programme also included a **panel discussion on Careers for Women in Science**, which brought very inspiring perspectives, personal stories and experiences from the field.

Follow-up feedback from doctoral graduates on their subsequent careers and employment is essential for MU in the ongoing evaluation of doctoral programmes, revisions to the offer of educational and development activities, and in the presentation of MU to those interested in study, employment or other types of cooperation.

- **Other relevant data, such as the existence of a doctoral school, basic soft skills courses, etc. at the discretion of the HEI.**

An important part of the support for all actors of doctoral studies at MU is the preparation of a comprehensive information web platform **MUNI PhD Centre** as a university-wide umbrella information and communication panel, which will become an integral part of the professional support for actors of doctoral education at MU.

MUNI PhD Academia is a university-wide platform that focuses on training, development, and support for doctoral students. It offers educational activities and organizes events such as **PhD Welcome Day** and **PhD Career Days**. These events introduce doctoral students to their rights, responsibilities, and opportunities at MU, while providing workshops and seminars focused on career planning and personal skill development. The platform also extends its services to supervisors and doctoral councils, ensuring the overall quality of doctoral training within the institution.

One notable program within MUNI PhD Academia is **FRESHERS: Skills for Research Careers**, a course designed to develop skills necessary for a successful research career. The university is also preparing a compulsory pedagogical training program for new teachers, including doctoral students.

The **CEITEC PhD School** supports doctoral students by fostering a scientific community and providing interdisciplinary educational activities. Additionally, the Faculty of Education is establishing a **Postdoctoral School** to offer complementary training beyond students' primary areas of specialization, designed to support early career researchers.

Other important contributors to doctoral training include the **Competence Development Centre (CERPEK)**, which provides courses on pedagogical, managerial, and personal skills; the Career Centre, which focuses on improving employability; and the University Libraries, which help enhance students' information literacy. Together, these programs create a comprehensive support system for doctoral students at MU.

IMPLEMENTATION OF RECOMMENDATIONS

4.14 Implementation of the recommendations in Module 4

The HEI will briefly describe how it has implemented the recommendations for Module 4 from the previous evaluation period, if applicable.

Maximum 1000 words

Self-assessment:

Recommendation 1: *We are convinced that the current management is on the right track. Nevertheless, we would recommend: a) to support evaluated units not by 85% but by 80%, so there are more chances to support excellent teams and formation of novel departments directly from the central office, b) to have better control over the formation of new departments and to prevent overlapping of fields of expertise which may lead to lowering the quality of both research and teaching. The first could be done stepwise, during, e.g. five years. The second is more difficult as the independence of particular faculties and other evaluated units rather high. An important factor is the start of new faculty – Faculty of Pharmacy since July 2020. It is recommended to pay strong attention from the central management of the structure of departments and on the close collaboration with other relevant evaluated units in both teaching and research.*

MU position: Czech legal system provides full HR and financial autonomy **to faculties**; therefore, the control of formation of novel departments from the central Rectorate level is marginal. Yet, the central office is aware of this issue. Firstly, rector uses his competences as much as possible to set the **motivation budget for faculties to fulfil recommended expectations**. Secondly, MU can create incentives for establishment of excellent teams efficiently through the programmes of **GAMU**, which have been re-focused towards strong orientation on **principal-investigator-driven projects** – there has been major increase in awarded MASH grants (including junior ones). On a top of that, faculties and institutes obtained the fine-grained and faculty-tailored recommendation to optimize their research structures during the internal research evaluation (**IRDE**) in 2022 and some faculties has transformed this significantly (e.g. Faculty of Sport Studies).

Recommendation 2: *The greatest danger in the Czech universities is so-called inbreeding. Students finish at one department their BSc, MS, PhD studies, and at the same department, they become associate Professors and Professors. We strongly recommend paying strong attention to this negative feature, and we support all the initiatives to prevent it which are introduced by the management.*

MU position: **GAMU MASH** programme with its junior components serves as the central level incentive to hire principal investigators from outside of MU. MASH has **strict mobility condition**.

PhD students finishing at MU are encouraged to seek career paths outside of MU, in academia, industry, or other sectors, through the **MUNI PhD Career Days**. If the PhD graduates are interested in applying for **MSCA Postdoctoral Fellowship**, the central level Grant Office provides them with consultancy and training in grant writing even though their projects will be hosted by a different institution. However, the Masaryk University promotes the necessity of internationalisation through

tools described in the part 4.6. Due to the newly prepared law amendment (valid from 2025), there will be a greater selectiveness in recruiting students, considering their motivation, and internationalisation.

Recommendation 3: *Another recommendation is to prevent any supervisor from accepting any PhD student if it is not clear the supervisor will have enough finances to employ the student. Also, from the point of view of confidentiality, it is needed to have the student bound by a strong employment agreement.*

MU position: We have recently introduced new internal guidelines stating that there should be clear information about the financial plan of the supervisor (and the workplace, i.e., the department) to ensure appropriate motivation for the PhD candidate throughout the entire duration of their studies. This practice has already been common in several workplaces within MU, and there is now **a strong intention to expand it across the entire university.**

Additionally, the MU rector has been gradually increasing the minimum acceptable stipend or payment for PhD students to levels **exceeding the legal requirements.** As of September 2025, there will be a mandatory requirement to provide new PhD students with an income equivalent to 1.2 times the national minimum wage (1,000 EUR). Uniquely within the Czech system, the MU rector has decided to extend this new rule to all PhD students within the standard four-year study period.

Recommendation 4a: *To really keep track of all absolvents of doctoral studies and to form strong interaction with alumni.*

MU position: Alumni tracking is one of the University's **strategic priorities** (Strategic goal 3.5: Strengthen the esprit de corps of the university's students, staff and graduates and create a university community sharing common values as a basic prerequisite for fulfilling all university roles proves to be a challenge). The Strategy Office has already developed a very sophisticated system of university-wide surveys, and in **2025** it carried out the first-ever **Employment of MU 2024 doctoral graduates in practice** survey. 271 graduates were contacted and 115 responded (RR 42%). Other activities to build alumni communities **informally** have been ongoing - for example, **two alumni reunions in Brussels** (not limited to PhD). However, **full-scale tracking proves to be a challenge and is not yet achieved.**

Recommendation 4b: *We have detected many very progressive activities in the field of internationalization of both PhD students and excellent researchers both in the case of bringing them in and to help them find opportunities to leave MU after finishing their PhD studies.*

The activities to support awareness of MU graduates and researchers of opportunities outside of MU have been greatly extended in the evaluated period – especially with regard to PhD graduates, who can now benefit from regularly organized Career Days. Information days and proposal development workshops for candidates to MSCA Postdoctoral Fellowships remain open to researchers from MU seeking outward mobility.

Recommendation 5: *The Evaluation Panel strongly recommends speeding up the process of teaching English to administrative personnel and/or replacing those who are not able to learn English. But also, there should be a higher level of English teaching for managers at evaluated units as well for heads of departments.*

MU position: Although the centrally managed English teaching across all faculties and institutes is due to the level of autonomy hardly to be achieved, the request for fluent English increased in job offers and internationalisation as a part of HRS4R strategies. Last, but not least, the university has Competence Development Centre (CERPEK) dedicated to develop the professional competencies of MU employees. The training opportunities include both soft- and hardskills and teaching languages.

Recommendation 6: *We recommend bringing in famous scientists from abroad for selected lectures but then letting them meet for a couple of hours not with leaders of the university but with students for informal discussions.*

MU position: We bring famous scientists from abroad for multidisciplinary lectures within **MUNI Seminar Series**, and while they are in Brno, we aim to include their informal meetings with students into their schedule – such as meeting over lunch or an informal coffee break after the lecture. The goal is to offer a unique opportunity to engage in discussion with experts in their fields and receive valuable feedback. The closed meeting between students and evaluators (usually distinguished researchers) is conducted at each faculty also during IRDE (5-year internal research and doctoral studies evaluation). The chance to meet famous scientists applies for students also during faculty ISABs (International Scientific Advisory Boards) that some faculties established after IRDE in 2022.

Recommendation 7: *Mingling of both Czech and foreign researchers and students during, e.g., weekend retreats also helps with language improvements but also builds strong relationships.*

MU position: These interactions take place at following platforms: The **MUNI PhD Welcome Day** provides a platform where students share their experiences and make important contacts; **The EDUCII Retreat** fosters international collaboration by bringing together researchers from across Europe. Through workshops, discussions, and social activities, participants improve their language skills while building lasting professional and personal connections. Sharing experiences on mental well-being and academic resilience strengthens support networks and promotes cross-cultural understanding. This retreat creates a community of young researchers, enhancing both collaboration and personal growth; MU created also the **MUNI PhD Hub** such as a dynamic and shared space designed specifically for PhD students. It serves as a central hub for networking, discussions, and engaging talks by invited guests. This vibrant environment fosters collaboration and intellectual exchange, making it an ideal setting for doctoral candidates to connect and share ideas.

Recommendation 8: *As it is known, the system of the obligatory state care of children starts only from 3 years of age. It would be desirable to offer the most talented females who do not have the possibility to receive personal or financial support from their parents some financial incentive based on their involvement during return to work....*

MU position: From the central level, we are not capable of providing such kind of support across the whole university, but we have adopted a system of pay-rises for researchers after career break: **CAREER RESTART** scheme of GAMU. This way, we have been able to support approx. 12 researchers per year since 2022.

Recommendation 9: *As for the senior staff – promotion of woman to a higher position should be supported, and there should be help from the side of management to prepare them for habilitation procedures.*

MU position: A strong support measure for researchers after career break, in most cases women after maternity / parental leave, has been introduced with the GAMU Career Restart call. **The vast majority of the researchers who received this funding are women aiming for habilitation or advancing promising scientific careers** (which is also being evaluated in the GAMU support scheme).

Recommendation 10: *As for the age structure – we can recommend the system used by some research institutions - researchers should stop at the age of 65. If he or she wants to continue in full employment and all responsibilities she or he has to present in front the ISB and convince them, that finishing the employment would be a major loss of science and the MU. This is then happening every five years. Another option is to offer the position of emeritus, who does not have a group anymore but can stay (with lower salary) and work on the finishing their work – publications, books, reviews etc.*

MU position: This particular system has not been implemented at MU due to **national legislative restrictions and the HR independence of its faculties**. However, the MU rector has helped establish **new rules for the limited terms of senior officials**. MU has also taken a series of other steps to enhance career management and evaluation, such as implementing the Gender Equality Plan 2022–2024 and publishing the Guideline on the Career System at the end of 2022 (for a full overview, see section 4.7). Additionally, MU has organized several series of managerial training sessions on age management.

