

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



Vysoká škola
polytechnická
Jihlava



HIGHER EDUCATION INSTITUTION NAME: College of Polytechnics Jihlava

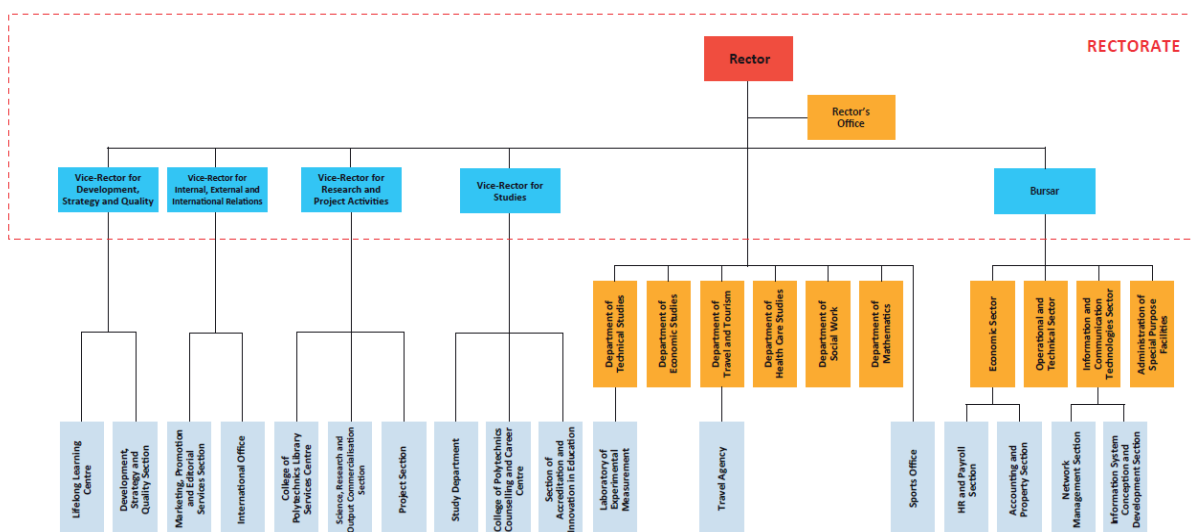
COMPANY REGISTRATION NUMBER (CRN): 71226401

THE LIST OF EVALUATION UNITS IN MODULE 3: College of Polytechnics Jihlava

ORGANIZATIONAL STRUCTURE OF THE HIGHER EDUCATION INSTITUTION

College of Polytechnics Jihlava Organisational Structure

Effective since 1 November 2024



HIGHER EDUCATION INSTITUTION WEBSITE (HTML LINK): www.vspj.cz

THE HIGHER EDUCATION INSTITUTION CONTACT PERSON

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Position: Head of the Science, Research and Output Commercialisation Section

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E-mail: stanislava.lemperova@vspj.cz

Signature (Rector), stamp

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:

The College of Polytechnics Jihlava (VŠPJ) was established by Act No. 375/2004 Coll. of 3 June 2004 as the first public non-university type higher education institution in the Czech Republic, and it is the only public higher education institution in the Vysočina Region.

Following Act No. 111/1998 Coll. (Act on Higher Education), a non-university higher education institution has the same status as universities. It differs in only three attributes – it cannot provide education in doctoral programmes, it does not divide into faculties and its scientific council is called the Academic Council.

Mission:

The College of Polytechnics Jihlava is a professionally oriented public HEI focused on applied education, whose mission is to provide professionally diverse study programmes based primarily on the needs of the regional labour market, **to promote intensive cooperation with the application sphere and its innovative development, to foster appropriate creative activity and applied research**, to provide lifelong learning programmes and to assist the cultural and general educational development of the region.

The college has 2,600 students in both bachelor's and master's degree programmes, studying in full-time or combined forms. Studies are offered in technical, economics and health care and social work degree programmes.

There are 221 employees at the college of which 133 are academics, 84.743 converted.

The College of Polytechnics Jihlava, as a research organisation on the Ministry of Education's list, is involved in various research and creative activities, participates in solving assignments from the corporate or public sphere, organizes conferences, both national and with international participation, publishes its own journals and its students and academic staff take part in international exchanges. It is the only HEI in the Czech Republic that also runs its own travel agency. As the college is not divided into faculties, it will be assessed as 1 unit. As can be seen from the above, the college is a multidisciplinary HEI; however, one discipline area is selected for unit assessment as per the Module 3 assessment rules, which is *Engineering and Technology*. Nevertheless, the college is presented as a whole, the presented and described results are for the entire assessment unit, and for some of the solutions, the interdisciplinary approach is described for individual results and projects.

SWOT ANALYSIS

Strengths

- increasing cooperation with the application sector
- development of master's degree programmes and opportunities to involve their students in research activities
- expanding cooperation with the subjects of the application sphere in the region and with other research organizations in the Czech Republic
- development of research environment, equipment and institutional facilities for research implementation
- increasing awareness of the College of Polytechnics Jihlava as a research organisation

Weaknesses

- limited human resources for the implementation of R&D, no Ph.D. students
- low intensity of scientific cooperation at international level
- low level of commercialization and further application of scientific outputs

Opportunities

- position of the College of Polytechnics Jihlava as the only HEI in the region
- implementation of new strategic projects in the field of research
- support from regional public administration entities (the Vysočina Region, Statutory City of Jihlava)
- maximum use of grant funds for research and development

Threats

- the departure of quality researchers
- limiting some calls for smaller research organisations
- reduction of institutional support for R&D

SELF-EVALUATION REPORT FOR MODULE 3

THE NAME OF THE UNIT BEING EVALUATED: College of Polytechnics Jihlava

FORD: 2 - Engineering and technology

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 College of Polytechnics Jihlava is the only higher education Institution (HEI) in the Vysočina Region. The College of Polytechnics was established in 2004, so we are a relatively young HEI. The College of Polytechnics is a non-university public HEI – it does not implement doctoral study programmes, it is not divided into faculties and its scientific council is called the Academic Council. The College of Polytechnics is a professionally oriented HEI and the following study programmes are implemented here:

Bachelor's:

- Applied Informatics
- Applied Engineering
- Applied Mechanical Engineering
- Travel and Tourism
- Finance and Management
- Clinical Social Care
- Midwifery
- General Nursing

Master's:

- Applied Engineering
- Social Work in Mental Health Care

Study programmes are offered in full-time and combined forms of study. Only the Midwifery programme is offered only in full-time form.

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

The College of Polytechnics Jihlava also offers lifelong learning courses and runs its own travel agency.

Basic statistics as of 31 December 2023:

Number of students	2 188
<i>in the full-time form of study</i>	<i>1 323</i>
<i>in the combined form of study</i>	<i>865</i>
Number of international students	145
Number of graduates (per calendar year 2023)	355
Total number of workers	206

The mission and long-term goal of the College of Polytechnics Jihlava is the provision of quality professionally oriented education based on social trends, the needs of practice and the needs of the region, the implementation of research and development and other creative activities, the results of which are applied in practice, and the fulfilment of the third role of the HEI to be an important authority in the region and society, contributing to the development of education, social responsibility and the dissemination of knowledge and good practices.

COLLEGE OF THE POLYTECHNICS VISION

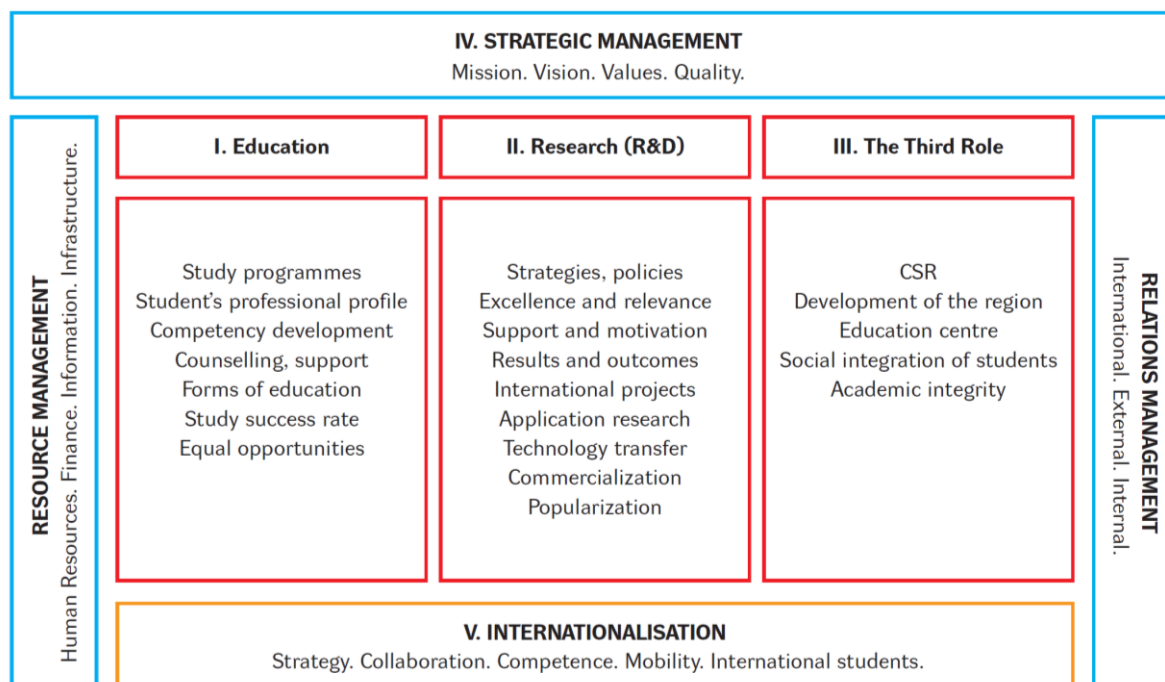
The College of Polytechnics Jihlava wants to be an excellent professionally oriented HEI, which, on the basis of intensive cooperation with the application sphere, prepares experts in a number of areas reflecting trends in the development of society and know-how and develops students' competencies for their further application in the global labour market.

The College of Polytechnics Jihlava wants to be a recognised HEI in the field of applied development, which is a carrier of innovation, has modern technological equipment and expertise that will enable it to offer a wide research and laboratory base, including knowledge transfer, to application partners.

As the only higher education institution in the Vysočina Region, the College of Polytechnics Jihlava wants to be an important authority contributing to the long-term sustainable development and competitiveness of the region, and a centre of education that contributes to the development of the region by increasing education and disseminating technology and knowledge.

The College wants to be a responsible institution with a shared internal culture, promoting academic integrity and recognizing the values of social responsibility and STEM principles.

The strategic management system of the College of Polytechnics Jihlava is illustrated in the following diagram:



Research activity is one of the fundamental pillars of the College of Polytechnics Jihlava. In the period 2021+, this pillar is strengthened through **Strategic Objective II: Increase the quality, societal relevance and international dimension of creative activity and excellence of applied research results.**

This is further subdivided into the following **Priority Goals**:

- Strengthen strategic management and effective use of R&D capacity
- Support research and creative activities considering the specificities of all areas of education in accredited study programmes
- Increase the number and quality of applied results and actively participate in technology transfer

Research and development activities are carried out at the College of Polytechnics. With regard to the professional focus of the College, mainly applied research and experimental development activities are carried out. However, basic research, which is closely linked to a number of disciplines, is not neglected. The disciplinary capacities listed in Table 3.1.6 were determined in 2023 on the basis of data reported to the Register of Information on R&D Results of the Czech Republic (RIV) and with regard to the implemented study programmes. Given that publication results are also reported to the RIV, the determination of the disciplinary capacities is also influenced by the number of publication results in individual FORDs.

Table 3.1.1 - Staffing per FTE²

Academic/ Professional position	Total / Of which women					
	2019	2020	2021	2022	2023	Total
Professor	4.788/0.431	4.47/0.4	4.332/0.4	4.328/0.4	4.287/0.4	13/3
Associate Professor	14.041/3.991	14.251/3.526	14.70/3.85	14.082/4.1	13.794/3.612	32/8
Assistant Professor	42.377/27.967	45.162/30.442	45.436/30.068	44.7/29.573	42.971/28.457	75/42
Assistant	18.932/12.340	20.346/12.471	20.796/12.172	20.762/12.195	20.965/12.333	58/35
R&D Personnel ³		0.9/0.9	0,495/0.053		0.480/0.480	5/3
Researchers in other categories ⁴	3.65/1.477	1.279/0.300	0.5/0.5	0.35/0	2.860/0	9/2
Technical and economic staff ⁵	77.33/53.236	78.49/55.234	80.986/57.075	84.776/58.224	80.142/53.672	155/108
Scientific, research and development staff involved in teaching activities	80.413/45.004	84.529/47.139	85.564/46.79	83.872/46.268	82.017/44.802	178/88
Early career researchers ⁶	14.05/8.445	7.35/3.25	9.4/5.0	7.55/5.445	5.35/4.75	34/15
Total ⁷	161.118/99.442	164/898/103.273	167.245/104.118	168.998/104.492	165.499/98.954	

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					3	1			1		4	
Associate Professor			2	1	7	1	5	3	8	2		
Assistant Professor	1	1	19	13	22	16	11	5			3	1
Assistant			6	5	15	10	6	4	3	2		
R&D Personnel ⁹												
Researchers in other categories ¹⁰			1		1	1			1	1		
Technical and economic staff ¹¹	7	3	20	11	23	17	25	21	4	3		
Scientific, research and development staff involved in teaching activities	1	1	28	19	48	29	22	12	13	5	7	1
Early career researcher ¹²	1	1	11	4	6	4	2	2	1	1		
Total ¹³	8	4	48	30	71	46	47	33	17	8	7	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 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					2	0	1	1			4	
Associate Professor					9	2	5	1	7	3	2	0
Assistant Professor			12	8	30	19	10	6	6	1	1	0
Assistant			7	4	18	11	7	6	1	1		
R&D Personnel ¹⁵	1											
Researchers in other categories ¹⁶					1	1						
Technical and economic staff ¹⁷	7	4	18	9	25	18	23	17	8	6	1	0
Scientific, research and development staff involved in teaching activities			19	12	59	32	23	14	14	5	7	0
Early career researcher ¹⁸			7	4	1	1	1	1				
Total ¹⁹	8	4	37	21	85	51	46	31	22	11	8	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	2222	1480	2115	1390	2093	1303	2088	1275	2130	1274	7901	4828
Master's ²⁰	26	23	43	41	40	26	32	9	58	27	147	88
Doctoral	-	-	-	-	-	-	-	-	-	-	-	-
Lifelong Learning Courses	1370	1098	693	540	402	318	1227	945	923	738	3988	3095
Total	3618	2601	2851	1971	2535	1647	3347	2229	3111	2039		

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	21/0	21/0	21/0	21/0	23/0	23/0	23/0	23/0	21/0	21/0	23/0	23/0
Master's	1/0	1/0	1/0	1/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0
Doctoral	-	-	-	-	-	-	-	-	-	-	-	-
Lifelong Learning courses	94/0	9/0	40/0	3/0	31/0	2/0	75/0	0/0	52/0	0/0	114/0	9/0
Total	116/0	31/0	62/0	25/0	57/0	28/0	102/0	27/0	77/0	21/0		

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).

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	4,3	Balanced basic and applied research	6,2
	1.2 Computer and information sciences	0,5	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	1,4	Balanced basic and applied research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	14,5
	2.2 Electrical engineering, Electronic engineering, Information engineering	5,8	Applied Research	
	2.3 Mechanical engineering	3,4	Applied Research	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering	5,3	Applied Research	
	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	10	Basic Research	23,2
	3.2 Clinical medicine	3,3	Basic Research	
	3.3 Health sciences	4,7	Basic Research	
	3.4 Other medical sciences	5,2	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	Applied Research	56,1
	5.2 Economics and Business	32,8	Applied Research	
	5.3 Education		Zvolte položku.	
	5.4 Sociology	5,2	Applied Research	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography	1	Applied Research	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences	15,7	Applied Research	

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.

Self-assessment:

The College of Polytechnics Jihlava is a non-university type public higher education institution (HEI), i.e. a HEI without doctoral studies, with a low number of academic staff relative to other HEIs, with a reasonable number of professors and associate professors and academic staff with higher H-index, yet our academic staff manage to participate in various evaluation committees of scientific projects at national and international level. Individual awards are won by some academics across departments, including membership in editorial boards of renowned professional journals.

A number of academic workers of the College of Polytechnics Jihlava are internationally recognized scientific personalities in their fields and for this reason they have long been members of international scientific societies, on executive committees of national and international scientific societies, members of editorial boards and editorial boards of journals of recognized international scientific journals, which are included in respected databases such as Web of Science, SCOPUS, etc. These scientists work in the entire portfolio of accredited study programmes and scientific research activities that concern them.

Table 3.2.1 gives examples of prestigious awards for academics, and Table 3.2.2 gives examples of academics who are members of the editorial boards of international scientific journals. Table 3.2.3 gives an example of invited lectures given by academic staff of the VŠPJ at foreign institutions. Academic staff of the Academy are involved in the evaluation of national and international scientific grant calls, see examples in Table 3.2.5.

Among the elected memberships in professional societies, the most important is Prof. Báča's position in the presidency of the European Association of Clinical Anatomy, doc. Horák is in the management of the professional cluster Czechimplant, z.s., doc. Kolman is a member of the main committee of the Czech Society for Mechanics. Doc. Horák and Dr. Vilímek are important expert witnesses and prepare expert reports in the field of "Forensic Biomechanics" for the needs of courts and the Criminal Police of the Czech Republic.

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
Ing. Jakub Dostál, Ph.D.	Special award for the paper: Limits and possibilities of quantifying the monetary value of volunteering in the ADRA volunteer centre network – at the 2023 Voluntary Sector and Volunteering Research Conference, Action, Difference, and Change in Local Civil Society, Sheffield, United Kingdom	Voluntary Sector Studies Network, United Kingdom
doc. Ing. Libor Pekař, Ph.D.	Best Journal Reviewer Award in Control Theory and Technology (ISSN 2095-6983) for 2019	Editorial Board of the journal Control Theory and Technology (Publisher: Springer), namely prof. Yiguang Hong (Editor-in-Chief), College of Electronic and Information Engineering, Tongji University, Shanghai, China.
doc. Ing. Libor Pekař, Ph.D.	Award for Outstanding Contribution at The 1st World Conference on Multiphase Transportation, Conversion & Utilization of Energy (MTCUE 2022), 27-31 July, 2022, Xi'an, China	Conference Organizing Committee, namely prof. Liejin Guo (chairman), State Key Laboratory of Multiphase Flow in Power Engineering, Xi'an Jiaotong University, China.
doc. Ing. Libor Pekař, Ph.D.	Certificate for exceptional review on The 15th IEEE International Conference on Application of Information and Communication Technologies (AICT2021), 13-15 October, 2021, virtually	The Conference Organizing Committee, namely Dr. Abzetdin Adamov (general chair), ADA University, Azerbaijan
prof. MUDr. David Kachlík, Ph.D.	Award of the Minister of Education, Youth and Sports for outstanding educational activities at a university for 2022	Ministry of Education, Youth and Sport of the Czech Republic
prof. MUDr. David Kachlík, Ph.D.	Commemorative medal of Comenius University Bratislava on the 100th anniversary of the founding of the University for maintaining long-term and warm relations and close cooperation	Comenius University Bratislava
prof. MUDr. David Kachlík, Ph.D.	Přerovský Award for the best work on venous diseases (Annual Award of the Czech Society of Angiology for 2019)	Czech Society of Angiology

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. Ing. Libor Pekař, Ph.D.	International Journal of Robotics and Control Systems, eISSN 2775-2658
doc. Ing. Libor Pekař, Ph.D.	Mathematical Problems in Engineering, ISSN 1024-123X

doc. Ing. Petr Scholz, DiS., Ph.D.	Economics and Environment, ISSN 2957-0387 (section editor, editorial board member)
RNDr. Mgr. Stanislava Pachrová, Ph.D.	European Journal of Tourism, Hospitality and Recreation, ISSN 2182-4916 (editorial board member)
prof. MUDr. Václav Báča, Ph.D.	Surgical and Radiologic Anatomy ano, executive editor- – ISSN: 1279-8517
prof. MUDr. Václav Báča, Ph.D.	Anatomy, International Journal of Experimental and Clinical Anatomy, Turkey (ISSN – 1596 -2393)
doc. MUDr. Tomáš Fait, Ph.D.	Open Medicine (Central European Journal of Medicine), 2391-5463
doc. MUDr. Tomáš Fait, Ph.D.	Annals of Anatomy – ISSN: 0940-9602
prof. MUDr. David Kachlík, Ph.D.	Biomolecules and Biomedicine (previously Bosnia Journal of Basic Medical Sciences) – ISSN: 2831-0896
prof. MUDr. David Kachlík, Ph.D.	Journal of Morphological Sciences (São Paulo, Brazil, ISSN 2177-0298)

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
Ing. Martina Kuncová, Ph.D.	Simulation modelling: Simulation models in SIMUL8	EU Bratislava, Faculty of Economic Informatics	2023
Ing. Jakub Dostál, Ph.D.	The non-profit resilience in the Czech Republic in multiple crises	11th International Research Conference of the European Research Network on Philanthropy: Philanthropy and crises: Roles and functioning of philanthropy in times of societal upheavals, Zagreb, Croatia	2023
Ing. Stanislav Rojík, Ph.D.	Branding in Marketing	Poznan University of Economics and Business	2023
doc. Ing. Libor Pekař, Ph.D.	Introduction to Time-Delay Systems LTI TDS Spectrum, its Analysis and Synthesis; Stability Modelling and Identification of LTI TDS	University of Maribor, Faculty of Electrical Engineering and Computer Science	2019
doc. Ing. Libor Pekař, Ph.D.	Parameter Identification of Infinite-Dimensional Process Models - A Case Study	Forum on Automotive and Mechanical Engineering (MECHFORUM2023), Osaka, Japan (hybrid)	2023
Ing. Květoslav Belda, Ph.D.	Tasks of model control for mechatronics and robotics	Leuphana University Lüneburg, Germany	2022
Ing. Květoslav Belda, Ph.D.	Mechatronic Systems and Robotics	UCLL University of Applied Sciences, Faculties of Management & Technology, Belgium	2023
prof. MUDr. David Kachlík, Ph.D.	Pitfalls of anatomical variants terminology	International Congress of Anatomia Clinica: 15th European Association of Clinical anatomy (EACA) and	2019

		11th International Symposium of Clinical and Applied Anatomy (ISCAA), 24–26 Jun 2019, Madrid, Spain	
prof. MUDr. David Kachlík, Ph.D.	Latest classification for venous malformation	ECop Course (European College of Phlebology). Amsterdam / Oegstgeest, Netherlands. 18–20 May 2023	2023
prof. MUDr. David Kachlík, Ph.D.	Terminologia anatomica	GANÖ. Linz, Austria. 25 May 2022	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
Doc. Ing. Michaela Chocholatá, PhD.	EU Bratislava, Faculty of Economic Informatics, Department of Operational Research and Econometrics (SR)	Selected formulations of linear programming problems	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 authority/guarantor project/programme call contracting of the project/programme call	Year
doc. Ing. Zdeněk Horák, Ph.D.	Programme for the Support of Applied Health Research 2020–2026 (member of the evaluation panel P08: Biomedical Technologies)	Czech Health Research Council	2022–2023
Ing. Martina Kuncová, Ph.D.	VV 2022 (Public call for applications for research and development projects in individual groups of science and technology fields) – project assessment	Slovak Research and Development Agency	2022
Ing. Martina Kuncová, Ph.D.	VEGA 2022 – project assessment	Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and Slovak Academy of Sciences (VEGA)	2022
RNDr. Mgr. Stanislava Pachrová, Ph.D.	Programs: TRANSPORT 2020+, ÉTA 1, GAMMA 2, SIGMA DC2, SIGMA DC3 (regular evaluation of projects, reporter for projects under implementation, opponent for the opponent management of projects, member of the panel of experts for SIGMA DC2 and DC3 projects)	Technology Agency of the Czech Republic	From 2017 to date

RNDr. Mgr. Stanislava Pachrová, Ph.D.	Interreg Austria-Czech Republic 2021-2027	EU cross-border cooperation programme (regular assessment of projects)	From 2022 to date
RNDr. Mgr. Stanislava Pachrová, Ph.D.	Interreg V-A Austria - Czech Republic 2014-2020 (regular project evaluation)	EU cross-border cooperation programme	2014-2020
RNDr. Mgr. Stanislava Pachrová, Ph.D.	Assistance vouchers (project evaluator)	Prague Innovation Institute	2022
Ing. Jakub Dostál, Ph.D.	Program: ÉTA (project evaluator)	Technological Agency of the Czech Republic	2019-2020
Doc. Ing. Radek Kolman, Ph.D.	Evaluator, Panel 101-Engineering	Grant Agency of the Czech Republic	2021-to date

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:

COLLEGE OF POLYTECHNICS AS THE MAIN BENEFICIARY

Evaluation and modelling of thermal field during machining of non-metallic materials (2017–2019), GACR

Closely related to the increasing development of technology is the development of new non-metallic materials that enhance the performance of products. With this development of non-metallic materials, however, comes the need for detailed knowledge of heat propagation during machining. Non-metallic materials have very different mechanical properties that fundamentally affect their machining capabilities. Detailed knowledge of the heat propagation generated during machining is crucial for determining the optimum cutting parameters during production. The conditions arising when machining metallic materials are documented in great detail, but the situation is completely different when machining non-metallic materials. The project aimed to develop numerical models that should be able to realistically simulate heat propagation in machining of non-metallic materials. The models were simultaneously verified by experimental measurements. The research focused primarily on plastics with high porosity and composite materials.