***Recommendation 11:** The system of support on the central level is on a very good level, and it would be very good to increase the support in some particular evaluated units.*

MU position: We have introduced specific measure to transfer knowledge and competences in grant support from the central level to the level of organizational units: the **Program for Support of Projects Workers** (Czech acronym **5P**). With special focus on newly incoming employees of project offices at faculties and research institutes, we organize a 3-day training twice a year to introduce the participants to: 1. Funding landscapes and structure of support units at MU; 2. Pre-award processes and tools; 3. Post-award processes and tools. Central-level Grant Office also offers tailored consultations for research teams at faculties and research institutes about funding opportunities, with particular focus on international providers. For researchers of any organizational unit who choose to apply for ERC, MSCA-PF, or collaborative projects in Horizon Europe as coordinators, the central Grant Office offers in-depth proposal preparation consultancy. The effect of this support is demonstrated by the high success rates in MSCA-PF, growing number of ERC awards, as well as strong participation in Widening programme (e.g. the CHESSE, COLOSSE, HARP, and CENTREPECE proposals were supported from central level). In cases where organizational units are not confident that they are able to coordinate international consortium, the central level Grant Office offers to host dedicated project manager for the projects (currently the case of CHESSE and COLOSSE).

***Recommendation 12:** The system of creation of new groups is a very positive trend and should be applied across the university. It is recommended that each evaluated unit should have a specific ISAB to evaluate the performance better and to help during the selection of new group leaders. Also, maybe the central ISAB should have more members, to cover a broader area of science.*

MU position: The internal evaluation of research and doctoral studies that took place at the University in 2022 (IRDE 2022) led to the creation of **ISABs at several faculties**. These faculties took the opportunity to arrange long-term collaboration with the members of the evaluation panels. Thus, in addition to CEITEC, which already had an ISAB, 3 ISABs were created at **Faculty of Medicine, Faculty of Science and Faculty of Sports Studies**.

In 2016 MU established the International Scientific Advisory Board (ISAB) consisting of 4 internationally recognised scientists: Josef Jiříčný from the University of Zurich, Peter Williamson from the University of Cambridge, Thomas A. Henzinger from the Austrian Institute for Science and Technology and Marie-Janine Calic from the University of Munich. In 2020, there was a personnel change in the part of the Board: Viktor Kunčák, who works at the Swiss Federal Institute of Technology in Lausanne (EPFL), replaced Thomas A. Henzinger. In 2023, we expanded the central ISAB with another member, Christiane Druml, a lawyer and bioethicist, who holds the position of UNESCO Representative for Bioethics at the Medical University of Vienna. Currently the MU ISAB has **5 members**.

***Recommendation 13:** We can recommend continuing in the right direction, which was set by current management. The field of “information”, data management etc. is very quickly developing, hence, continuous attention should be given to this area.*

MU position: The activity of MU in the area of data management is accelerating; Institute of Computer Science (ICS) is strongly engaged in **EOSC** on national and international level. Through dedicated development projects (OP JAK), we are building a **network of contacts for open science and data management at faculties and institutes** of MU under the supervision of experts from ICS.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 4

Document name	No. criteria	Location (link in HTML)
Technology Transfer Office (TTO)	4.1.	https://www.ctt.muni.cz/en
MUNI Ventures (via google translate)	4.1.	https://www.muni-ventures.cz.translate.google/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp
CERPEK	4.1.	https://cerpek.muni.cz/en
Institute of Computer Science (ICS)	4.1.	https://www.ics.muni.cz/en
European Digital UniverCity (EDUC)	4.1.	https://www.educalliance.eu/
Grants Week	4.2.	https://www.grantsweek.muni.cz/
Grant Agency of Masaryk University (GAMU)	4.2.	https://gamu.muni.cz/en
Internal Grant Agency FM MU	4.2.	https://www.med.muni.cz/en/research-and-development/project-support/inga
Dioscuri Centre for Stem Cell Biology and Metabolic Diseases	4.2.	https://www.mpg.de/20878166/three-new-dioscuri-centres-in-czech-republic
Internal Grant Agency FM MU	4.2.	https://www.med.muni.cz/en/research-and-development/project-support/inga
Health Economics, Policy and Innovation Institute (HEPII)	4.2.	https://hepii.econ.muni.cz/en
EIRENE	4.2.	https://eirene.eu/eirene-ppp-project-overview
MUNI Seminar Series	4.2.	https://seminarseries.muni.cz/
Mendel Lectures	4.2.	https://mendellectures.muni.cz/
Jaroslav Koča Bridge Fund	4.2.	https://bridgefund.ceitec.cz/
RES-HUM	4.2.	https://reshum.muni.cz/en
Internal Research and Doctoral studies Evaluation (IRDE)	4.3.	https://researchevaluation.muni.cz/institutional-evaluation/internal-research-and-doctoral-studies-evaluation-irde-2022
Internal Evaluation Board	4.3.	https://www.muni.cz/en/about-us/organizational-structure/boards-and-committees/internal-evaluation-board
Internal system of quality assurance and evaluation	4.3.	https://www.muni.cz/en/about-us/official-notice-board/mu-educational-creative-and-associated-activities-quality-assurance-and-internal-evaluation-system-guidelines
Research integrity methodological documents	4.3.	https://scientometrics.muni.cz/publikace
Control of potential predatory journals	4.3.	https://kuk.muni.cz/predatori/?page=0&lang=english
MU Strategic Plan for 2021–2028	4.4.	https://www.muni.cz/media/3326734/strategic_plan_mu_2021_2028.pdf
Sustainable Masaryk University 2025–2028	4.4.	https://sustain.muni.cz/en/about-us/strategies-and-goals/sustainability-strategy
Global sustainability ranking	4.4.	https://www.em.muni.cz/en/news/17830-mu-among-top-500-globally-top-150-in-europe-and-first-in-czechia-in-sustainability
Masaryk University Responsible Public Purchasing Strategy 2023-2028	4.4.	https://sustain.muni.cz/en/areas-of-sustainability/university-environment/sustainable-purchasing/purchasing-strategy

MU Strategy for Sustainable Waste Management and Waste Prevention 2023-2028	4.4.	https://sustain.muni.cz/en/areas-of-sustainability/university-environment/waste-and-recycling/waste-strategy
Masaryk University Strategy for Sustainable Energy Management 2024-2028	4.4.	https://sustain.muni.cz/en/areas-of-sustainability/university-environment/energy-management/masaryk-university-sustainable-energy-strategy-2024-2028
Sustainability reports	4.4.	https://sustain.muni.cz/en/about-us/strategies-and-goals/sustainability-reports
Social responsibility	4.4.	https://sustain.muni.cz/en/areas-of-sustainability/responsibility-and-inner-culture
Teiresias centre	4.4.	https://www.teiresias.muni.cz/?lang=en-GB
Volunteer Centre MUNI HELPS	4.4.	https://munipomaha.cz/en
Technology Transfer Office	4.4.	https://www.ctt.muni.cz/en
Technology Transfer at Masaryk university	4.4.	https://www.ctt.muni.cz/media/3063733/brozura20_en.pdf
Tranfera	4.4.	https://www.transfera.cz/en/
Muni Ventures (via google translate)	4.4.	https://muniventures-cz.translate.google/?x_tr_sl=cs&x_tr_tl=en&x_tr_hl=cs&x_tr_pto=wapp
Aerospace	4.4.	https://brnoregion.com/en/key-sectors/aerospace
Cybersecurity	4.4.	https://brnoregion.com/en/key-sectors/cybersecurity
Electron microscopy	4.4.	https://brnoregion.com/en/key-sectors/electron-microscopy
Game industry	4.4.	https://brnoregion.com/en/key-sectors/game-industry
Agency JINAG	4.4.	https://jinag.eu/en
MU Open Science Strategy 2022 – 2028	4.4.	https://openscience.muni.cz/media/3477939/en-a-strategicka-cast-strategie-open-science-mu-2022-2028-uprprebal.pdf
European Open Science Cloud (EOSC)	4.4.	https://www.eosc.cz/en
SensitiveCloud	4.4.	https://www.cerit-sc.cz/infrastructure-services/sensitivecloud
European Open Science Cloud Czech Republic (IPs EOSC-CZ)	4.4.	https://www.eosc.cz/en/projects/european-open-science-cloud-czech-republic-ips-eosc-cz
Masaryk University Code of Ethics	4.4.	https://www.muni.cz/en/about-us/official-notice-board/mu-code-of-ethics
Information on MU Processing and Protection of Personal Data	4.4.	https://www.muni.cz/en/about-us/official-notice-board/personal-data-protection
Intellectual property	4.4.	https://webcentrum.muni.cz/media/3194308/ctt_dv_v_kostce_en.pdf
Cyber Security for Europe	4.4.	https://cybersec4europe.eu/
CONCORDIA	4.4.	https://www.concordia-h2020.eu/
CHES - CYBER-SECURITY EXCELLENCE HUB IN ESTONIA AND SOUTH MORAVIA	4.4.	https://ches-eu.cs.ut.ee/
CyberSecurityHubCZ	4.4.	https://www.cybersecurityhub.cz/en
CZQCI CyberSecurityHubCZ	4.4.	https://www.cybersecurityhub.cz/en/strategic-projects/czqci
Cyber Security Team of Masaryk University (CSIRT-MU)	4.4.	https://csirt.muni.cz/en
SOCER - Security Operation Centre in Central-Eastern Europe Region	4.4.	https://soccer.agh.edu.pl/en/
ResilMesh	4.4.	https://resilmesh.eu/
Start your business/courses	4.4.	https://podnikavost.muni.cz/en/what-do-we-offer/courses
Student competition Start your business	4.4.	https://podnikavost.muni.cz/en/start-your-business
Entrepreneurial Counselling Centre	4.4.	https://podnikavost.muni.cz/en/what-do-we-offer/entrepreneurial-counselling-centre
Career system at MU	4.6.	https://is.muni.cz/go/pa7ncj
Strategic goal for 2021-2028	4.6.	https://www.muni.cz/media/3359367/strategic_goals_mu_2021_2028.pdf

Centre for International Cooperation MU	4.6.	https://czs.muni.cz/en/
Regulations on Competitive Selection Procedures at Masaryk University	4.6.	https://www.muni.cz/en/about-us/official-notice-board/rad-vyberoveho-rizeni-mu
Career restart	4.6.	https://gamu.muni.cz/en/pro-vedce/career-restart
Staff Training Catalogue	4.6.	https://cerpek.muni.cz/en/miscellaneous/staff-training-catalogue
Succes Story 1 - Iva Dřimalová	4.6.	https://www.sci.muni.cz/en/careers-at-the-sci-muni/success-stories/iva-drimalova-interview
Succes Story 2 - Monika Kratochvílová	4.6.	https://www.med.muni.cz/en/news/science-family-and-balance-monika-kratochvilova-gets-support-for-her-career-and-childcare
Succes Story 3 - Dominika Nožicková	4.6.	https://www.ceitec.eu/during-my-studies-at-ceitec-i-was-a-yes-woman-i-used-every-opportunity-thanks-to-this-i-don-t-feel-like-i-m-missing-out-on-maternity-leave-says-dominika-nozickova/t10992
MU Selection Procedure Regulations	4.7.	https://www.muni.cz/en/about-us/official-notice-board/rad-vyberoveho-rizeni-mu
Career system at Masaryk University	4.7.	https://is.muni.cz/go/pa7nci?lang=en
Find the right job	4.7.	https://www.muni.cz/en/about-us/careers
Gender Equality Plan 2022–2024	4.7.	https://www.muni.cz/media/3371580/gender_equality_plan_mu_gep_mu_en.pdf
Annual MU report 2022	4.7.	https://www.muni.cz/media/3569384/vyrocní_zpráva_o_cinnosti_mu_2022_en.pdf
Annual MU report 2023	4.7.	https://www.muni.cz/media/3767418/vyrocní_zpráva_o_cinnosti_mu_2023_en.pdf
Masaryk University Annual Sustainability Report 2023	4.7.	https://www.muni.cz/media/3760820/masaryk_university_annual_sustainability_report_2023.pdf
EU Gender equality strategy 2020-2025	4.7.	https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en#gender-equality-strategy-2020-2025
Gender Equality Strategy for 2021 – 2030	4.7.	https://vlada.gov.cz/assets/ppov/gcfe/Gender-Equality-Strategy-2021-2030.pdf
Masaryk University Strategic Goals	4.7.	https://www.muni.cz/media/3359367/strategic_goals_mu_2021_2028.pdf
Masaryk University Internal Wage Regulation	4.7.	https://www.muni.cz/en/about-us/official-notice-board/mu-internal-wage-regulations
Working hours organisation	4.7.	https://is.muni.cz/go/85ivdm
Career restart	4.7.	https://gamu.muni.cz/en/pro-vedce/career-restart
Protection of rights at MUNI (ombudsperson)	4.7.	https://www.muni.cz/en/about-us/protection-of-rights
Protection of rights - directive	4.7.	https://www.muni.cz/do/mu/Uredni_deska/Predpisy_MU/Masarykova_univerzita/Smernice_MU/SM01-23/164219037/MU_Directive_No._1_2023_-_Protection_of_rights_4.11.2024_.pdf
Guidelines for resolving sexual harassment incidents at MU	4.7.	https://webcentrum.muni.cz/media/3639171/guidelines-for-resolving-sexual-harassment-incidents-at-mu_2132024.pdf
Conques in the global world	4.8.	https://conques.eu/
PRORISK – Best chemical risk assessment professionals for maximum Ecosystem Services benefit	4.8.	https://www.recetox.muni.cz/prorisk
InterTAU – Integrative structural biology of pathological tau protein, an appealing therapeutic target for Alzheimer's disease modifying drugs	4.8.	https://www.intertau.eu/
FANTOM – Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of resistance	4.8.	https://www.intertau.eu/
FANTOM – Future of ALCL: Novel Therapies, Origins, Bio-Markers and Mechanism of resistance	4.8.	https://fantom-project.eu/

COLOSSE - Central European Platform for Plasma-Enabled Surface Engineering	4.8.	https://colosse.eu/
Large Research Infrastructures	4.9.	https://www.muni.cz/en/research/large-research-infrastructure-projects
CEPLANT	4.9.	https://ceplant.cz/
CIISB	4.9.	https://www.ciisb.org/
CZECRIN	4.9.	https://czecrin.cz/en/home/
GGP-CZ	4.9.	https://ggp-cz.fss.muni.cz/en
RECETOX-RI	4.9.	https://www.recetox.muni.cz/en/services/recetox-ri
European research infrastructures	4.9.	https://www.muni.cz/en/research/our-equipment/european-infrastructure
Institutional Research Infrastructures	4.9.	https://www.muni.cz/en/research/our-equipment/institutional-research-infrastructure
Environmental Exposure Assessment Research Infrastructure (EIRENE)	4.9.	https://eirene.eu/
Environmental Exposure Assessment Research Infrastructure Preparatory Phase Project	4.9.	https://cordis.europa.eu/project/id/101079789
INSTRUCT Centre	4.9.	https://instruct-eric.org/centre/ceitec/
iNEXT-Discovery	4.9.	https://inext-discovery.eu/
Generations & Gender Programme	4.9.	https://www.ggp-i.org/
Experimental Humanities Laboratory (HUME Lab)	4.9.	https://humelab.cz/en
EDUC-SHARE project	4.9.	https://www.educalliance.eu/news/effect-of-the-perception-of-specific-visual-patterns-of-buddhist-mandalas-on-brain-activity
BioPharma Hub	4.9.	https://biopharmahub.muni.cz/en
BioPhage (Phage infection of bacterial biofilm)	4.10.	https://cordis.europa.eu/project/id/101043452
PICOSTRUCTURE (Structural studies of human picornaviruses)	4.10.	https://cordis.europa.eu/project/id/335855
INFINITY	4.10.	https://cordis.europa.eu/project/id/101002660
JUDI-ARCH	4.10.	https://cordis.europa.eu/project/id/678375
Dioscuri centre of excellence	4.10.	https://www.mpg.de/21938923/dioscuri-in-the-czech-republic
EMBO Installation Grant	4.10.	https://www.embo.org/people/exploring-a-fail-safe-mechanism-of-translation/
Neuron prize for promising young scientists	4.10.	https://www.fi.muni.cz/app/news?feed_id=1&lang=en&id=3558&archive=1
HEPII	4.11.	https://hepii.econ.muni.cz/en
In-Touch project	4.11.	https://cordis.europa.eu/project/id/101137270
AGEING-CZ (via Google translate)	4.11.	https://www.muni.cz.translate.google/pro-media/tiskove-zpravy/projekt-ageing-cz-bude-resit-starnuti-populace-a-souviselici-vyzvy-pro-zdravotni-a-socialni-systemy? x tr sl=cs& x tr tl=en& x tr hl=cs& x tr pto=wapp
Small-scale space telescope QUVIK	4.11.	https://quvik.cz/en/homepage-en/
Intergalactic wind research	4.11.	https://www.em.muni.cz/en/science/17933-astrophysicists-from-mu-contributed-to-research-that-first-revealed-intergalactic-wind
National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI)	4.12.	https://www.syri.institute/
National Institute of Virology and Bacteriology (NIVB)	4.12.	https://nivb.cz/en/
National Institute for Cancer Research (NICR)	4.12.	https://www.nuvr.cz/en/
National Institute for Neurological Research (NINR)	4.12.	https://www.ninr.cz/
National Institute for Metabolic and Cardiovascular Disease Research (CarDia)	4.12.	https://cardia.ikem.cz/en/home
Ready for the Future: Understanding the Long-Term Resilience of Human Culture (RES-HUM)	4.12.	https://reshum.muni.cz/en

4 projects led by MU supported with OP JAK funding	4.12.	https://www.em.muni.cz/en/news/17755-mu-succeeds-with-four-strategic-projects-worth-czk-600-million
Central European Advanced Therapy and Immunotherapy Centre (CREATIC)	4.12.	https://creatic.muni.cz/
Cyber-Security Excellence Hub in Estonia and South Moravia (CHESS)	4.12.	https://chess-eu.cs.ut.ee/
Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central Europe (ADDIT-CE)	4.12.	https://addit-ce.ceitec.cz/
Digitalised Value Management for unlocking the potential of the Circular Manufacturing Systems with integrated digital solutions (DiCiM)	4.12.	https://www.dicimproject.eu/
Augmented Social Play (ASP)	4.12.	https://www.augmentedsocialplay.com/
First Closed-loop non-Invasive Seizure Prevention System (RELIEVE)	4.12.	https://project-relieve.eu/
Environmental Exposure Assessment Research Infrastructure (EIRENE)	4.12.	https://eirene.eu/eirene-ppp-project-overview
European Digital UniverCity - Research and Innovation with and for Society (EDUC-SHARE)	4.12.	https://www.educalliance.eu/projects/educ-share-project
EmpoWering EDUC for Inclusive Development of the ERA (EDUC-WIDE)	4.12.	https://www.educalliance.eu/projects/EDUC_WIDE
MUNI Mendel Doctorandus	4.13.	https://mmd.muni.cz/en/about
CEITEC PhD School	4.13.	https://www.ceitec.eu/phd-school/?urltitle=ceitec-phd-school
European Competence Framework for Researchers	4.13.	https://research-and-innovation.ec.europa.eu/system/files/2023-04/ec_rtd_research-competence-presentation.pdf
Alumni surveys	4.13.	https://www.muni.cz/en/about-us/organizational-structure/rectors-office/991900-strategy-office/survey-results/alumni

MODULE 5 - STRATEGY AND POLICIES

5.1 Mission and vision of the evaluated institution in R&D&I

The HEI will briefly describe its mission and vision with emphasis on R&D&I in general and its R&D&I capacities in the implemented R&D&I fields³⁹ (Tables 5.1.1 and 5.1.2). In particular, the HEI's vision covers the following five-year period and must relate to the strategic objectives of the Provider, the National Policy on Research, Development, and Innovation of the Czech Republic 2021+, the Gender Equality Strategy 2021-2030, and other higher national and supranational strategic documents in the field of R&D&I (Table 5.1.3). The HEI shall complement the description with active references to its Strategic plan for the teaching, scholarly, scientific, research, development, artistic, and other creative activities of the higher education institution (regarding the results and recommendations from the previous evaluation period, if the evaluated HEI participated in it). The HEI shall describe how the vision and mission were implemented during the period of 2020–2024.

Maximum 2000 words.

Self-assessment:

Masaryk University is clearly a leading research university in Czechia, which achieved considerable development dynamics in recent decades. In terms of infrastructure development, with the largest life science campus in Central Europe, in terms of internationalization, being among top 3 Horizon Europe recipients in post-communist countries, with the many stories of excellent researchers highlighted throughout Module 4 unfolding at MU, we demonstrate that in research, the

³⁹ For so-called R&D&I capacities, see Definition of Terms in Methodology HEI2025+.

importance of MU strongly surpasses the national level. Thus, the future ambitions of Masaryk University in R&D&I are aimed at leadership on the international level, finally closing the gap with Western and Northern Europe.

MU has a [strategic plan](#) spanning more than a single evaluation period – currently, it covers a period of 2021–2028. The strategic plan is a mandatory public document, thus in align with other national and provider’s strategic documents in R&D&I. The mission of Masaryk University is to contribute through its scientific activities, student education and social activities to the high quality and healthy life of all generations, and to a free, cohesive and secure society.

As an important national stakeholder, MU takes responsibility for assisting with improvements of the national higher education system. Not only in terms of excellence, but also concerning the broader institutional support (amount of financing, differentiation of support according to missions of comprehensive research universities and regional universities, ratio with project-based financing) and setting up of project-based funding schemes (reducing red tape, removing incoherencies between funders). For that reason, MU initiated the establishment of RUA as an institution. On the individual level, many experts from MU contributed founding, and engage in running of the national association of research managers and administrators, CZARMA (the CZARMA chair and two more Board members are from MU, the association has its seat on MU premises).