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.

This was an important basic research project for the College of Polytechnics Jihlava, specifically the Department of Technical Studies, and the results are being followed up with further work. At the same time, the project established a research team and laid the foundations for further work within the Laboratory of Experimental Measurements that is being built.

Czechia counts on volunteering (2018–2020), TACR

The aim of the project was to create a tool for both practitioners and individuals, which is unique for the Czech environment, in the form of a web and mobile application for calculating and interpreting the value of volunteering. The application guarantor was HESTIA – Centrum pro dobrovolnictví, z. ú. Within the project, a method of calculating the value of volunteering, new for the Czech environment, was created, reflecting the current needs of the Czech environment, on the basis of which a mobile and web applications (DOBROMETR) were created to enable user-friendly calculation of this value. This application was placed on a newly created website where it is available for free use or download. In addition, a comprehensive research report was produced for further use by both non-profit organisations and public authorities. It describes the different approaches to valuing volunteering, the basic economic background, but also the various aspects of the practical application of the concept. Attention is also paid to the setting of the issue in the context of volunteer management, as well as the links with the economics of non-profit organizations, such as the use in grant procedures, or accounting and tax implications.

The project was led by the Department of Economic Studies, whose team provided economic expertise on the topic, the Department of Social Work was also involved in the project, adding knowledge of the specifics of volunteering, and an important part of the team was the staff of the Department of Technical Studies, who provided programming and technical functionality of the application. Again, this was an important interdisciplinary cooperation within the College of Polytechnics Jihlava.

New Approaches, Methods and Technologies in the Area of Diagnosis and Correction of Hearing Impairments in Seniors in Social Services Residential Facilities (2019–2021), TACR

The main goal of the project was to improve the quality of care and quality of life of seniors with communication impairment due to hearing loss. The project was implemented in close cooperation with the Jeřábina Home Pelhřimov, a contributory organization that provides residential and outpatient social services for people with mental disabilities.

The scope of the project was the introduction of new approaches, methods of social work and the use of technology in the field of diagnosis and correction of hearing impairment in seniors - users of residential social services in the Vysočina Region with the aim of improving the quality of health and social care and quality of life of these people. The project involved the development and testing of a mobile app-based measurement device for basic hearing screening of elderly home users, replacing existing unsystematic procedures. At the same time, the already existing cooperation of the College of Polytechnics Jihlava with the application sphere (the Vysočina Region and social service providers) was deepened, which enabled the creation of a specific methodology of individual planning for seniors with hearing impairment. The developed methodology was subsequently implemented in other residential social services facilities, where it contributed to improving the quality of health and social care provided. The main impact of the whole project is to improve the communication and cognitive functions of seniors in residential social service facilities, thus increasing their quality of life.

The project was led by academic staff from the Department of Social Work who worked with and cared for older people with hearing impairment. However, the project team also included staff from the Department of Technical Studies who designed and developed equipment for the orientation assessment of hearing impairment. It was a significant project for the College of Polytechnics with well

evaluated and used results and it was an important interdisciplinary cooperation of the college departments.

Czech-German Cross-Border Situational Awareness for Critical Infrastructures (2019–2021), Ministry of Education, Youth and Sport of the Czech Republic Inter Excellence (Inter Action)

The aim of the project was to identify, in cooperation with representatives of stakeholders (which are government officials, critical infrastructure operators, members of the public, the professional community and members of academia), specific structural and functional characteristics of European critical infrastructures in the cross-border Czech-Bavarian environment, as defined by Council Directive 2008/114/EC, and to analyse them in terms of increasing their security, especially in the cyber area.

Although the described issues were analysed mainly from a research point of view, the researchers aimed to produce results with the greatest possible application potential and to create a basis for follow-up projects. For the TACR programme, a follow-up project application was prepared, which was not supported.

As the project dealt with integrated cross-border cooperation, it was not possible to clearly separate purely Czech and purely German activities. The Czech side, specifically staff from the Department of Technical Studies, tackled more exacting tasks, such as the pilot implementation of a computational model of the system under study or the analysis and design of specific security methods at the level of individual critical infrastructure operators.

Beyond the joint activities described above, the German partner, the University of Applied Sciences Regensburg, focused primarily on issues of formal design of specific cross-border security strategies and policies. These were subsequently harmonised with the applicable national and international legislation as well as with the internal rules and directives of individual stakeholders.

For the College of Polytechnics Jihlava, it was an international cooperation with a German university.

COLLEGE OF POLYTECHNICS AS A PARTNER

Development and optimization of electromechanical actuator for aircraft control surfaces to enhance the durability and reliability for maintenance-free operation (2017–2019), TACR EPSILON

The aim of the project was to increase the durability and reliability of a linear electromechanical actuator – trim strut – for aeronautical applications (operation of aircraft control surfaces). The specific goal was to achieve a service life of 30,000 flight hours. People from the Department of Technical Studies worked on strength and optimization analysis using FEM, design of the linear actuator of the electromechanical strut, design of the speed control of the actuator, conceptual design of the information feedback, development of the software and testing of the whole system and development of technical reports on the project solution.

The main project beneficiary was an important company from Jihlava, JIHLAVAN a.s.; the other partner was SHM, s. r. o. From the College of Polytechnics, staff from the Department of Technical Studies were involved in the project. It was a project whose results are used in practice.

Development of wheels and brakes for landing gears of small and medium-sized aircraft (2018–2020), Ministry of Industry and Trade - TRIO

The aim of the project was to develop new wheels and brakes for the landing gear of aircraft up to a maximum of 25 passengers and a weight of up to 7.5 tonnes. These are mainly three-point type chassis with braked wheels on the main chassis. The results of the project were prototypes of the main chassis wheels, prototypes of the brakes for the wheels. The prototypes were planned to represent aircraft weighing about 4.5 tons with a landing speed of about 215 km/h, braking from about 180 km/h, braking energy of about 5.6 MJ. Brakes are hydraulically operated. Wheel material, seals and bearing seating were addressed. The problem of temperature load signalling of the wheels was solved. The

optimization of the design in terms of heat propagation from the friction pair to both the brake and the wheels was also addressed. The contribution of the VŠPJ, Department of Technical Studies, consisted in particular in the performance of FEA calculations and analyses of selected structural nodes, optimization of the design (topological, weight) of selected parts of the structure using FEA, cooperation on the creation of design documentation of individual parts and structural units, evaluation of the proposed brake and wheel design in terms of thermal loading, cooperation in the design of the wheel and brake test methodology and in the testing of the wheel and brake, as well as in the structural and thermal analysis of the final design of the brake wheel prototypes, development of technical reports and evaluation of the results obtained from all tests.

The main project beneficiary was an important company from Jihlava, JIHLAVAN a.s.; another partner was the Research and Testing Institute of Aeronautics, a.s. From the College of Polytechnics, staff from the Department of Technical Studies were involved in the project. It was a project whose results are used in practice.

Height-adjustable toilets (2019–2020), Ministry of Industry and Trade - TRIO

The aim of the project was to develop a height-adjustable toilet for people with reduced mobility. The project included the design, verification in the design phase, production of the prototype and testing of the prototype. The mechanical phase consisted of creating 3D models based on the submitted 2D documentation and performing calculations for the structural design. The control phase then included the development of a control system for operating and diagnosing the equipment.

DOMKAT, s.r.o. from Jihlava was the main project beneficiary.

Development of novel components for electromembrane modules using additive technologies (2020–2022) TACR TREND

The aim of this project was to optimize and intensify the performance of the electromembrane modules based on physical modelling and verification of the created models using additive technologies (3D printing). Specifically, these included heterogeneous ion-exchange membranes, separator grids and the separators themselves for electrodialysis (ED) or electrodeionization (EDI) processes. A secondary objective was to acquire know-how in the field of 3D printing of prototypes (rapid prototyping). It is a method that allows for the verification of designed innovations cheaply, easily and quickly, and is therefore more economically viable and easier from a feasibility perspective to 3D print prototypes only in the quantities needed to verify their functionality. At the same time, this method saves financial and human resources and greatly expands the range of possible innovations.

Researchers from the Department of Technical Studies prepared samples of heterogeneous ion-exchange membranes, performed modelling and simulation of structures for heterogeneous ion-exchange membranes and their characterization. The main project beneficiary was MEGA a.s., and other partners, in addition to the College of Polytechnics, were the Technical University of Liberec and MemBrain s.r.o.

Controllable gripping mechanics: Modelling, control and experiments (2023–2024) GACR international bilateral project

The aim of the project was to extend the knowledge of gripping mechanics, based on 3D-printed electroactive materials and pneumatically expandable origami/kirigami type structures, for applications in robotics, biomedicine and aerospace. The project aimed to address open scientific questions in the field of compliant robotics, in particular: whether electroactive materials produced by 3D printing are suitable for controlled deformation; what contact forces can be expected with respect to electrical excitation; what are the ranges of controllable deformations; whether real-time control of finger mechanics is possible. The project combined physical and numerical modelling of the

excited deformations; measurement and parameter identification of constitutive electromechanical coupling models; and design of predictive control with detailed and reduced numerical predictions. The team from the Department of Technical Studies focused on the production of EA structure for gripping the experimental stand using 3D printing and processing the necessary samples for identification of material parameters with numerical support in the commercial software COMSOL. In addition, the activities of the College of Polytechnics Jihlava included the design and implementation of a suitable approach for contact force sensing.

The main project beneficiary of the project was the Institute of Thermomechanics of the Academy of Sciences of the Czech Republic, v. v. i., next, besides the College of Polytechnics Jihlava, the Institute of Information Theory and Automation of the Academy of Sciences of the CR, v.v.i., participated in the project solving; the project was conducted bilaterally with Kyung Hee University, a partner from South Korea.

Historical mining structures in the Vysočina region as evidence of the development of society and cultural heritage objects (2023–2027) Ministry of Culture CR

The main goal of the project is to create effective tools for understanding historical mining and resource extraction in general as fundamental elements of the development of society, as important causes and evidence of the development of the landscape, evidence of cultural identity, national specifics and their development over time, and thus strengthen their understanding as an important form of historical cultural heritage. In the course of the project implementation, the historical mining works and the related functionally interconnected technological facilities in the Vysočina region will be documented. The documentation and research of the objects will be carried out in a consistent multidisciplinary manner, with emphasis on research methods that have been minimally used or completely neglected so far. The data obtained will serve as a data base for the project's application outputs, which will enable the systematic promotion of tools for the conservation of historic mine workings and the solution of the problem of the use of mine workings as objects of cultural identity presentation and interpretation of cultural heritage.