The vision of Masaryk University for 2028 is to be:

- An internationally- recognised research university and an excellent Czech higher education institution, setting trends in fulfilling all the roles of a university (education, research, and social activities).
- A university where education and science transcend the boundaries of individual disciplines, as it supports interdisciplinarity and the personalisation of studies, the creation of interdisciplinary research teams and synergies between workplaces.
- A university where teaching, research and social activities are an integral part of the professional portfolios of academic staff.
- A university that is demanding in its study requirements, whose graduates are successful personalities, with promising careers and an active approach to life, where they have diligently taken up the opportunities for development offered.
- A university that is an inspiring community which, in its principles and daily activities, fully respects and fulfils the principles of social responsibility and contributes to meeting the Sustainable Development Goals, in accordance with which it leads its students and employees.
- A university where students are perceived as respected colleagues, with established processes and practices for cooperation with staff in solving important issues of the direction and functioning of individual agendas and the institution as a whole.
- A university that is a responsible and demanding employer, acting according to the principles of transparency, equality and non -discrimination, supporting the achievement of professional goals and at the same time providing employees with a work -life balance.
- A university that is a model in its internal culture, in its ability to reach consensus, in the harmonisation of its components to the benefit of the university as a whole and in the integrity of a work and study environment characterised by high ethical and professional standards.

The strategy that will guide MU through the coming years as a responsible and sustainable university is described in Section 4.4. The strategy is strongly embedded in **United Nations Sustainable Development Goals (UN SDGs)**; and to be able to track its contributions to UN SDGs, MU not only publishes annual sustainability reports, but also indicates which of its R&D&I projects contribute to particular UN SDGs (there is an open web platform which allows filtering out a specific SDG [here](#)).

The **Strategic Agenda of the European Union for 2024-2029** has shifted towards the topics of values, democratic resilience, defence and security. MU is actively developing research areas which will contribute to this agenda – to name a few, there is **(1) strong focus on cybersecurity** with intersectoral and international outreach via the CHESS Excellence Hub, among other activities, **(2) significant scale up and internationalization in the area of political science and international relations** via the CENTREPEACE Twinning, or **(3) involvement in large-scale OP JAK projects focused on security and resilience**, e.g. [INTERFER](#) on foreign interference, or [Beyond Security: Role of Conflict in Resilience-Building \(CoRe\)](#).

European **competitiveness, green and digital transition** included, is also still high on the EU agenda. And MU is well positioned to create significant contributions to European competitiveness, with its expanding commercialization framework in **MUNI Ventures**, its ambitious research programmes building upon regional smart specialization domains. The well-developed intersectoral collaboration on regional level is a major asset. The [regional innovation strategy](#), with the #brnoregion brand, helped pin down several key sectors which hold great promise for development of South Moravia: **(1) Aerospace**, mainly represented by major multinational enterprise Honeywell, but MU makes notable contributions in satellite development through its astronomist such as the MASH holder Norbert Werner. **(2) Cybersecurity** with thriving start-up community growing fast into globally established companies, where MU made one of its first successful exits from the role of shareholder in Flowmon Networks spin-off company. Cybersecurity is also a major focus for academic research of MU, with several teams at Faculty of Informatics and Institute of Computer Science, but also Faculty of Social Studies and Faculty of Law, successfully engaging in intersectoral and international collaborations (e.g. CHESS, SOCCER). **(3) Electron microscopy**, where academic research in life sciences at MU, with CEITEC as the flagship, provides a perfect ground for technology co-development with microscope manufacturers, many of whom (ThermoFisher Scientific, TESCAN, Delong Instruments) have R&D&I and production facilities in South Moravia. **(4) Game industry** as an important emerging field, where MU provides interesting study programmes on Faculty of Informatics and [Faculty of Arts](#).

In the field of Open Science, MU is the organizational and opinion leader. Within the Open Science Strategy for 2022–2028, the action plan for the period 2025-2028 will see the implementation of the overall goal of the Strategy: ***"Open Science becomes an everyday practice for MU research by 2028"***. By 2028, MU will have:

1. **Fully functional Open Access infrastructure** including sufficient expertise for the assistance to MU academics with open forms of scientific publishing; the university will have gone through the transformation of electronic and information resources (EIR), which has been launched recently.
2. **Fully functional FAIR Data infrastructure** including methodological support and a system for storage and management of research data and their planning within research projects.
3. **Localized Open Science support** for the MU environment and connection to other important features of utilization of scientific results, such as commercialization of research outputs, Citizen Science etc.
4. **Connection to outstanding national and international initiatives in this field**; MU will be a leader in the field of Open Science in the Czech Republic.

For the period of 2021+, MU defined an ambitious **strategic development project** crossing all faculties and research institutes: ***"Innovations for Healthy and Secure Societies"***. Research directions promoted in the strategic project are: (1) Human and Environment: Prevention and Diagnostics; (2) Innovative Therapeutical Approaches; (3) Information Technologies for Health and Security; and (4) Sustainable Healthcare System. The strategic project serves as a foundation for a broad range of partial projects receiving high-level support and incentives from the central level.

The most significant investment action based on the strategic project is the construction of [BioPharma Hub](#), almost 20 ths. sq. m building in the life science campus of MU. However, the strategic project also facilitated several major Horizon Europe (HE) projects, e.g. [CREATIC Teaming](#), [BioMedAI](#) Twinning and [CHESS](#) Excellence Hub.

5.1.1 R&D&I capacities of HEI in the year 2025

MU comment: Zvolte položku = N/A

Field of Research	FORD	FORD share [%]	Predominant type of research	Total share of field of reaserch [%]
1. Natural Sciences	1.1 Mathematics	2,4	Basic research	37,9
	1.2 Computer and information sciences	4,9	Basic research	
	1.3 Physical sciences	4,2	Basic research	
	1.4 Chemical sciences	4,6	Basic research	
	1.5 Earth and related environmental sciences	5,6	Basic research	
	1.6 Biological sciences	15,3	Basic research	
	1.7 Other natural sciences	0,9	Basic research	
2. Engineering and Technology	2.1 Civil engineering	0	Zvolte položku.	1,5
	2.2 Electrical engineering, Electronic engineering, Information engineering	0,2	Balanced basic and applied research	
	2.3 Mechanical engineering	0,1	Balanced basic and applied research	
	2.4 Chemical engineering	0	Zvolte položku.	
	2.5 Materials engineering	0,4	Balanced basic and applied research	
	2.6 Medical engineering	0,2	Basic research	
	2.7 Environmental engineering	0,1	Basic research	
	2.8 Environmental biotechnology	0,2	Basic research	
	2.9 Industrial biotechnology	0	Zvolte položku.	
	2.10 Nanotechnology	0,2	Basic research	
	2.11 Other engineering and technologies	0,1	Basic research	
3. Medical and Health Sciences	3.1 Basic medicine	5,8	Basic research	20,9
	3.2 Clinical medicine	10,8	Basic research	
	3.3 Health sciences	3,9	Basic research	
	3.4 Medical biotechnology	0,2	Balanced basic and applied research	
	3.5 Other medical sciences	0,2	Basic research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	0,2	Basic research	0,3
	4.2 Animal and Dairy science	0	Zvolte položku.	
	4.3 Veterinary science	0,1	Basic research	
	4.4 Other agricultural sciences	0	Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	2,7	Basic research	26,4
	5.2 Economics and Business	3,5	Basic research	

	5.3 Education	6,6	Basic research	
	5.4 Sociology	2,2	Basic research	
	5.5 Law	5,1	Basic research	
	5.6 Political science	3,2	Basic research	
	5.7 Social and economic geography	1,2	Balanced basic and applied research	
	5.8 Media and communications	1,2	Balanced basic and applied research	
	5.9 Other social sciences	0,7	Balanced basic and applied research	
6. Humanities and the Arts	6.1 History and Archaeology	3,4	Basic research	13
	6.2 Languages and Literature	5,8	Basic research	
	6.3 Philosophy, Ethics and Religion	1,3	Basic research	
	6.4 Arts (arts, history of arts, performing arts, music)	2,3	Basic research	
	6.5 Other Humanities and the Arts	0,2	Basic research	
Total		100 %	-	100 %

5.1.2 Target R&D&I capacities of HEI for the next five-year period

MU comment: Zvolte položku = N/A

Field of Research	FORD	FORD share [%]	Predominant type of research	Total share of field of reaserch [%]
1. Natural Sciences	1.1 Mathematics	2,4	Basic research	37,9
	1.2 Computer and information sciences	4,9	Basic research	
	1.3 Physical sciences	4,2	Basic research	
	1.4 Chemical sciences	4,6	Basic research	
	1.5 Earth and related environmental sciences	5,6	Basic research	
	1.6 Biological sciences	15,3	Basic research	
	1.7 Other natural sciences	0,9	Basic research	
2. Engineering and Technology	2.1 Civil engineering	0	Zvolte položku.	1,5
	2.2 Electrical engineering, Electronic engineering, Information engineering	0,2	Balanced basic and applied research	
	2.3 Mechanical engineering	0,1	Balanced basic and applied research	
	2.4 Chemical engineering	0	Zvolte položku.	
	2.5 Materials engineering	0,4	Balanced basic and applied research	
	2.6 Medical engineering	0,2	Basic research	
	2.7 Environmental engineering	0,1	Basic research	
	2.8 Environmental biotechnology	0,2	Basic research	
	2.9 Industrial biotechnology	0	Zvolte položku.	
	2.10 Nanotechnology	0,2	Basic research	
	2.11 Other engineering and technologies	0,1	Basic research	
3. Medical and Health Sciences	3.1 Basic medicine	5,8	Basic research	20,9
	3.2 Clinical medicine	10,8	Basic research	
	3.3 Health sciences	3,9	Basic research	

	3.4 Medical biotechnology	0,2	Balanced basic and applied research	
	3.5 Other medical sciences	0,2	Basic research	
4. Agricultural and veterinary sciences	4.1 Agriculture, Forestry, and Fisheries	0,2	Basic research	0,3
	4.2 Animal and Dairy science	0	Zvolte položku.	
	4.3 Veterinary science	0,1	Basic research	
	4.4 Other agricultural sciences	0	Zvolte položku.	
5. Social Sciences	5.1 Psychology and cognitive sciences	2,7	Basic research	26,4
	5.2 Economics and Business	3,5	Basic research	
	5.3 Education	6,6	Basic research	
	5.4 Sociology	2,2	Basic research	
	5.5 Law	5,1	Basic research	
	5.6 Political science	3,2	Basic research	
	5.7 Social and economic geography	1,2	Balanced basic and applied research	
	5.8 Media and communications	1,2	Balanced basic and applied research	
	5.9 Other social sciences	0,7	Balanced basic and applied research	
6. Humanities and the Arts	6.1 History and Archaeology	3,4	Basic research	13
	6.2 Languages and Literature	5,8	Basic research	
	6.3 Philosophy, Ethics and Religion	1,3	Basic research	
	6.4 Arts (arts, history of arts, performing arts, music)	2,3	Basic research	
	6.5 Other Humanities and the Arts	0,2	Basic research	
Total		100 %	-	100 %

5.1.3 Relation to the strategic objectives of the provider and strategic documents in the field of R&D&I

Strategic document	Follow-up
National/Provider: National Research, Development, and Innovation Policy of the Czech Republic 2021+ (NRDIP)	While the NRDIP covers mostly actions to be done at policy and regulatory level, MU is doing its best to precede the legislative steps and, with their goals in mind, implement institutional measures that fully comply with the spirit of the national strategy. MU fully aligns with Objective 2 of NRDIP as demonstrated in Section 4.6 on personnel policy (reflected in Strategic goals 4.1 and 4.2 in MU Strategic Plan). Concerning Objective 3 of NRDIP, MU has an outstanding track record of participation in Horizon Europe and thus contributes significantly to Czech integration in European Research Area. International recognition is strongly accented in Strategic goals 2.2 and 2.3 of the MU Strategic Plan. Also, Objective 4 of NRDIP is well addressed by MU Strategic Plan – Strategic goal 2.1 is focused on relevance of research. Of the crosscutting goals of Objective 1 of NRDIP, we can highlight the strong engagement of MU in open science, also on the Czech systemic level (hosting the EOSC central office).
National: National Research and Innovation Strategy for Smart Specialisation of the Czech Republic 2021–	MU is a major contributor to implementation of the National RIS3 Strategy. As for RIS3 Strategic objective A. Increasing the innovation performance of companies, the Strategic goal 2.1 of MU Strategic plan shows commitment to pursue research relevant to society, including via collaboration with industry and establishment of spin-offs (for which purpose MU has started the MUNI Ventures company).

2027 (National RIS3 Strategy)	Strategic goals 2.1, 2.2 and 2.3 of MU Strategic Plan apply to RIS3 Strategic objective B. Improving the quality of public research, where not only does MU deliver excellent and relevant research results (B.1) but also pioneers many actions to improve the environment for research (B.2). The educational role of MU is important for RIS3 Strategic objective C. Increasing the availability of skilled people for R&D&I. And RIS3 Strategic objective D. Increasing the use of new technologies and digitalisation builds on the research of Faculty of Informatics and Institute of Computer Science – both have strong connections to both business and public sector. As for Thematic areas / Domains of research and innovation specialization, MU contributions are particularly strong in DS06 Advanced medicine and pharmaceuticals and DS03 Electronics and digital technologies.
Regional: Regional Innovation Strategy for the South Moravian Region, 2021-2027 (RIS JMK)	South Moravian Region has a long and successful track-record in planning for smart specialization; and MU as a leading academic institution in the region has been important stakeholder in the process since its initiation in 2003 (long before RIS3 was pursued on national level). In the current phase, MU continues to build up the talent pool for the region (RIS JMK Strategic goal 4), delivers excellent research results and fosters partnerships with companies in the region (RIS JMK Strategic goal 5), and helps make South Moravia an open and attractive innovation ecosystem (Strategic goal 6). Thematically, the contributions of MU are most significant in specialization areas Measurement and Sensing Devices and Equipment (electron microscopy), Software and IT Services (esp. cybersecurity), Aerospace (satellites), and Medical and Pharmaceutical Products; Diagnostics (whole value chain in University Campus Bohunice).
National/Provider: The Gender Equality Strategy 2021-2030	The approach of MU to promote gender equality is fully elaborated in Section 4.7. MU has a dedicated Gender Equality Plan, now a new edition for years 2025-2028. For researchers, we have introduced ambitious support scheme with the GAMU Career Restart already in 2022; while the main Czech funding providers followed with schemes of their own only in 2025, certainly to some degree inspired by the pioneering work of MU.
European: ERA Policy Agenda 2022-2024	MU is highly engaged in development of European Research Area (ERA), with important contributions to the following ERA Actions: <i>1 Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the European Open Science Cloud (EOSC):</i> MU is the coordinator of national EOSC hub. <i>3 Advance towards the reform the Assessment System for research, researchers and institutions to improve their quality, performance and impact:</i> MU actively contributed to drafting the Agreement on reforming Research assessment, CoARA working groups and was among the first ten institutions publishing CoARA action plan worldwide. <i>4 Promote attractive and sustainable research careers, balanced talent circulation and international, transdisciplinary and inter-sectoral mobility across the ERA:</i> MU is fully committed to HR Strategy for Researchers. <i>5 Promote gender equality and foster inclusiveness, taking note of the Ljubljana declaration:</i> MU is starting to implement second edition of its Gender Equality Plan in 2025. <i>8 Strengthen sustainability, accessibility and resilience of research infrastructures in the ERA:</i> MU is a leader in promoting open access to research infrastructures in Czechia and beyond, as demonstrated by it coordinating a consortium developing research infrastructure roadmap for Ukraine. <i>13 Empower Higher Education Institutions to develop in line with the ERA, and in synergy with the European Education Area:</i> MU is a member of EDUC university alliance and is the coordinator of its research-oriented project EDUC-WIDE.

	<i>15 Build-up regional and national R&I ecosystems to improve regional/national excellence and competitiveness:</i> MU is involved in ERA FABRIC project working out the concept of ERA Hubs and coordinator of two Excellence Hubs project, which serve as an implementation pilot for the ERA Hub concept. <i>16 Improve EU-wide access to excellence:</i> MU is among the leaders and role models in post-communist countries as regards integration in advanced research networks, and is among institutions which attracted most funding from the Widening programmes H2020 and Horizon Europe. <i>17 Enhance the strategic capacity of Europe's public research performing organisations:</i> MU experts are well represented in national RMA association CZARMA and represent Czechia in Horizon projects implementing this action – RM Roadmap and RM Framework.
European: Quality Union: Gender Equality Strategy 2020-2025	As shown in Section 4.7, MU is committed to promoting gender equality within Gender Equality Plan.

5.2 Research and development objectives

The HEI will describe its intentions and goals for the next five-year period. The objectives in the field of research development, innovation, and knowledge transfer as well as the objectives in the field of cooperation with public administration, entrepreneurs, and non-profit organisations will be described in relation to the mission, vision and disciplinary capacities of the HEI. Furthermore, the objectives for the development of the HEI as a research organisation will be described, in the areas of human potential development, institutional resilience, the implementation of open science and adherence to the principles of ethics, scientific integrity, and good practice, and their interrelationship with R&D&I objectives. The objectives described must be consistent with the Strategic plan for the teaching, scholarly, scientific, research, development, artistic and other creative activities of the higher education institution.

Maximum 2000 words.

Self-assessment:

The strategic goals towards achieving the vision during 2021-2028 are the following five:

- **2.1** Contribute to addressing global and local challenges through **basic and applied research and the application of its results in society** in the areas of health and quality of life, education, historical and cultural heritage, sustainable development, technological progress, security, rights and equality in society.
- **2.2 Strive for excellence in the international research area** by developing interdisciplinary strategic topics, emphasising promising research areas, effective use and sharing of excellence and the ability to employ and motivate exceptional scientists and young researchers.
- **2.3 Strengthen internationally recognised quality scientific performance** in all parts of the university, with appropriate tools considering disciplinary differences and the range of resting levels of research.
- **2.4 Introduce higher standards in doctoral studies** across disciplines with an emphasis on the quality of scientific results of doctoral students, gaining international experience during doctoral studies and adherence to the study schedule.
- **2.5 Pay due attention to the socio-economic status of doctoral students** and their full integration into the scientific community as promising colleagues to strengthen their motivation for the successful completion of studies and subsequent careers.

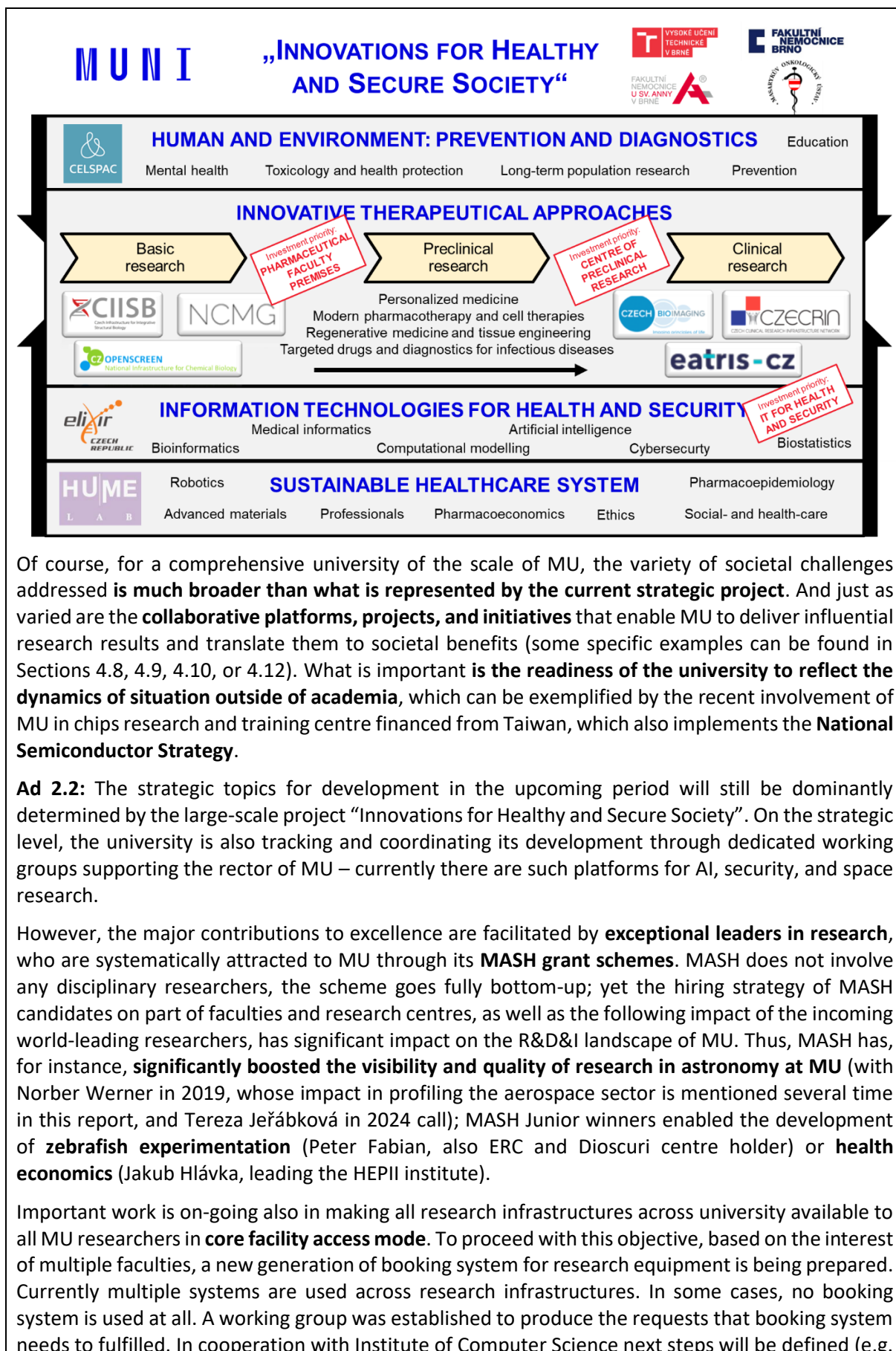
Ad 2.1: For the area of **health and quality of life**, Masaryk University set a highly ambitious agenda to facilitate major contribution to global and local challenges within the strategic project **“Innovations for Healthy and Secure Society”**. In 2025, the strategic project is in full swing of its investment phase – the construction of **BioPharma Hub** shall finish until mid-2026 and once in place, it will enable the foreseen upgrading and upscaling of research activities.