The team from the Department of Travel/Tourism of the College of Polytechnics is focusing on the development of a methodology for the evaluation and selection of historical mining works for the interpretation and presentation of cultural heritage. The main project beneficiary of the project is the Museum of Vysočina, p.o., the Institute of Theoretical and Applied Mechanics of the Academy of Sciences of the Czech Republic, v. v. i., also participates in solving the project.

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
GACR	-	<u>CZK 1 034</u> <u>€ 40 789</u>				
TACR	-	<u>CZK 1 847</u> <u>€72 857</u>	<u>CZK 1 467</u> <u>57 860 €</u>	<u>CZK 1 230</u> <u>48 517 €</u>		
Ministry of Education, Youth and Sport of the Czech Republic	-	<u>CZK 143</u> <u>€ 5 641</u>	<u>CZK 604</u> <u>€ 23 826</u>	<u>CZK 393</u> <u>€ 15 503</u>		
		<u>CZK 3 024</u> <u>€ 119 287</u>	<u>CZK 2 071</u> <u>€ 81 686</u>	<u>CZK 1 623</u> <u>€ 64 020</u>		
In the role of another participant						
Provider ²⁷	Project name	Support (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
Ministry of Industry and Trade	-	<u>CZK 1 382</u> <u>54 515 €</u>	<u>CZK 627</u> <u>24 725 €</u>		<u>CZK 266</u> <u>10 511 €</u>	<u>CZK 630</u> <u>24 870 €</u>
TACR	-	<u>CZK 565</u> <u>22 279 €</u>	<u>CZK 383</u> <u>15 099 €</u>	<u>CZK 376</u> <u>14 814 €</u>	<u>CZK 387</u> <u>15 255 €</u>	<u>CZK 335</u> <u>13 201 €</u>
Ministry of Culture CR	-					<u>CZK 488</u> <u>19 241 €</u>
GACR	-					<u>CZK 1 072</u> <u>42 288 €</u>
Total		<u>CZK 1 947</u> <u>76 794 €</u>	<u>CZK 1 010</u> <u>39 824 €</u>	<u>CZK 376</u> <u>14 814 €</u>	<u>CZK 653</u> <u>25 766 €</u>	<u>CZK 2 525</u> <u>99 600 €</u>

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.

Table 3.3.2 - Contract research activities

Client ²⁸	Activity name	Revenue (in thousands CZK/EUR)				
		2019	2020	2021	2022	2023
MEDIN, a. s.	<u>Tests and numerical FEA simulations for medical devices</u>	<u>CZK 330</u> <u>13 030 €</u>		<u>CZK 24</u> <u>942 €</u>	<u>CZK 245</u> <u>9 735 €</u>	
1P industry s.r.o.	<u>Development of a maintenance test module</u>	<u>CZK 125</u> <u>4 930 €</u>				
NOVAGUE, s.r.o.	<u>Performing material analyses, technical calculations and materials testing. Selection and testing of additional chair details.</u>	<u>CZK 399</u> <u>15 740 €</u>				
Vysočina Tourism, p.o.	<u>Marketing research and visitor profile of the Vysočina Region</u>	<u>CZK 26</u> <u>1 040 €</u>	<u>CZK 153</u> <u>6 053 €</u>	<u>CZK 125</u> <u>4 946 €</u>	<u>CZK 115</u> <u>4 522 €</u>	
MEMBRAIN S.R.O.	<u>Testing of mechanical properties of supplied membranes with crack propagation analysis</u>	<u>CZK 50</u> <u>1 978 €</u>				
Town of Strmilov	<u>Analyses and data structures for the Shared Knowledge Model for group decision support for the Friendly Innovative Authority Strmilov project</u>			<u>CZK 98</u> <u>3 848 €</u>	<u>CZK 100</u> <u>3 943 €</u>	
Erilens s. r. o.	<u>Design of innovation of production processes and equipment for finger splint production</u>		<u>CZK 497</u> <u>19 605 €</u>			
CEEC RESEARCH S.R.O.	<u>Walling materials market analysis</u>			<u>CZK 69</u> <u>2 706 €</u>		
ROBODOCK S.R.O.	<u>3D concrete - technical solution designs</u>			<u>CZK 387</u> <u>15 253 €</u>		
Brána Jihlavy, contributory organisation	<u>MC research Jihlava 2022–2023</u>				<u>CZK 55</u> <u>2 170 €</u>	<u>CZK 146</u> <u>5 754 €</u>
Vysočina Region	<u>Questionnaire survey for evaluation of services and development of services for families with children, qualitative analysis in the field of innovative practices in social protection and prevention</u>	<u>CZK 17</u> <u>652 €</u>		<u>CZK 30</u> <u>1 183 €</u>	<u>CZK 37</u> <u>1 460 €</u>	
IBM	<u>Methodology for monitoring the development of knowledge and skills of students in the P-TECH educational programme</u>		<u>CZK 57</u> <u>2 249 €</u>			
Total		CZK 947 37 370 €	CZK 707 29 907 €	CZK 733 28 878 €	CZK 552 21 830 €	CZK 146 5 754 €

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:

1) Electric motor control wiring for aviation applications

Pure electric actuators (motors) are becoming increasingly popular in aerospace technology for powering most of the moving parts of aircraft at the expense of the existing hydraulic actuators. The advantages of the presented design and wiring solution are undoubtedly the reliability of the actuators, the simplicity of their control and the low requirements for the degree of integration of the control electronics. The proposed solution resists possible electromagnetic interference and the risk of failure of the controlled drive by lightning and other external electromagnetic influences. The wiring for electric motor control was developed as a result of applied development in cooperation with the industrial partner Jihlavan, a.s. within the project Development and optimization of electromechanical actuator for aircraft control surfaces to enhance the durability and reliability for maintenance-free operation. The equipment has passed all approval processes and is implemented in the L139-NG aircraft, which has been commissioned and is successfully operating.

2) Dobrometr app

The Dobrometr application is used to quantify the financial value of volunteering by valuing the hours worked. After a simple registration, the volunteer coordinator, or another called person from the organization, can create volunteer programs and volunteer activities to which the app assigns a financial value. The application is also used to keep track of volunteer hours, which can be entered into the application at arbitrary intervals. Subsequently, it is possible to generate exports of this data for internal records, negotiations with donors, or as documents for grant providers. The most significant practical impact of the project so far has been the use of the methodology in grant applications to the Active Citizens Fund programme, which is financed by the EEA and Norway Grants and managed by the OSF consortium, VDV – Olga Havlová foundation and Scout Institute. The application is now also used by the College of Polytechnics Jihlava to record volunteer activities.

The following 3 outputs were produced in the context of the project New Approaches, Methods and Technologies in the Area of Diagnosis and Correction of Hearing Impairments in Seniors in Social Services Residential Facilities (TACR). It is mainly used in homes for the elderly.

3) Audio interface for mobile audiometric system for examination of auditory functions in humans

This is the ability to use mobile devices on the most common Android platform to reliably and credibly measure hearing function in humans. With the help of this device it is possible to perform screening measurements on the spot. The technical solution:

- is based on components that comply with common standards and protocols
- is open and it is possible to create your own software for audiometric examinations and use all the possibilities of the provided hardware

²⁹ See Terms definition.

- in combination with the option of using custom software, the device can be used for a range of hearing tests that are not available in conventional (and especially mobile) audiometers and that respond to the latest scientific knowledge on hearing disorders
- provides high quality audio output with specifications equal to professional audiometers and provides separate signal paths for the left and right channels, reducing crosstalk
- has a better calibration capability than professional clinical audiometers. Due to the separate signal paths, it allows separate calibration of the left and right channels. If supported by the control software, it allows calibration of arbitrary sound frequencies, achieving maximum accuracy even for non-standard frequencies.
- includes an internal output voltage control system, eliminating the possibility of measurements with incorrectly calibrated measurement stimuli.

4) Android-based Software for Mobile Audiometry

The Audiometry app is software for the Android operating system. It is used in conjunction with an external audiometric unit that connects to a mobile device. The app is used for screening tonal audiometry in the frequency range 125 Hz to 8 kHz and for speech audiometry (verbal audiometry in silence, sentence audiometry in speech noise). The range of measurable intensities is approximately 0 dB to 90 dB, but this depends on the characteristics of the headphones used. In addition to the actual measurement, the app also allows you to save the patient's name, the date of the measurement and any text note.

The application generates all measurement signals in its core, communicates with the external audio interface and controls its settings. The application can be accurately calibrated for a specific type of headphones, and each measurable stimulus can be calibrated separately for each channel. This ensures the highest possible measurement accuracy.

5) Methodology of Individual Planning of Care for Seniors with Hearing Impairment

The methodology provides a description of the procedure for individual service planning for a service user with hearing impairment, including standardised methods and procedures in elderly care. The issue of hearing impairment in the elderly, which causes impairment of communication and cognitive functions and as a result leads to a significant deterioration in the quality of life and sometimes even to social isolation, is a marginal topic in the Czech Republic and is not conceptually addressed at the level of health and social care. The methodology helps to improve the quality of care and quality of life of seniors with hearing impairment through the introduction of new approaches in the provision of social and nursing care and the use of technology in the field of diagnosis and correction of hearing impairment. The use of the Methodology in residential social service facilities contributes to the improvement of communication and cognitive functions of the elderly and thus improves their quality of life. The Methodology is an important support material for the staff of residential social services, but it can also be used without limitations in the provision of care in the home environment.

6) Device for non-contact measurement of the width of a translucent strip material for its dimensional adjustment

This is a design of a new mechanical arrangement of an optical sensor in a device for non-contact measurement of the width of a strip material and electronic evaluation of its signal for the purpose of non-contact measurement of the width of strip materials (sheet metal, textile, plastic film) regardless of their translucency. Practical applications can be found e.g. in the rubber industry for the production of tyres or in the textile industry for the winding of fabrics.

7) Heterogeneous ion exchange membrane with defined structure

This is the output of the project Development of novel components for electromembrane modules using additive technologies, created and owned by the project partners. A heterogeneous ion-exchange membrane consists of a polymeric inert binder and an ion-exchange component that performs a transport function. Thus, the heterogeneous ion-exchange membrane consists of conductive and non-conductive regions, non-selective free channels and a surface with a relief. The membrane blend is optimized for maximum conductivity and sufficient permselectivity while maintaining processability by SLA printing technique and mechanical cohesion after swelling. The main benefit of the result is material savings by eliminating waste through precision printing.

8) Methodology for the development of knowledge and skills of students of the P-TECH educational program

It is a methodology for monitoring the development of knowledge and skills of P-TECH learners and, in particular, using it to continuously assess the impact of P-TECH in a secondary school setting on the target levels of vocational knowledge, skills and soft competences to be achieved by P-TECH learners over a given assessment period. The P-TECH methodology is a comprehensive set of procedures for faithfully capturing the global cognitive development of secondary school engineering students at the level of soft and vocational competencies. The methodology was developed from the needs of practice to evaluate the target levels of competences defined by the European Qualifications Framework (EQF). The P-TECH methodology was validated over two school years, 2020/2021 and 2021/2022 at the Industrial, Technical and Automotive Secondary School Jihlava in second year students and in the second school year also in third year students. The methodology was developed in cooperation with IBM Czech Republic, spol. s r.o., which is the carrier of the P-TECH programme in the Czech Republic.

9) Development and pilot testing of a web application for designing future development scenarios

This is research carried out for the town of Strmilov. The document summarizes the results of the contractual development of procedures and tools to increase the level of openness and friendliness of the Municipal Office in Strmilov, implemented in the period 1 July 2020 – 31 January 2022. The objective was achieved through the following digital innovations:

- improving decision-making processes at the level of the city council,
- increasing the level of citizen participation in the design and updating of strategic development activities.

The ordered functionality was implemented by the following outputs:

- A set of visualization and interactive applications that with varying degrees of abstraction:
 - present users with the history of Strmilov's funding and the structure of its strategic budget,
 - allow users to create and share their own proposals for future town budgets,
 - support the input of own development preferences and the selection of optimal scenarios for their implementation,
 - offer a systematic platform for finding strategies for all-round sustainable development of the town, maximizing its attractiveness while respecting a number of natural constraints.
- Feedback forms through which users can comment on anticipated local development risks and strategies, add their own alternative, and quantify the entire set of priorities.
- Related analytical, user and administrator documentation. The outputs can be continuously used and further developed by the contracting authority.

10) New and innovative equipment adapted for custom production, including software solutions

The result was created in the framework of the project Development of an optimized custom production system and was realized in cooperation with INAPA s.r.o. INAPA s.r.o. operates in the packaging materials market. The general trend of customers in the engineering manufacturing sector is to transfer the knowledge and choice of the appropriate packaging type to the supplier. For the efficient operation of custom manufacturing, an optimized system had to be developed. The application of the results contributes to the development of INAPA s.r.o., by moving from simple packaging materials to more complex and sophisticated solutions and increasing the company's industry reputation and expanding the company's activities outside the region and into foreign markets. As a result of this project, the company is able to reach a wider range of customers, offer additional experience and better present itself to the customer as a reliable and sophisticated manufacturer. The annual savings/additional annual revenue from new and upgraded equipment under the upgraded technology has been competently estimated at €1.2 million. CZK. This amount does not include the benefits of on-line data collection and evaluation, which are difficult to quantify.

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

Type of result ³⁰	Year of application	Name
Utility Model	2019	Brushless electric motor control scheme for aerospace applications
Summary Research Report	2019	Professional and soft competencies of the public administration employees
Utility Model	2020	Electric motor control wiring for aviation applications
Monography	2020	Trauma-informed Approach in Social Work
Application	2020	Dobrometr app
Utility Model	2020	Audio interface for mobile audiometric system for examination of auditory functions in humans
Software	2021	Android-based Software for Mobile Audiometry
Functional sample	2021	Mobile audiometer for Android devices
Certified methodology	2021	Methodology of Individual Planning of Care for Seniors with Hearing Impairment
Software	2021	Model of Governance of Cross-Border Critical Infrastructure
Software	2021	Model of Shareable Organizational Situation Awareness, Algorithmic and Interactive Design of User Scenarios
Patent	2021	Device for non-contact measurement of the width of a translucent strip material for its dimensional adjustment

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

Strategy document	2022	Medium-term plan for the development of social services in SO ORP Jihlava for the period 2022–2024
Functional sample	2022	Heterogeneous ion exchange membrane with defined structure
Summary research report	2022	Methodology for the development of knowledge and skills of students of the P-TECH educational program
Final report	2022	Development and pilot testing of a web application for designing scenarios for future development
Proven technology	2023	New and innovative equipment adapted for custom production, including software solutions

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 results of research and development transferred into practice are mainly generated by work on jointly implemented projects or on the basis of contract research, see above.

In the case of jointly implemented projects, ownership of the results depends on the degree of involvement of the partners in the production of the specific result. The results are then applied in the majority of cases by the main project beneficiaries – companies (functional samples, utility models, proven technologies). In the case of projects implemented in cooperation with the public sector, the

³¹ In the case of military HEIs, their specific position is considered 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.

application is either directly tailored or the results are publicly available (analyses, strategies, studies, methodologies).

In the case of contract research, the rights to the results are held by the specific sponsors. In the period under review, funding was therefore raised for the implementation of projects or for specific contract research contracts. Non-grant non-public resources (licences, spin-off revenues, etc.) were not obtained in the previous period.

Given the size of the College of Polytechnics Jihlava and the lack of doctoral programmes, start-up and spin-off companies have not yet been established.

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
	0	0	0	0	0
Total	0	0	0	0	0

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 activities in the field of popularization of science at the College of Polytechnics Jihlava can be divided into two main levels: implementation of own activities and involvement in broader activities at the national level. Both of these levels are of key importance for strengthening the position of the College in the field of research, both at regional and national level.

Implementation of the College of Polytechnics own activities: This category of activities gives the school the opportunity to directly influence the public and students through various activities that the college organizes or participates in or through social media. Within the framework of these activities, the College of Polytechnics can focus on current scientific topics and research projects that are important for the school. Such activities are an opportunity for the College of Polytechnics to demonstrate to the public and the professional community its focus on innovation and scientific progress, which contributes to its development and reputation.

Involvement in activities at national level: In addition to its own activities, the College of Polytechnics is also actively involved in national projects and initiatives in the field of popularization of science and research. This cooperation is essential for the establishment of the college as an important player in the field of scientific research in the Czech Republic. Moreover, cooperation with other universities, research institutes and institutions enables the College of Polytechnics to establish valuable contacts and collaborations that lead to mutual knowledge exchange and to the strengthening of the school's research infrastructure. This activity helps disseminate the college's research results to the wider scientific community and enables its researchers and students to participate in national projects and teams.

1) Podcast Polytechnicast

It is an activity where interesting things not only from the field of science, but also related to the College of Polytechnics are presented to the public in the form of a podcast. This platform has been used since 2021 and its undeniable advantage is that the individual recorded programmes are continuously available on streaming platforms. Episodes that do not depend on data updates can be used continuously and can be linked to other events. Below is a selection of episodes related to the research activities of the College of Polytechnics:

Dr. LENKA LÍZALOVÁ: Genealogy puts together stories worth telling

Dr. MARKÉTA DUBNOVÁ and dr. JANA GABRIELOVÁ: Little attention is paid to hearing loss

MATĚJ KOLÁŘ: Music from the past of the Jihlava region

prof. DAVID KACHLÍK: Virtual autopsy tables are no substitute for the human body

TYFLOCENTRUM JIHLAVA: Blind people love black humour

Dr. FILIP DĚCHTĚŘENKO: Sight has the best price/performance ratio

prof. FRANTIŠEK ZEŽULKA: Secrets of the industry 4.0

FILIP KULÍŠEK and MARTIN LAHUČKÝ: The secrets of cryptocurrencies

ING JIŘÍ VYBÍHAL and DR. MILOSLAV VILÍMEK: Hydrogen is the technology of the future

JAN KURKA (VyHUB): Educational institutions are the midwives of innovation

2) Organisation of scientific conferences

Individual departments regularly organize conferences according to their professional focus. Participants of the conferences are researchers from the Czech Republic and abroad, the professional public (depending on the focus, representatives of companies or public administration) and students. Among the scientific conferences that are held regularly, we can mention:

Current Issues in Tourism (Department of Travel/Tourism)

Competition (Department of Economic Studies)

Trends and Technologies (Department of Technical Studies)

Informatics (Department of Technical Studies)

Innovation in Additive Manufacturing (INAM) (Department of Technical Studies)

Jihlava Midwives Conference (Department of Health Care Studies)

Disorders of pelvic statics and urogynecology (Department of Health Care Studies)

3) Publishing peer-reviewed scientific journals

VŠPJ publishes two peer-reviewed scientific journals, which are included in the ERIH PLUS (European Reference Index for the Humanities and the Social Sciences) list of peer-reviewed professional and scientific journals.

LOGOS POLYTECHNICOS

The thematic and content focus of the journal reflects the disciplinary focus of the College of Polytechnics. The journal publishes professional articles, essays, review studies, reviews and other types of professional contributions in Czech, Slovak and English. Submissions are accepted for review according to the thematic focus of the journal. The journal has been published since 2010, since 2019 three times a year in electronic form.

STUDIA TURISTICA

Studia Turistica is a scientific journal in the field of tourism, published by the College of Polytechnics since 2010. The journal is the first Czech registered electronic professional periodical focusing on tourism. The aim of the journal is to provide academics, researchers, practitioners, students and the general public with an overview of professional issues related to the multidisciplinary matters of tourism.

4) Week of the Brain, CR

Since 2020, the College of Polytechnics has been regularly participating in the Week of the Brain event. The festival is part of the global Brain Awareness Week (BAW) campaign. Every year in early March, lectures and discussions are held on topics that introduce the public to fascinating facts about the brain.

5) Week of the Academy of Sciences of the Czech Republic

It is the largest science festival in the Czech Republic, which includes lectures, exhibitions, workplace events, documentaries, workshops, science cafés and many other activities across the country and all scientific disciplines. It is a continuation of the successful Week of Science and Technology of the Academy of Sciences. The College of Polytechnics Jihlava regularly participates in the festival, which is intended for both secondary school students and the general public, for example by giving lectures on the premises of the College and in the virtual space.

6) Researchers' Night

It is an event organised annually on the initiative of the European Commission, in which the College of Polytechnics has been involved regularly since 2020. As part of the event, scientific and research facilities are open in the evening and at night on the last Friday of September in hundreds of locations in Europe, including the College of Polytechnics, and free guided tours, popular educational lectures, workshops, experiments are held there. This is an important event for the VŠPJ, because several hundred visitors of all ages visit the premises of the VŠPJ on that day every year.

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 increasing number of research projects and contract research activities is positive. However, in our opinion, what is more important is the fact that the number of researchers is increasing and more departments are involved and interdisciplinary collaborations are being implemented. However, we still see room for further growth. The College of Polytechnics Jihlava was also involved in international cooperation projects in the period under review. The College of Polytechnics management continuously motivates the staff to engage in various forms of cooperation. Academic staff are continuously informed about project calls, cooperation opportunities. Where relevant, institutional support is offered in the form of project support. In the framework of the pre-award, this is assistance with the formation of the project plan, finding partners, support in submitting project applications. In the context of project implementation, it is methodological support in the project implementation or the provision of administrative support. The College of Polytechnics Jihlava also has financial resources earmarked for the mandatory co-financing of projects. In addition to supporting academics as researchers in research projects, the college is also dedicated to building institutional facilities, monitoring the requirements and providing institutional facilities so that the institution meets the conditions of the relevant calls (existence of a Gender Equality Plan, preparation for HR AWARD, OPEN SCIENCE issues, etc.). Continuous training of project staff and involvement in national level activities, where good practices are shared and transferred to the institution.

The results of projects and creative work are applied and used in practice, both in the private and public sector. The awareness of academic staff of the importance of the application of results in practice and the positive evaluation of such applied results is being raised (as opposed to the "historically" applied evaluation based mainly on bibliometric results).

In the period under review, the College of Polytechnics Jihlava also significantly expanded its portfolio of activities in the field of science popularisation. These are activities for the professional and lay public. Modern trends are followed in this area and various communication channels are used for science popularisation. The College of Polytechnics is thus gradually being perceived more and more as a research organisation in Jihlava and the region.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 3

Document name	No. criteria	Location (link in HTML)
The Strategy of Scientific, Research, Development, Innovation and Other Creative Activities of the College of Polytechnics Jihlava	3.1	https://www.vspj.cz/cs/soubor/stahnout/48f1a5c0692d3e5c6e6520a92ab0d601

SELF-EVALUATION REPORT FOR MODULES 4 AND 5

HIGHER EDUCATION INSTITUTION NAME: College of Polytechnics Jihlava

COMPANY REGISTRATION NUMBER (CRN):71226401

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:

Within the organisational structure described in the title page of the Self-Evaluation Report, the Vice-Rector for Research and Project Activities is responsible to the Rector of the College of Polytechnics Jihlava for the management of R&D&I.

Vice-Rector for Research and Project Activities

- keeps the College of Polytechnics authorities informed about research activities at the college
- prepares strategic materials for discussion at the level of the College of Polytechnics management and the College of Polytechnics bodies
- sets up measures to improve the quality of the results of the research activities of the College of Polytechnics
- ensures the implementation of new measures in the field of research activity
- creates conditions for improving the quality of the research environment at the College of Polytechnics

As the implementation of research is one of the core roles of the university, R&D&I issues are regularly addressed at meetings of the school's senior management (Rector and Vice-Rectors) and the Rector's advisory assembly (Rector, Vice-Rectors and Heads of Departments). As the College of Polytechnics is a non-university HEI, the Academic Council performs the function of the Scientific Council. Heads of departments, who are members of the Rector's advisory assembly, are involved in the management of R&D&I and manage creative activities within their departments. This ensures a two-way transfer of information between the research of the school and the various actors of research activity.

A supporting role for the implementation of R&D&I at the College of Polytechnics is played mainly by the departments competently falling under the Vice-Rector for Research and Project Activities. These are:

Library and Editorial Services Centre – ensures the publication of the journal Logos Polytechnikos and provides basic bibliometric service

¹ A graphical representation of the organisational structure will be provided as an annex.