The BioPharma Hub will house facilities for **GMP development** and **manufacturing of pharmaceuticals** and for **preclinical research** – both traditional animal facilities and infrastructure employing emerging microphysiological systems (bioengineered models of functional units of human tissues and organs). The resulting research ecosystem within the University Campus in Bohunice will then be ready to cover the **full innovation cycle in biomedical research, from fundamental research, through biomedical modelling using complex in silico models, preclinical studies including experiments on advanced cell and animal models, towards clinical studies**. This single-site approach will minimize risk of discontinuation of promising research intents in their early development phase or the risk of premature externalization of discoveries before their therapeutic and commercial potential is fully explored. The BioPharma Hub infrastructure will strengthen already existing research directions and research groups at faculties and research centres across the campus and open pathways to utilization of advanced approaches in diverse biomedical fields: (i) personalized medicine, (ii) advanced medical products based on cell and gene therapies, (iii) products of tissue engineering with potential in regenerative medicine, or (iv) specific therapeutics for infectious diseases. While centred at the BioPharma Hub, the strategic project is implemented also with other major actions, such as the CREATIC Teaming centre of excellence, which has been launched in 2024.

The BioPharma Hub will also house **extensions of data and computing infrastructure** that will foster involvement of Faculty of Informatics and Institute of Computer Science in biomedical research. Outside the direct scope of BioPharma Hub, MU capacities for application of AI to diverse problems in biomedicine and healthcare are getting a boost by the **BioMedAI Twinning project** and are getting increasingly linked with application in university hospitals.

The comprehensive nature of Masaryk University creates an opportunity **for development of biomedical and healthcare innovations in their broader societal and economic context**. Thus, MU strategical supports also its long-term population research implemented jointly at Faculty of Science, Faculty of Social Studies, Faculty of Sport Studies and Faculty of Medicine. This research brings new **insights on mechanisms of development of chronic diseases** and factors which influence them and inspires development of new methods for early diagnostics of such diseases and prevention programmes and interventions to protect and improve physical and mental health and quality of life. This area of research is strongly facilitated by activities of **RECETOX**, including its initiative to establish a **European infrastructure on human exposome (EIRENE)**, which should transition from its preparatory phase to implementation in the coming years.

Legal, economic, ethical, and other aspects of modern therapies as well as other healthcare will be explored in collaboration of all faculties of MU. This interdisciplinary partnership is already demonstrated in the **National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI)**, which has a strong ambition to extend its science for policy approach also beyond healthcare questions. Also, the recently established **Health Economics, Policy, and Innovation Institute (HEPII)** at Faculty of Economics and Administration is gaining momentum and building up capacity to support the growing biomedical research of MU.



Of course, for a comprehensive university of the scale of MU, the variety of societal challenges addressed is **much broader than what is represented by the current strategic project**. And just as varied are the **collaborative platforms, projects, and initiatives** that enable MU to deliver influential research results and translate them to societal benefits (some specific examples can be found in Sections 4.8, 4.9, 4.10, or 4.12). What is important is **the readiness of the university to reflect the dynamics of situation outside of academia**, which can be exemplified by the recent involvement of MU in chips research and training centre financed from Taiwan, which also implements the **National Semiconductor Strategy**.

Ad 2.2: The strategic topics for development in the upcoming period will still be dominantly determined by the large-scale project "Innovations for Healthy and Secure Society". On the strategic level, the university is also tracking and coordinating its development through dedicated working groups supporting the rector of MU – currently there are such platforms for AI, security, and space research.

However, the major contributions to excellence are facilitated by **exceptional leaders in research**, who are systematically attracted to MU through its **MASH grant schemes**. MASH does not involve any disciplinary researchers, the scheme goes fully bottom-up; yet the hiring strategy of MASH candidates on part of faculties and research centres, as well as the following impact of the incoming world-leading researchers, has significant impact on the R&D&I landscape of MU. Thus, MASH has, for instance, **significantly boosted the visibility and quality of research in astronomy at MU** (with Norber Werner in 2019, whose impact in profiling the aerospace sector is mentioned several time in this report, and Tereza Jeřábková in 2024 call); MASH Junior winners enabled the development of **zebrafish experimentation** (Peter Fabian, also ERC and Dioscuri centre holder) or **health economics** (Jakub Hlávka, leading the HEPII institute).

Important work is on-going also in making all research infrastructures across university available to all MU researchers in **core facility access mode**. To proceed with this objective, based on the interest of multiple faculties, a new generation of booking system for research equipment is being prepared. Currently multiple systems are used across research infrastructures. In some cases, no booking system is used at all. A working group was established to produce the requests that booking system needs to fulfilled. In cooperation with Institute of Computer Science next steps will be defined (e.g.

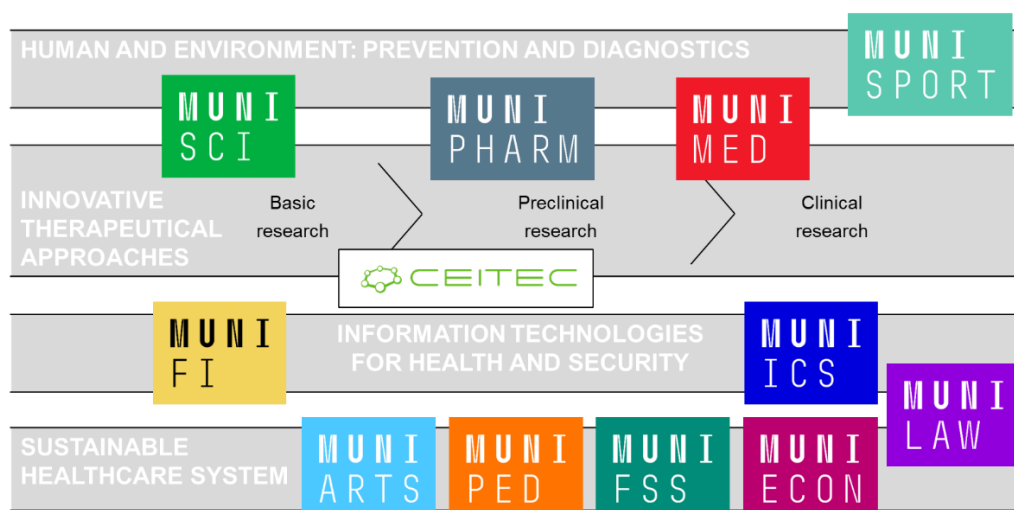
internal development or external solution). Also, we are working to reflect the core facility policy already in public procurement processes – such practice is not yet active on any Czech HEI.

Ad 2.3: Since 2023 (after finishing the Internal Research and Doctoral Studies Evaluation in 2022) faculties and institutes have begun to implement strategic goals resulting from (or informed by) expert recommendations within IRDE. Since 2024 (signed in 2025), main goals are contained in the so-called „contract“, a commitment linked to the eponymous major part of the core budget for research, intended to support a strategic objectives of faculties. Thus, since 2024, there are yet another strategic documents for **each of the faculty or institute**, which broaden and expand the strategic plan to include **disciplinary- or faculty/institute-specific research objectives**. The contracts are available from: [Contract | Rectorate - research evaluation](#).

Notably, also **central level measures motivate all faculties and research centres of MU to invest in improving R&D&I quality according to their disciplinary differences** – two separate sets of indicators (STM / SSH) have been defined to guide the distribution of performance-based component of institutional financing. And in the end, also the strategic project for advancement of R&D&I at MU creates development opportunities for all organizational units of MU (see figure below).

„INNOVATIONS FOR HEALTHY AND SECURE SOCIETY“

project uses knowledge and expertise of all MUNI faculties and research centres



Ad 2.4 and 2.5: Throughout the previous period, MU has been preparing tools and framework conditions to step up the quality of doctoral education. Thanks to these actions, the university is perfectly adapted to legislative changes that will be entering into force in 2025. The gradual increases in remuneration of doctoral students minimize economic challenges due to the newly adopted payment thresholds. Complex evaluation of doctoral programmes allowed significant streamlining of the landscape of doctoral education at MU with much **lower number of PhD programmes focused on quality and motivation**, as described in chapter 4.13. In the upcoming period, the changes will enter into practice, strengthened by the full deployment of **MUNI PhD Academia**, adoption of **stronger supervision standards**, or launch of more elaborate **alumni tracking and evaluation**. Thus, in five years time, we should be able to observe the impact of the fully reformed system of doctoral studies at MU on quality of research results of PhD graduates, graduation time, drop-out rate, and subsequent career growth.

To conclude, five years ago, for the 2020 evaluation, we have identified four major goals, and we have made major advances and innovations to fulfill each of them:

- **To foster a high quality of research in all faculties and research institutes (OUs) of MU:** we have, among others, implemented a performance part of the budget for research signalling the expected level of publication and grant quality.
- **To support interdisciplinary collaboration:** we have secured resources for implementation of the strategic project “Innovations for Healthy and Secure Society”, which involves all university faculties and research centres in a complex interdisciplinary endeavour. While the most visible implementation pathway rests in the BioPharma Hub project, the strategic project also gave rise to initiatives such as CREATIC Teaming, BioMedAI Twinning etc.
- **To broaden targeted support for the hiring and retaining of excellent scientists and their teams and to create conditions for the recruitment of talented postdoctoral researchers:** All faculties and institutes have been fully engaged in HR award implementation.
- **To increase the efficiency and quality of doctoral programmes and their attractiveness to foreign candidates:** We have made steps for increasing the efficiency and quality of doctoral programs by discipline-level expert feedback from ca. 90 evaluators during the Internal research and doctoral studies evaluation in 2022.

5.3 Institutional tools and measures for the implementation of the research and development strategy

The HEI will describe its institutional and strategic tools (e.g., strategic management tools, tools created to support the implementation of research objectives, legal and organisational norms in relation to R&D&I support, etc.) that are designed to fulfil the research and development objectives for the next five-year period (Table 5.3.1), with an emphasis on:

- Supporting quality R&D&I.
- Excellent science.
- Innovative environment and increasing the international or disciplinary competitiveness of the HEI's research activities.
- Development of human potential.
- Institutional resilience.
- Adherence to ethical principles, scientific integrity and good practice in R&D&I.

Maximum 2000 words.

Self-assessment:

The MU Strategic Plan for 2021-2028 defines a comprehensive set of measures to meet the strategic goals in the area of R&D&I – these are all listed in Table 5.3.1. In the following paragraphs, we highlight some specific actions foreseen for the final stage of implementation of the Strategic Plan, with regards to areas which shall be emphasized according to the forms:

Supporting quality R&D&I.

In the next years, contracts with faculties and research institutes will be the key driver for development of excellence in R&D&I at Masaryk University. In their contracts, organization units of MU have developed tailored pathways for improving quality of research, reflecting their particular needs. From the central level, GAMU will support quality of R&D&I by awarding individual researchers with funding in important career phases – especially helping them return to research after career breaks (CAREER RESTART) and when joining MU as research group leaders coming from abroad (MASH). We also seek to clearly recognize the most significant research results of each academic year through the MUNI SCIENTIST scheme of GAMU.