Project Centre – ensures the preparation and implementation of educational and development projects of the College of Polytechnics, provides administrative support to academic staff

Science, Research and Output Commercialisation Section – the unit was established in 2024 to provide targeted and comprehensive support for creative activities at the College of Polytechnics and to seek opportunities for the application and commercialisation of the results.

This unit focuses mainly on:

- ensuring agendas for the development of the College of Polytechnics as a research organisation
- development of the research environment at the College of Polytechnics
- methodological support in the field of research activity and commercialisation of results
- preparation and evaluation of strategies and internal regulations in the field of research activities
- internal evaluation of the quality of the College of Polytechnics in the field of research activity
- monitoring the calls for research projects and communicating relevant information on these calls
- methodological support for the preparation and implementation of research projects
- basic advice on the creation and protection of intellectual property
- setting up an effective use of resources to support the long-term conceptual development of a research organisation

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:

² Student grants, support for PhD students, postdocs and early career scientists.

Support system for obtaining projects (national and foreign)

A system of regular information about project calls is set up within the College of Polytechnics. The staff of the Project Centre and the Science, Research and Output Commercialisation Section continuously monitor grant and project calls suitable for the College of Polytechnics. The information is sent to the heads of the departments concerned, who pass it on to their subordinates. The support units endeavour to sort the information and send it to the persons relevant to the call. In the case of systemic and large-scale projects at the College of Polytechnics level, a preparation team is appointed to prepare these projects. In the case of strategic projects, the possibility of external consultancy is also used, given the capacity of the College of Polytechnics. Methodological support is provided to the main investigators of research projects already at the stage of project preparation (consultation on budget setting, specific questions on the relevant call, preparation of cooperation agreements, ensuring the administrative requirements of the project according to the specific call, support in working with application systems, providing translations). In the case of existing project applications, we offer the possibility of finding the appropriate grant title and, in the case of international projects, assistance in finding project partners.

Project consultancy/management/support administration system

The project consultancy/management/support administration system builds on the support for the acquisition of projects. The level of involvement of support services depends on the size and complexity of the project. Support is provided to the main project investigators in particular with the financial management of the projects, preparation of monitoring reports, ensuring internal processes in accordance with the requirements of the relevant call, ensuring communication with the support providers, ensuring the administrative formalities of documentation. The project management system at the College of Polytechnics is regulated under the *College of Polytechnics Project Management Guidelines*.

At the management level, the College of Polytechnics project activity supervisor is the Vice-Rector for Research and Project Activities. The project activity supervisor ensures the compliance of projects with the long-term objectives of the College of Polytechnics with other activities and internal regulations of the College of Polytechnics, and carries out continuous supervision of the preparation and implementation of projects, including monitoring of the fulfilment of objectives.

The project investigator is responsible for the preparation and implementation of a specific project on behalf of the College of Polytechnics. He/she ensures the proper progress of the preparation and implementation of the project and manages the project team. To support the project management of the College of Polytechnics, a separate module has been created in the College of Polytechnics information system. The module has the function of both collecting project information and providing an internal approval process for the decision to submit a project application.

Science Management

A separate Science, Research and Output Commercialisation Section has been established to support science and is being systematically developed. To this end, strategic projects have been prepared to address this area. These are projects under the calls of the Operational Programme Jan Amos Komenský (OP JAK). One project is about fostering the research environment and one of its objectives is to obtain the HR AWARD and to set up a strategic management system to maintain this award, activities are also planned to support other aspects of science – Open Science, Ethics and safety in research, the use of AI in research. Another of the prepared and submitted projects is a project to support intersectoral cooperation between the College of Polytechnics and the application sphere. Within the framework of this project, in addition to the actual research activities of the College of Polytechnics cooperation with the application sphere, there is also an activity planned to expand the cooperation of the College of Polytechnics with the application sphere and

to actively search for opportunities for further application of research results. The projects are currently under evaluation. However, even without these projects, the College of Polytechnics considers the development of the research environment of the institution as one of its strategic goals and will implement supporting activities from internal sources and will continuously seek opportunities for additional external funding.

Internal grant schemes

The College of Polytechnics has traditionally run the College of Polytechnics Internal Grant Competition (IGS). The IGS is now announced only for the implementation of research projects. The basic framework of the IGS has been maintained over the years, however, there have also been innovations to better target the IGS to support and develop creative work at the College of Polytechnics. For IGS projects, it is expected that no later than two years after the end of the project, the investigator will submit a project application to external granting agencies, enter into a contract research or development agreement with an external entity. The project is also expected to publish in journals with IF registered in Web of Science. In order to achieve quality results, the conditions are currently set so that projects can be implemented for a period of 2 years. Within the IGS, interdisciplinary cooperation projects between departments are supported and at the same time the involvement of students in creative work is encouraged. In the years 2020–2024, a total of 30 creative projects were implemented within the IGS Internal Grant Competition.

The College of Polytechnics has become the holder of the Specific Undergraduate Research Support from 2024. This support is provided by the Ministry of Education, Youth and Sports for the implementation of the student grant competition. These funds are provided to HEIs that have at least Master's graduates and draw additional R&D&I funds. The College of Polytechnics has thus become a beneficiary of this support thanks to the development of master's degree programmes and the gradually increasing volume of funds for R&D&I (institutional support, support for research projects). Thus, in 2024, the first 3 projects were implemented, where the main investigator of these projects is an academic who leads (possibly with other colleagues) students in creative work.

New research teams

Support for new research teams and new topics is possible within the framework of the above-mentioned IGS. In addition, academics can individually apply for so-called general research activity support for research projects that are likely to generate high-quality results. In addition, methodological support is provided for searching for specific calls and external funding opportunities for these teams. Support is also provided for the submission of project applications.

Support for students and early career researchers

As mentioned above, the research activity of students is supported by internal grants. The internal grant competition gives points to projects that involve students in creative work. There is also a Student Grant Competition where student involvement is required. The involvement of students in competitions is also positively evaluated (e.g. in 2021 the first place of the team of students of the College of Polytechnics in the UnIT Challenge in the Frontend category).

The College of Polytechnics does not run doctoral programmes, so the tools to support early career researchers must be individually tailored. Academic staff who do not have a Ph.D. can use the Qualification Support Facility to upgrade their qualifications. Under this facility, academic staff can draw on funding for e.g. conference attendance, publication fees, travel and, where appropriate, tuition reimbursement when taking time off for study. As mentioned above, early-career projects are awarded points in the IGS. Individual support for early-career scientists is then provided at the level of the heads of the individual professional departments, who integrate the early-career scientists into existing teams.

Excellence in science support system

Academic staff who achieve high quality results are supported in particular within the framework of the so-called Individual Research Support, where these academic staff are given the opportunity to draw funds for the further development of their creative activities on the basis of their quality results each year. The funds can be used for the purchase of necessary materials, non-investment equipment, participation in conferences, publication fees, or the purchase of related services. The proposal for the use of these funds is the responsibility of the academic staff, only the scope of the use of funds for creative activities is controlled. Another tool to support excellent science is already incentive-based, where academics are rewarded for publishing high quality articles with an emphasis on WOS-indexed journals and those ranked in Q1, Q2 in a particular field. The field of the journal in which the article is published is also considered. Rewards are given for results that fall into the preferred FORD fields according to the field of study of the College of Polytechnics Jihlava. Non-publication results are also rewarded, where the amount of the reward is decided by the committee and considers not only the field and nature of the result but also its potential for further use and application in practice.

Interdisciplinary research support system

Interdisciplinary cooperation between departments has long been encouraged. IGS projects that demonstrate interdisciplinary collaboration are awarded points. Heads of Departments support their academic staff in the implementation of joint projects. In the projects given as examples, collaboration between disciplines is working and joint solutions are being found.

The concept of providing conditions for the emergence of new quality research directions/topics, especially with application potential

In 2024, a discussion was initiated with departments to define key directions for the development of research activity. Based on these discussions, the following directions are being further developed:

- Sustainable tourism development
- Sustainable economy and society
- Efficiency and performance of organisations
- Consumer behaviour, brand management, sustainability marketing research
- Recovery and mental health care
- Coping strategies in the context of social work
- Artificial Intelligence and Data Science
- Additive technologies
- Smart materials and structures research
- Fatigue Research on Materials and Structures
- Forensic biomechanics and human biomechanics
- Breastfeeding research

The proposed directions will be further worked with in terms of supporting the teams and actively seeking further external or international cooperation. Opportunities to exploit the results of the work of individual teams will also be sought.

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:

R&D&I quality assessment

The College of Polytechnics quality assurance and internal assessment system is based on an institutional framework and includes regular assessment of all key processes, outputs and staff at the College of Polytechnics. The evaluation of R&D&I activities is part of quality assurance and internal quality assessment.

The evaluation of the R&D&I activities of the College of Polytechnics includes the evaluation of:

- fulfilling the strategic plan and objectives of R&D&I activities,
- support for the development of R&D&I activities,
- quality of R&D&I activities in the field of research projects, contract research,
- knowledge and technology transfer and popularization of R&D&I activities,
- quality of publication outputs,
- staffing and skills development,
- staff involvement in external R&D&I activities,
- student scientific activities.

The main tools of the College of Polytechnics for quality assurance and internal evaluation of R&D&I are regular feedback, self-assessment reports, bibliometric analysis of results, peer review assessment and peer review by independent experts.

The main bodies of the College of Polytechnics in the system of quality assurance and internal evaluation of R&D&I activities are: the Rector, the Vice-Rector for Research and Project Activities, heads of professional departments, directors of study programmes, supervisors of study courses and project supervisors.

In addition to the internal quality assessment, the R&D&I results are submitted to other bodies of the College of Polytechnics, which are the Academic Council of the College of Polytechnics and the Supervisory Board of the College of Polytechnics. Both of these bodies regularly assess the quality and performance of the College of Polytechnics in the area of R&D&I and continuously provide feedback to the College of Polytechnics management for further development.

External evaluators include the National Accreditation Office, which evaluates the quality of R&D and I&I activities related to the study programmes of the College of Polytechnics.

Furthermore, the outputs of creative activities are externally evaluated at the national level according to M2017+. A bibliometric analysis of the results is carried out and selected results are evaluated at the national level by a peer review system. Summary reports on the organisation are provided separately from the national level as part of the evaluation. Summary reports on the organisation are provided separately from the national level as part of the evaluation

The ethical aspect of research

The College of Polytechnics is aware of its social responsibility to staff, students at the College of Polytechnics and the public and has its own Code of Ethics. The *Code of Ethics of the College of Polytechnics Jihlava* contains basic principles, values and rules of conduct binding on all staff and students of the College of Polytechnics. The provisions of the Code of Ethics cover areas related to research activity:

- ethical and responsible use of scientific results,
- principles of intellectual property protection,
- ethical principles in publishing,
- efficient and effective use of research funds,
- management of research data and care of research materials.

An Ethics Committee is set up to examine any suspected breaches of ethics. Research ethics, responsible research and research safety are considered increasingly important by the College of Polytechnics and therefore activities to better support this area, to provide staff and student training and to improve processes in this area have been included in the strategic project submitted to the Operational Programme Jan Amos Komenský to improve the research environment at the College of Polytechnics.

As part of the provision of institutional facilities, the College of Polytechnics also addresses the issue of whistleblowing at the level of internal Whistleblowing Guidelines.

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:

Sustainable Development Concept, Corporate Social Responsibility Strategy

In 2024, the College of Polytechnics issued the *Sustainable Development and Social Responsibility Strategy of the College of Polytechnics*, which sets out the policy, mission, vision, strategic intent and strategic objectives in the area of sustainable development and social responsibility. College of Polytechnics views sustainability and responsibility as a holistic concept and defines a strategic intent in the area of sustainable development and social responsibility and sets sustainability and responsibility goals in five strategic pillars, namely: Pillar I – Strategic Management. Pillar II – Education. Pillar III – Research. Pillar IV – Third Role. Pillar V – Administration and Operations.