Excellent science.

On top of contract-based strategic development, we will strive to develop international partnerships through the Widening measures of Horizon Europe. The dedicated Widening calls – Teaming, Twinning, European Excellence Initiative, Excellence Hubs, or Pathways to Synergies – represent unique opportunities to boost the excellence of science at MU via close links with world-leading institutions. The central level GO actively encourages faculties and research institutes of MU to screen for suitable development areas that could benefit from the Widening calls. And following the screening, we are able to offer intense consultancy support that maximizes the competitiveness of submitted proposals, as demonstrated by the high success rates.

Special attention is given to promoting the scientific potential of major investment initiatives through Widening. For example, the Preclinical Centre of BioPharma Hub and the National Institute for Research on Socioeconomic Impacts of Diseases and Systemic Risks (SYRI) are both on track to submit Teaming proposal, and is preparing for the future Twinning and ERA Chair calls. Also, we will seek to capitalize on the EDUC university alliance by submitting another European Excellence Initiative project that will help with alignment of MU with ERA policy priorities and provide the much needed direct support for emerging research collaborations in the alliance.

Innovative environment and increasing the international or disciplinary competitiveness of the HEI's research activities.

In the next years, Masaryk University will unroll the full potential of the newly established MUNI Ventures company, that will boost commercialization of research results of MU by providing a flexible platform for creation of spin-off companies and efficient utilization of investment and venture capital.

Development of human potential.

In 2026, we will seek to upscale international recruitment of young researchers at Masaryk University by submitting proposal(s) for MSCA COFUND projects. Along with the initiative to seek MSCA COFUND, we will engage in systemic changes to support competitive and international PhD and postdoc programmes at the university. At the PhD level, significant upgrades of the environment at the university that were in development for several years will finally enter their implementation stage – e.g. mentoring and supervision arrangements, integrated training through MUNI PhD Academia, or alumni tracking. The early operational phase of these measures will require close monitoring and careful revisions to maximize their impact.

In the coming years, the main central-level tool for incentivizing competitive hiring research leaders (both junior and senior) will still be the well-established GAMU MASH programme. MASH is undergoing constant developments; recently, it was the integration of senior and junior career stage in a single call. MASH clearly demonstrated its potential to attract exceptional individuals to MU; most recent ERC awards can be tracked back to MASH. We will seek to strengthen the budget of MASH on the one hand, but also to complement the funding with other resources to fund researchers across the university, at faculties that are typically less represented in MASH.

Institutional resilience.

MU has been an internationally leading research performer in cybersecurity for a long time (marked e.g. by being awarded Innovation Radar Prize 2021 by the European Commission to its KYPO Cyber Range Platform, as well as participation in EU cybersecurity competence pilots CyberSec4Europe and CONCORDIA and recently leading CHES Excellence Hub), with a dedicated cybersecurity team CSIRT-MU operating since 2009. However, recent unfortunate developments, both in local and global context, urge for increase focus also on physical security and protection against foreign interference. These aspects were not highlighted at the time of design of current strategic plan, but the university reacted in a timely manner by e.g. (also described in Section 4.4):

- Hiring a dedicated Security Manager on the institutional level.
- Adopting an internal regulation on Knowledge Security.
- Introducing support schemes to accommodate scientists displaced by conflict in Ukraine.

Security research capacities of MU are qualitatively expanding to match this development, with the CENTREPEACE Twinning and OP JAK INTERFER and CoRe projects being the most significant drivers.

Adherence to ethical principles, scientific integrity and good practice in R&D&I.

Ethical dilemmas in research and employment secure foremost two main offices: Research Ethics Committee (REC) (established in 2015) and the ombudsperson, to whom students, applicants and employees can turn to for help in terms of support and protection of whistleblowers and victims of violations of rights anchored in the MU Code of Ethics. Both are independent multidisciplinary bodies and a fundamental part of the system that ensures research quality and the compliance with research ethics standards at MU. Besides, there are more specialized committees focused on ethics in disciplinary specific contexts, such as Ethics Board of the Faculty of Medicine or Animal Welfare Body, and MU official responsible for questions related to GMOs. For the next period we aim to institutionalize the position of **Research integrity officer**, responsible for non-specific cross-disciplinary research integrity topics (publishing, Open Science, authorship, research assessment).

The series of methodological documents “[Best practices in Research](#)” includes so far five recommendations, some of which will be in next year or two updated, namely Recommendations for working with and understanding bibliometric indicators (issued in 2016), MU’s Position on Predatory Publishing and Open Access Scholarly Journals (issued in 2016) and Best Practices in Scientific Publishing (issued in 2017). The other two are recent (Masaryk University’s attitude towards the publisher MDPI from 2023 and Masaryk University’s statement on scientific publishing from 2024). Given the fact that **research assessment** usually provides important incentives for **desired or undesired behaviour in terms of scientific integrity**, we will also compile a **Policy for responsible research assessment** partially consisting of revised documents on best practices in publishing. Research integrity is also part of PhD course **FRESHERS** and a topic of several on-demand lectures at MU faculties and institutes. Additionally, the University campus library continuously provides and enhances free on-demand services such as a control of potential predatory journals.

Responsible research assessment (RRA)

Masaryk University is dedicated to international best practices in research assessment. Thanks to a unique central expert and service office (**CSSE - Centre for Scientometric Support and Evaluation**, 4 FTE) dedicated to the research assessment (RA), MU is a **pioneer and opinion leader in the RA agenda nation-wide and beyond**. CSSE members are being invited as speakers to international events, are involved in international communities (**ERIH PLUS** national expert, European Network for Research Evaluation in Social Sciences and Humanities – **ENRESSH**), they lead expert group within the EDUC-WIDE project of the university association EDUC, and they also conduct research on RA effects on the community and publication patterns. Since 2022, Masaryk University is a CoARA (Coalition for Advancing Research Assessment) signatory. CSSE has two members actively participating in **two CoARA working groups (Academic Career Assessment, Responsible Metrics)**. For the next evaluation period, MU aims to:

- **Establish and lead the CoARA National Chapter** and become a national leader in developing RA systems corresponding to the RRA principles with respect to Czech historic and cultural context.
- Compile the **internal RRA policy**.
- Implement the commitments in the [CoARA Action Plan](#), foremost to map all evaluative activities and provide advice to improve them in alignment with CoARA commitments and RRA policy.
- **Consolidate the requirements across different evaluation contexts** (individuals, research, doctoral studies), formulate the **notions of quality in different disciplines** and formulate the **university values in research**.
- Improve the design, scope of and conduct the **value-based Internal Research and Doctoral Studies Evaluation in 2027**.

5.3.1 Institutional tools and measures for the implementation of the research and development strategy

Note by MU: Implementation status refers to state in year 2025

Name of instrument/measure	Description of the tool/measure	Implementation status	Year
Strategic research priorities	Targeted development of strategic research priorities based on the health, social, technical and economic challenges of society, especially in the fields of biomedicine, pharmacy, safety, health and	Implemented partially	2025

	quality of life, environment and sustainable development , with the support of artificial intelligence and synergies across the university		
Profile fields and topics	Identification of promising fields according to defined criteria and support for their development Criteria: according to internal formative evaluation of research, bibliometric analyses of publication performance and international comparison in the field. Support for the development of research topics through principles of standard budgets of individual constituent parts and internal grant schemes	Implemented	2025
Regular monitoring	Regular monitoring of scientific outputs to identify new dynamic topics and personalities with extremely rapid growth in scientific recognition, topics or personalities with traditionally long-term excellent scientific recognition and the use of results monitoring in the system of individualised support and university strategies. Creation of bibliometric analyses and consideration of knowledge acquired in evaluations of faculties and university institutes, in searching for opportunities for cooperation, in evaluating the performance of individual workplaces, etc.	Implemented	2025
interdisciplinarity	Motivation and practical support for the creation of interdisciplinary and multidisciplinary teams from the natural sciences, informatics, social sciences and humanities	Implemented partially	2025
Technology transfer and applied research	Strengthening the technological direction of the university's creative activities and identifying opportunities for practical application of scientific knowledge. Introducing support tools to motivate researchers to choose topics not only for basic but also applied Research. Increasing the application of research results by developing a related service for cooperation with partners from the application sector (i.e. industry, state administration, local government, etc.) and technology and knowledge transfer support, Proof of Concept projects and the establishment of spin-off companies. Developing long-term cross-sector cooperation and strengthening close research cooperation with industry, state administration and local government. Creating opportunities (discussions, workshops and seminars) for the transfer of practical experience of academic staff and students from cooperation with the application sector within the university, popularisation of applied research, concepts for start-ups and spin-offs and rewarding exceptional cooperation with practice. Internal discussion on the economic context of creative activity and practical financial implications for university-wide and faculty budgets.	Implemented partially	2025
Socially relevant research	Creating motivational tools to increase the relevance of research and the development of cooperation with the application sector, inter alia, in connection with the priorities of the Innovation Strategy of the Czech Republic 2019–2030 and the Regional Innovation Strategy of the South Moravian Region 2021–2027	Implemented partially	2025
Knowledge transfer	Linking research and teaching by involving all research institutes at the university in educational activities with the aim of strengthening the transfer of the latest scientific knowledge to students and postgraduates.	Implemented partially	2025

	Strengthening active communication and popularisation of science and research as a crucial part of academic and scientific work across the academic community through appropriate tools and measures within the workplace. Creating tools that will enable the transfer of knowledge and experience from successful applicants for prestigious grants to other academic and research staff and doctoral students		
Internationalisation	Use of the institute of extraordinary professors for the recruitment and employment of top senior academics and researchers from abroad. Strengthening use of creative sabbaticals and supporting the horizontal mobility of academics and researchers between institutions. Expansion of targeted support to attract excellent scientists from abroad and development of a system for their subsequent integration in the environments of the Czech Republic, Brno and the university. Maximising use of the potential of foreign academics and researchers through their involvement in teaching, university events, etc.	Implemented partially	2025
Visibility of publications	Implementing rules and motivational tools to support the publication of results in the most influential international journals according to Journal Citation Reports rankings and their equivalents in fields under-represented in the international Web of Science and Scopus commercial databases. Support for the registration of scientific results in local bibliographic databases in order to provide data for relevant analysis of the scientific performance of the university across all disciplines, taking into account field-specific types of results and multilingualism.	Implemented	2025
Research excellence	Creating grant strategies at the level of faculties and other units to obtain grants from international schemes and strengthen involvement in international consortia (e.g. in Horizon Europe and connected initiatives). Ensuring the interconnection of requirements for applicants in habilitation and professor appointment procedures with a multi-criteria bibliometric analysis of their publication activities. Introducing a motivational system of funding science and research at the university in accordance with the internal definition of high-quality science and the principles of responsible research evaluation following internationally-recognised principles respecting the field focus of workplaces and reflecting the results of national evaluation according to Methodology 2017+. Strengthening the link between quality of scientific activity and funding of science in the budget strategies of individual constituent parts and units of the university. Strengthening grant success rates in units and constituent parts with below-average scientific performance through a clear grant strategy and specific follow-up support. Identification of staff and research teams with the potential for scientific excellence and ensuring their maximum individualised support in obtaining grants and related infrastructure. Revision of internal grant schemes (e.g. Grant Agency of Masaryk University) with an emphasis on obtaining international grants (ERC and others), to support interdisciplinary and multidisciplinary topics and young researchers.	Implemented partially	2025