Pillar III – Research is mainly about supporting research, development and innovation in the field of sustainable development and social responsibility, which enables the search for innovative solutions and technologies to achieve sustainability. In the field of R&D&I, this involves not only the application of sustainability principles in individual activities, but also the preparation and implementation of R&D projects focused on the topics of sustainable development and social responsibility.

Knowledge transfer system and intellectual property protection

At the institutional level, this area is dealt with in the internal *Directive on the Management of Research, Development and Innovation Results at the College of Polytechnics Jihlava*. This directive sets out the principles for the protection and disposal of ownership, use and intellectual property rights in and to the results of research, development and innovation at the College of Polytechnics, as well as copyright in and disposal of other creative output.

³ If the knowledge transfer system is decentralised to the unit level, the HEI shall describe how the system works.

To support knowledge transfer, a Science, Research and Output Commercialisation Section has been set up, which will provide both methodological support to the creators of the results from within the institution and will seek further opportunities for the application of the results externally.

Third role, transfer of R&D&I results to civil society and interaction with local actors

The College of Polytechnics is the only public HEI in the Vysočina Region and actively cooperates with entities at the regional level. Cooperation takes place on several levels:

- 1) The College of Polytechnics is involved in projects of public administration entities, where it provides its knowledge and research know-how for innovations and strategies in public administration (e.g. Creation of a medium-term plan for the development of social services for the statutory city of Jihlava or Application of innovative practices in social protection and prevention in the Vysočina Region).
- 2) Representatives of the College of Polytechnics are nominated to steering committees and working groups at regional level. These are bodies that address the development of innovation potential and the strengthening of cooperation between the application and research sectors in the region (e.g. the Innovation Council of the Vysočina Region, the Steering Committee of the ITI Jihlava Agglomeration, the Working Group Economic Strength of the Agglomeration at the ITI JA). In addition, representatives of the College of Polytechnics are members of the bodies of other important institutions and groups in the Vysočina Region (e.g. the scientific council of the Jihlava Hospital, membership and board of directors of the CzechImplant cluster).
- 3) The College of Polytechnics participates in or organizes events to support the innovation environment of the region, organized e.g. with the regional branch of CzechInvest, API Agency or the Vysočina Region (e.g. Digitalization of SMEs, Business and Development Support Fair for companies and municipalities in the Vysočina Region, Innovative technologies in healthcare: 'From idea to customer' or how to successfully implement innovations in practice, the STARTupUJ NA VYSOČINĚ event).

Ethics, institutional resilience, personal data protection

Data protection and cybersecurity issues are addressed at the College of Polytechnics at the institutional level. Internal regulations are in place to ensure this, and staff are regularly trained. The need to focus on ethics and institutional resilience, personal data management and protection is increasingly perceived. Training in this area and procedural measures are being developed to help manage this area (e.g. in the approval process for foreign travel and conference attendance).

Activities to address this area and related staff training is also included in upcoming College of Polytechnics projects. The College of Polytechnics also collaborates with other HEIs in this area and uses the methodological resources of the MSMT in setting up support measures.

Digitalization, use of smart technologies

Within the institution, individual processes are gradually being digitised. Currently, we have digitised the internal system for project registration and approval, and the evaluation process for internal grant schemes is gradually being digitised. The digitisation was also carried out within the framework of recording R&D results. Individual processes are gradually being upgraded. The use of new technologies in the context of creative work is, in view of current societal developments, particularly related to the use of AI in science and research. A systematic approach to this area, including related training for staff and students, is planned as part of the submitted project developing the research environment of the College of Polytechnics.

Open Science

The College of Polytechnics fully respects and actively promotes the principles of open science. Open access publishing is supported, academic staff have the opportunity to pay for related publication fees from internal projects, individual research support and, in the case of publications in quality journals indexed in WoS, the opportunity to apply for support to cover these fees. The College of Polytechnics is also a member of working groups for building Open Science infrastructure at national level. The College of Polytechnics is interested in joining the infrastructure being built nationally e.g. subject repositories for scientific data. Within the framework of the submitted project Research Environment at the College of Polytechnics, it is planned to create a targeted Strategy for Open Science, to set up uniform processes, to create appropriate technical facilities and to systematically educate the staff and students of the College of Polytechnics in this area.

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:

In the period between 2020 and 2024, the College of Polytechnics Jihlava saw significant changes in the structure of staff involved in research, development and innovation (R&D&I) activities. The development shows not only changes in the total number of academic and professional staff, but also in their gender and age structure, as well as in the degree of internationalisation.

Academic positions

In the professor category, the total number of staff members registered in 2020 was 4.47, with a female share of 8.9%. By 2024, this number had fallen slightly to 3.9, but the female share had almost doubled to 17.7%. This trend indicates a gradual increase in the representation of women in top academic positions, although their share remains relatively low. The rate of internationalisation in this category was zero in both years under review. This may be related to the limited mobility of foreign academics for professorial positions and the overall low number of professors in some specific fields.

There was a slight decrease in the total number of associate professors from 14,251 to 13,211. At the same time, the proportion of women also fell, from 24.7% to 20.7%, suggesting a possible slowdown in gender balance at this level. The rate of internationalisation has also declined and the reasons may be the same as for the academic position of professor.

Assistant professors are the largest group of employees involved in R&D&I. By 2024, their number had decreased to 42,137, and the proportion of women had fallen to 63.2%. The internationalisation rate remained relatively stable, with a slight decrease from 5.8% to 5.7%. The decrease in the total number of assistant professors may be related to the increase in qualifications and the associated move to higher academic positions.

The assistant position showed the opposite trend, increasing from 20.346 to 22.495. Although the proportion of women in this position remained above half, it saw a slight decrease from 61.3% to 57.6%. The degree of internationalisation in this category is not indicated in the tables, suggesting that these are primarily domestic workers and female workers. In the context of the internationalisation of human resources, the aim is to fill more highly skilled positions with foreign professionals.

Other positions

In addition to academic staff, technical and economic background workers are also significantly involved in R&D&I, providing support for research and development activities. Although their number is not detailed in this analysis, it should be considered that their structure is also subject to evolutionary trends, in particular with regard to the needs of modernisation of research infrastructure and the digitisation of administrative processes.

Overall development trend

Overall trends between 2020 and 2024 point in several important directions. The first is a slight reduction in the number of academic staff at senior levels, which may be due to retirements and the current slowdown in the recruitment of new associate professors and professors. The second trend is a gradual decrease in the proportion of women in some positions, especially associate professors and assistant professors, although a positive increase has been recorded at the professor level. This suggests the need for further measures to promote gender equality in career development.

The degree of internationalisation in academic positions has rather declined. While it remained zero for professors, there was a slight decrease for associate professors and assistant professors. This trend suggests a certain slowdown in the internationalisation process, which may be related to the limited availability of suitable candidates from abroad, language barriers, legislative obstacles or institutional factors that may complicate the recruitment and long-term retention of foreign academics. At the same time, it should be considered that the COVID 19 pandemic occurred during the period under review and the related measures also had some impact on the level of internationalisation.

Overall, we can observe a stabilisation of the age structure, a slight decrease in the number of employees in senior academic positions and an increase in the proportion of women at professor level. In the area of internationalisation, it would be advisable to focus more on foreign experts and to communicate more about the availability of academic positions. These changes reflect broader trends in the academic environment, including the gradual diversification of work teams, the promotion of internationalisation and the drive for gender balance in R&D&I.

The College of Polytechnics is aware of the importance of human resource development. For this reason, obtaining and maintaining the HR AWARD is one of our long-term strategic goals. Winning this award will have the following benefits for the College of Polytechnics Jihlava and its employees:

- The position of the College of Polytechnics as a research organisation will be strengthened, regionally, nationally and internationally.
- In the context of obtaining research grants nationally and internationally, the College of Polytechnics will be able to participate in calls for proposals that are conditional on ownership of HR AWARD, or will be able to easily demonstrate the management and quality of its research environment.
- College of Polytechnics' competitiveness in obtaining grant funding will be strengthened.

- For potential partners in research projects, the College of Polytechnics will become a trusted partner with a certain quality mark.
- The College of Polytechnics' position as a transparent employer will be strengthened.
- Opening the College of Polytechnics for involvement in international research.

Based on the above, the College of Polytechnics intends to implement activities leading to the HR AWARD even if the project is not supported.

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	4.47	8.9	0	3.9	17.7	0
Associate Professor	14.251	24.7	22.5	13.211	20.7	16.7
Assistant Professor	45.162	67.4	5.8	42.137	63.2	5.7
Assistant	20.346	61.3		22.495	57.6	
R&D Personnel ⁵	0.9	100		2.945	34.2	
Researchers in other categories ⁶	1.279	23.5		0.157	0	
Technical and economic staff ⁷	78.49	70.4		86.175	62.7	1.2
Early career researcher ⁸	7.35	44.2		4.635	43.9	
Scientific. research and development staff involved in teaching activities	84.529	55.8		81.743	52.6	
Total number of foreign nationals	5.8	65.5		5.6	73.2	

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 Researchers with Slovak citizenship are not considered foreign.

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+.

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					37.5	100			12.5		50	
Associate Professor			13.1	16.7	34.8	33.3	17.4	16.7	30.4	33.3	4.3	
Assistant Professor			35	37.9	40	45.9	20	13.5			5	2.7
Assistant	3.1		18.2	23.8	51.3	47.6	18.2	23.9	9.1	4.8		
Early career researcher ⁹			83.3	83.3	16.7	16.7						
R&D Personnel ¹⁰			100									
Researchers in other categories ¹¹					50	50			50	50		
Technical and economic staff ¹²	6.6	1.9	22.4	14.8	31.6	37	35.5	40.7	3.9	5.6		
Scientific, research and development staff involved in teaching activities	0.8		24	30.3	42.4	45.4	17.6	16.7	8.8	6	6.4	1.6

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.

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).

¹² Who participates in the management and support of R&D&I in the institution.

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					22.2	50	44.4	50			33.4	
Associate Professor					43.5		17.4	25	30.4	75	8.7	
Assistant Professor			16.9	14.3	49.2	57.1	22	25.7	10.2	2.9	1.7	
Assistant	2.4	3.8	21.4	19.2	45.2	42.3	26.2	30.9	4.8	3.8		
Early career researcher ¹³												
R&D personnel ¹⁴	100											
Researchers in other categories ¹⁵												
Technical and economic staff ¹⁶	5.7	3.5	20.7	19.3	33.4	35.1	25.3	26.3	12.6	15.8	2.3	
Scientific, research and development staff involved in teaching activities	0.8	1.5	14.3	14.9	45	47.8	24.1	28.3	11.3	7.5	4.5	

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.

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:

1. The system of career growth of academic staff of the College of Polytechnics is based on the *Development Strategy, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics Jihlava*. The Career Regulations of the College of Polytechnics Jihlava determine the method and conditions of career growth, which means the qualification and functional advancement of academic staff achieved on the basis of their personal and professional development and improvement of qualifications. The prerequisite for career growth of an academic staff member is his/her systematic and continuous efforts to improve professional competences and formal qualifications. For academic staff who seek to enhance their qualifications, the College of Polytechnics enables the acquisition of study or research leave, foreign internships and creates other conditions for achieving career growth. The provision of sabbatical leave is particularly encouraged for staff in the final stages of preparing to submit a proposal for habilitation or professorship. The College of Polytechnics has implemented an incentive programme to support the career development of academic staff including rewards for achieving enhanced qualifications. The conditions created by the College of Polytechnics for an academic staff member to achieve career development are specified in the Qualification Agreement. As already mentioned, the College of Polytechnics intends to implement activities to obtain and maintain the HR AWARD.

In addition to direct incentives for qualification growth, the College of Polytechnics also applies indirect support for the growth of academic staff, which is based on adjusting the working conditions of academic staff completing the preparation of documents for the submission of a proposal for the habilitation procedure or the procedure for the appointment of a professor, conditions of academic staff after returning from parental leave, supporting faster involvement in creative teams, staff who due to objective external or internal constraints (long-term unbalanced structure of work activities, workload associated with the performance of functions) experience stagnation of career growth,

for workers with sensory or physical disabilities and for workers with pre-school children, with the aim of reconciling work and family life.