	Creation of financial instruments to compensate for fluctuations in research teams following the termination of highly prestigious grants (e.g. ERC)		
Research culture	Introduction of internal formative evaluation of research at the level of faculties, university institutes and individual research Teams. Strengthening the importance of internal research evaluation in order to define binding strategic decisions. Acquisition of independent critical peer reviews when assessing the quality of scientific work as a part of the internal evaluation systém. Cooperation with the Masaryk University International Scientific Advisory Board and other panels of experts in the evaluation of research and reflection on the obtained recommendations. Development of tools to evaluate the quality of work and performance of academic and research staff and continuing regular evaluation of employees using applicable internal procedures.	Implemented	2025
Research Centres and Infrastructures	Creating and implementing an investment strategy for the renewal and development of research infrastructures Care for the established core facilities and support their synergies with other constituent parts and units of the university Facilitating establishment of new core facilities (if relevant) and ensuring transparent access to such research infrastructures for internal and external users. Maintaining the favourable position of the university on the Czech Roadmap of LRIs Support for core facilities and research infrastructures to integrate into the ESFRI Roadmap	Implemented	2025
Doctoral Studies - admissions	Active communication with doctoral studies applicants in order to present possible career paths (professional v. academic) and the requirements for creative activity and teaching that will be placed on them during studies Setting up an admissions procedure verifying the motivation of applicants for a given topic to strengthen the selection of talented and motivated applicants with the potential to complete the studies (e.g. setting an obligation to prepare an essay on a given topic, designing a project for a research goal, etc.) Implementation of international selection procedures for doctoral studies and the corresponding advertising of recruitment activities to also attract promising foreign students Admission of applicants for doctoral studies in favour of a narrower selection of high-quality and promising students (optimising the number of admissions according to the specifics of individual fields) and regulation of the number of doctoral students per supervisor	Implemented partially	2025
Doctoral Studies – dropout prevention	Monitoring the success of doctoral students in various phases of study, analysing the causes of dropping out and subsequent work with the results within doctoral boards and faculty management Systematic work with doctoral boards at individual faculties to strengthen their active role harmonising the management of doctoral studies, providing feedback to students, working with supervisors and other aspects Revision of procedures for planning the course of doctoral studies and introduction of a system of regular verification of the fulfilment	Implemented partially	2025

	of doctoral students' individual study plans' objectives where not already standard The introduction of motivational tools for doctoral students and supervisors to strengthen graduation rates within the standard duration of study Revision of teaching duties of doctoral students with the aim of focusing students' activities related to research on the doctoral thesis topic Standardisation of requirements for supervisors defining the extent of responsibilities when leading doctoral students and providing methodological support to supervisors, e.g. in the form of seminars and workshops Evaluation of the quality of supervisors' work by monitoring completion rates for doctoral studies, the average duration of study, the quality of research results, the employment of doctoral students after graduation and the projection of selected parameters into qualification procedures Introduction of mentoring as another means of providing feedback to doctoral students in the relevant fields		
Doctoral studies conception	Implementation of doctoral studies standards across degree programmes with respect to field specifics Revision of field-specific requirements for doctoral theses and publication results and definition of recommendations and principles for publication activities of doctoral students Support and guidance for doctoral students' publishing research results in prestigious sources (journals and publishers) in accordance with the given discipline's quality requirements Revision of the credit system in doctoral studies Development of the concept of doctoral schools in MUNI PhD Academia in the form of university-wide and faculty activities with the aim of providing common elements of studies (e.g. education in transferable skills, seminars for knowledge sharing, courses with foreign researchers, etc.) Strengthening international ties in the preparation of doctoral students and the use of the principles of cotutelles of doctoral theses in international cooperation Support for the implementation of national and international collaborative doctorates Strengthening the interdisciplinarity of doctoral studies by offering courses from other scientific disciplines, involving students in interdisciplinary projects, etc. Development of information literacy of doctoral students to increase the quality of their scientific results Involving doctoral students in the popularisation of science and research and providing appropriate support by strengthening their communication and other skills	Implemented partially	2025
Socioeconomic status of doctoral students	Setting the motivational amount of financial remuneration with clear qualitative criteria for ongoing success in study and related publishing and teaching activities Creating scholarship programmes to reward excellent results in doctoral studies	Implemented partially	2025

	Extension of support for scientific projects of doctoral students in the form of internal grant competitions and involvement in research grants of external providers Ensuring adequate facilities for doctoral students as new researchers within workplaces		
Doctoral studies – careers	Making requirements for international mobility of doctoral students more concrete Motivation of doctoral students for stays abroad, even for more than one month Support for internships for doctoral students in the application sector (industry, state administration, etc.) and research institutions Providing support for reconciling doctoral studies and beginning careers with family life Providing career counselling for the best possible employment of graduate doctoral students in the academic sphere and in professional positions outside it Motivation of doctoral graduates to continue their careers in postdoctoral positions abroad as much as possible Career mapping of successful doctoral graduates and maintaining active contact with them	Implemented partially	2025

5.4 Implementation of the recommendations in Module 5

The HEI will briefly describe how it has implemented the recommendations for Module 5 from the previous evaluation period, if applicable.

Maximum 1000 words

Self-assessment:

Recommendation 1: *The recommendation would be to include in these strategic activities all the evaluated units, so they are well aligned with the vision and mission.*

MU position: The 2022 Internal Research and Doctoral Studies Evaluation (IRDE) was a milestone in the transformation of the internal research assessment system. However, in 2024 this transformation was completed by the introduction of the concept of **contracts** both in research funding and as the ultimate impact of the IRDE. The faculties and institutes received detailed evaluations of the departments and doctoral programmes in the IRDE, including recommendations for improvement, and developed a strategy for research and doctoral studies on the basis of these evaluations and in align with the shared university's values. After the negotiation between MU management and faculty or institute leadership, this strategy was translated into a **contract** in 2024, which implies a commitment by the faculty to implement the recommendations, changes and reforms resulting from the evaluation panels' recommendations. The next cycles of internal evaluation (IRDE) are to take into account the efforts to meet these commitments, to be able to adapt the strategy to the current circumstances and to improve the quality of research work. The University management will consult with the faculties on the fulfilment of the objectives of the contracts at the annual evaluative interviews and also through the Internal Evaluation Board.

Recommendation 2:

We support the strategic plan. To achieve all these activities, it is recommended to increase the economic strength of the central management as it was recommended in module 4.

The only recommendation would be to continue with all the strategies developed by the new management. The pioneer in these efforts is CEITEC which then also serves as a positive example for other evaluated units.

As it was mentioned above, we would support the stronger position of the central (rector) office in the distribution of financial resources to be able to support those departments which are aligned with the central strategy.

MU position: While the national system of university governance does not give strong decisive powers to the central level, MU management has continuously used proactive negotiations to maximize its influence on quality of R&D&I across the university. This has been done in consensual way – (i) by giving the faculties and research institutes responsibility for their development within contract financing, (ii) by using budget increases to establish and strengthen performance based funding with respect to disciplinary specifics, (iii) by continuously increasing the GAMU budget, which includes allocation for rector's strategic decisions.

Importantly, the Rector's Office retains and develops strong competences in its research management departments, which ensure that strategic decisions from the central level are well informed and well reasoned, contributing to their acceptance across the university. At the same time, the central level competences are actively transferred throughout the university. In areas such as grant support or research infrastructures, the Rector's Office built on the pioneering role of CEITEC by transferring its leading experts into its ranks and thus improving the access of all units of the university to their outstanding expertise.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 5

Document name	No. criteria	Location (link in HTML)
MU strategic plan 2021-2028	5.1.	https://www.muni.cz/media/3326734/strategic_plan_mu_2021_2028.pdf
Projects fulfilling sustainability objectives	5.1.	https://sustain.muni.cz/en/areas-of-sustainability/science-and-research/projects?sustainability=1
INTERFER	5.1.	https://www.muni.cz/en/research/projects/73886
Beyond Security: Role of Conflict in Resilience-Building (CoRe)	5.1.	https://www.muni.cz/en/research/projects/71047
Regional Innovation Strategy for the South Moravian Region 2021-2027 - RIS-JMK-aj_kratka-verze.pdf.aspx	5.1.	https://www.risjmk.cz/getmedia/f5627c6c-1190-4c44-9049-a9454258862e/RIS-JMK-aj_kratka-verze.pdf.aspx?ext=.pdf
Theory of Interactive Media - Theory of Interactive Media – bachelor's studies Masaryk University	5.1.	https://www.muni.cz/en/bachelors-and-masters-study-programmes/24621-teorie-interaktivnich-medii
Aerospace	5.1.	https://brnoregion.com/en/key-sectors/aerospace
Cybersecurity	5.1.	https://brnoregion.com/en/key-sectors/cybersecurity
Electron microscopy	5.1.	https://brnoregion.com/en/key-sectors/electron-microscopy
Game industry	5.1.	https://brnoregion.com/en/key-sectors/game-industry
Theory of Interactive Media	5.1.	https://www.muni.cz/en/bachelors-and-masters-study-programmes/24621-teorie-interaktivnich-medii
BioPharma Hub	5.1.	https://biopharmahub.muni.cz/en
CREATIC Teaming	5.1.	https://creatic.muni.cz/
BioMedAI Twinning	5.1.	https://biomedai.muni.cz/
CHESS Excellence Hub	5.1.	https://chess-eu.cs.ut.ee/
National Research, Development, and	5.1.	https://vyzkum.gov.cz/FrontClanek.aspx?idsekce=932081

Innovation Policy of the Czech Republic 2021+ (NRDIP)		
National Research and Innovation Strategy for Smart Specialisation of the Czech Republic 2021–2027 (National RIS3 Strategy)	5.1.	https://mpo.gov.cz/assets/en/business/ris3-strategy/2022/1/National-RIS3-Strategy_2.pdf
Regional Innovation Strategy for the South Moravian Region, 2021-2027 (RIS JMK)	5.1.	https://www.risjmk.cz/getmedia/3d070ae0-ddce-495e-806a-1413bd900c34/RIS-JMK-2021-EN_jednostrana.pdf.aspx?ext=.pdf
The Gender Equality Strategy 2021-2030	5.1.	https://vlada.gov.cz/assets/ppov/gcfge/Gender-Equality-Strategy-2021-2030.pdf
European Research Area Policy Agenda 2022-2024	5.1.	https://commission.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf
Gender Equality Strategy 2020-2025	5.1.	https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en#gender-equality-strategy-2020-2025
Contract - Strategy for Research and Doctoral Studies (2022-2027)	5.2.	https://researchevaluation.muni.cz/financovani-vav-na-mu/kontrakt
Methodological documents "Best practices in Research"	5.3.	https://scientometrics.muni.cz/publikace
CoARA Action Plan	5.3.	https://zenodo.org/records/10230836