Targeted recruitment of academic staff with the prospect of quality R&D activities is ensured by the College of Polytechnics by its own means. The selection procedure is defined in the directive *Procedure for the selection procedure for filling academic staff positions at the College of Polytechnics Jihlava* (hereinafter referred to as "the Procedure"). The College of Polytechnics' recruitment strategy is based on networking of candidates for R&D&I positions and recruitment marketing. Recruitment of candidates is done through advertisements and outreach on social media and job portals and portals targeting HEIs and higher education professionals, direct outreach and headhunting. The provisions of the Procedure are also used in a simplified form to recruit other employees. The selection process always takes into account education, experience, skills, abilities, and other qualifications; other necessary competencies are evaluated in personal interviews before a multi-member committee.

2. International selection procedures in the conditions of the College of Polytechnics are not conducted as a separate category. However, international candidates may apply for standard competitions for academic and, where appropriate, scientific positions, provided they meet the required criteria. In assessing their applications, they are evaluated not only on their professional competence and teaching or research experience, but also on their ability to integrate into the academic environment of the College of Polytechnics, including language proficiency and ability to adapt to the Czech university system. All selection processes are conducted in accordance with applicable legislation, rules and internal College of Polytechnics guidelines, ensuring transparency, objectivity and equal opportunities for all applicants.

3. The basic rules of the adaptation process are enshrined in the document *Development Strategy, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics* and are applied appropriately to all positions. The adaptation process of newly hired employees is currently carried out within individual organizational units and is fully within the competence of their direct supervisors. This means that each department organises the adaptation process according to its specific needs and capabilities, with the responsibility for introducing new employees to the working environment resting with the head of the relevant department. The adaptation process includes, in particular, familiarisation with the specifics of the college environment, the work team, the organisational structure of the school, strategic documents and other documents necessary for the performance of the profession, key work processes and specific requirements related to the performance of the job. The adaptation period is evaluated by the direct superior and goals for the next period are set together.

To help newcomers and existing employees find their way around, a *Handbook for employees of the College of Polytechnics Jihlava* was published in 2024, providing a summary of the practical information necessary for effective integration into the school work environment. This document includes an overview of staff rights and responsibilities, information on school operations, orientation to the building, a list of contacts for key staff and departments, links to basic internal standards and regulations, as well as an explanation of some key working principles. The handbook also includes an overview of the benefits provided by the employer, which includes, for example, professional development opportunities, social and health benefits or work-life balance support.

The College of Polytechnics does not yet have a formalised mentoring system for new staff. This process is rather informal and individual, based on the actual needs of new recruits. The decision to engage mentoring is made by the heads of the individual organisational units, who can assign more experienced employees to help new colleagues adapt to the work environment, explain the specifics

of the workplace and facilitate their integration into the team. However, there is no unified methodology or systemic setup of the mentoring process. This leaves a lot of room for an individual approach of each workplace.

4. The number of working hours and the structure of working positions at the College of Polytechnics are not systematized by a uniform rule, but are flexibly adapted to the current and development needs of individual organizational units. Allocation of full-time academic staff is mainly governed by departmental requirements, considering the scope of teaching, the number of students, the requirements of the National Accreditation Bureau (NAB) and needs related to scientific research activities. For staff involved in projects and grant activities, the full-time equivalents are determined in accordance with the terms of individual project applications and their funding.

Employment contracts for academic staff are usually negotiated for a fixed term, in accordance with the *Directive on Negotiating Fixed Term Employment Contracts*, which is based on the legislation currently in force. The duration of these employment contracts is usually set in relation to the duration of the accreditation of the relevant study programme. It also considers the so-called key character of the employee, i.e. the importance of his/her professional profile and contribution to the College of Polytechnics.

Employees involved in the projects are usually involved in these activities in the form of so-called "embedded time", which means that the project activity is carried out within their main employment and by extending their job description. This ensures the continuity of their employment relationship and the stability of working conditions.

In the case of non-academic staff who provide administrative, technical and operational activities, the employment relationship is usually negotiated for an indefinite period of time after the first year at the College of Polytechnics. This approach contributes to staffing stability and allows for long-term planning of staffing capacities in the administrative and support services of the college.

Senior academic positions at the College of Polytechnics include Heads of Departments and their deputies. Their appointment and removal is done formally by means of an appointment or dismissal decree. This process is fully regulated by the college's internal guidelines and it is an internal provision. It is therefore not an institutional appointment in the sense of the Labour Code, but a specific mechanism for managing academic departments within the organisation.

5. The rules for filling senior positions in the R&D&I are based on a set of ethical principles applied by the College of Polytechnics and from the directive *Regulations of the Selection Procedure for Filling the Positions of Academic Staff of the College of Polytechnics Jihlava*. The process is set up to ensure transparency, objectivity and equal opportunities for all applicants. All academic staff positions, including senior positions, are filled on the basis of an open competition. The call for applications is public and is governed by legislation under the current Higher Education Act. The selection procedure sets out uniform requirements and provides full information to all applicants. The Rector appoints a selection board to evaluate the applicants. Key factors in the assessment include the candidate's professional experience, track record in research, development and innovation (R&D&I), ability to lead a team, and potential for further professional growth and development. In the case of academic leaders, particular emphasis is placed on managerial skills, strategic planning ability and experience in managing academic or research teams. According to the directive *Development Strategy, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics Jihlava*, academic staff with a record of long-term excellence and the professional and personal qualifications to perform these positions and functions are nominated for senior,

functional or specialised positions. Once the selection process is closed, the committee submits a proposal for a suitable candidate(s) to the Rector, who has the final decision-making power. The Rector then decides whether or not to accept the candidate.

6. The institution of sabbatical leave for academic staff at the College of Polytechnics is enshrined in the document *Development Strategy, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics Jihlava*. It is an incentive tool to support skills upgrading, especially to support the habilitation process. The Rector decides on the granting of sabbatical leave on the basis of the application of the academic staff member and the evaluation and recommendation of the head of department and the Vice-Rector for Research Activities.

Any other individual needs of academic staff related to their professional development and scientific activities are addressed by standard mechanisms of cooperation within individual departments and organizational units of the college.

7. Due to the organizational structure of the College of Polytechnics Jihlava and its current operational configuration, the school has no external workplaces, either in the country or abroad. For this reason, there is no need to implement special organisational or security measures for the return of staff from these sites.

An individual procedure is set up for the return of an employee from a foreign business trip that exceeds the standard duration. The specific handling of such a situation is fully within the competence of the relevant head of the organisational unit, who will assess the actual circumstances and take adequate measures corresponding to the specific situation.

This approach allows for flexible and personalised management of specific business trips, considering the current needs of the organisation and the individual circumstances of each case.

8. College of Polytechnics Jihlava supports flexible approaches to employment in situations where employees temporarily interrupt their working career for important personal reasons, such as maternity or parental leave, long-term care of a family member or serious health complications.

The college offers several support mechanisms for these specific life situations. These include flexible working, where staff are allowed to work part-time according to the operational possibilities of each department. At the same time, the possibility of gradual increase of working hours is set so that it is possible to react sensitively to the changing personal and professional needs of the employee. Flexible working is another option: in most of the College of Polytechnics' departments, the institution of flexible working is implemented, which allows employees to better balance work and personal responsibilities. The college's Work Regulations also explicitly provide for the possibility of concluding a teleworking agreement. The specific terms and conditions are individually negotiated between the employee and his/her direct supervisor, which allows for maximum flexibility. Another legal means is the possibility of "self-scheduling" the working time of academic staff, as enshrined in the Higher Education Act and specified in the internal directive "Recording of working time of academic staff". This directive states that activities not falling under direct teaching activities, most often scientific, research or creative activities, may be carried out at a time and place determined by the staff members themselves.

All of these principles are based on a desire to promote equal opportunities, work-life balance and overall helpfulness in dealing with challenging life situations.

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:

1. The process of recruitment of new employees of the College of Polytechnics Jihlava is regulated by the internal directive *Regulations of the Selection Procedure for Filling the Positions of Academic Staff*. The selection process always considers education, experience, skills and other qualifications. Other necessary competences are evaluated in personal interviews before a multi-member panel, which ensures the transparency and objectivity of the selection procedure. However, personal interviews are not a prerequisite – the selection panel may also decide on the basis of written documents and references.

New positions are always filled in accordance with internal regulations and long-standing practice in the branch through open competitions. Vacancies for academic and research positions are advertised on the college website, social media and specialised portals such as ResearchJobs and Universitas.

Selection criteria are based solely on professional considerations, with an emphasis on fair and transparent evaluation. The selection committee is gender-balanced according to the capabilities and expertise of each department, which promotes equal representation of men and women in the decision-making process.

The College of Polytechnics is also committed to ensuring equal opportunities for applicants who are caring for family members. In these cases, the college provides support so that caring for the family is not a barrier to participation in the selection process. This approach is a concrete measure to promote equal opportunities and reduce barriers for talented candidates.

2. The College of Polytechnics Jihlava actively promotes gender equality through a comprehensive Gender Equality Plan for the period 2023–2025. This strategic document sets out key objectives aimed at systematically promoting gender equality in all areas of the operations of the college. The main objectives of the plan include:

1. Systematically promoting gender equality and balance in all activities and at all levels of management of the College of Polytechnics.
2. Enhancing the attractiveness and credibility of the College of Polytechnics as a fair and prestigious employer.
3. Integrating the gender dimension into the content of education, research and development at the College of Polytechnics.
4. Creating an environment for reconciling personal and professional life.
5. Implementing measures against gender-based violence, including sexual harassment.

The College of Polytechnics' Gender Equality Plan 2023–2025 includes an action plan for the specified period, which is annexed to the Plan.

Equal opportunity issues at the College of Polytechnics are anchored in its strategic documents. The College of Polytechnics Strategic Plan 2021+ in Pillar III 1.B aims, among other things, at fair treatment of employees, the principles of equality and diversity, creating conditions for reconciling work and personal life and taking measures to eliminate negative behaviour in the workplace. The issue of gender is also included in the implementation plan of the Strategic Plan for 2024, where, in addition to the activities described above, other activities were planned in the area of equal opportunities, especially in raising awareness of this issue (college podcast, etc.).

This comprehensive approach demonstrates the College of Polytechnics' commitment to creating an inclusive, equitable and supportive academic environment.

3. The rules for filling senior positions are based on a set of ethical principles applied by the College of Polytechnics and from the directive *Regulations of the Selection Procedure for Filling the Positions of Academic Staff of the College of Polytechnics Jihlava*. The process is set up to ensure transparency, objectivity and equal opportunities for all applicants. All academic staff positions, including senior positions, are filled on the basis of an open competition. The call for applications is public and is governed by legislation under the current Higher Education Act. The selection procedure sets out uniform requirements and provides full information to all applicants. The Rector appoints a selection board to evaluate the applicants. Key factors in the assessment include the candidate's professional experience, track record in research, development and innovation (R&D&I), ability to lead a team, and potential for further professional growth and development. In the case of academic leaders, particular emphasis is placed on managerial skills, strategic planning ability and experience in managing academic or research teams. According to the directive *Development Strategy, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics Jihlava*, academic staff with a record of long-term excellence and the professional and personal qualifications to perform these positions and functions are nominated for senior, functional or specialised positions.

Analysis of the data in Table 4.7.1 shows a gradual improvement in gender balance in leadership positions at our institution. In 2020, the overall representation of men in leadership positions was 61.7%, while women accounted for 38.3%. Four years later, in 2024, the proportion of men fell to 56.7%, while the proportion of women rose to 43.3%. This development indicates a positive trend towards a more balanced representation of women and men in management positions. Overall, the trend is positive, but there is still room for further improvement to achieve full gender balance.

4. There are no gender quotas for nominations to professional bodies within the College of Polytechnics. Nominations to College bodies and nominations of College of Polytechnics staff to other professional bodies are made on a non-discriminatory basis and always on the basis of expertise and subject matter expertise.

5. The evaluation of academic staff is enshrined in the document *Development Strategy, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics* and is applied appropriately to all positions. Evaluation of academic staff is based on quantitative and qualitative

indicators. The tool for the evaluation of academic staff is the Performance and Quality Management System, which monitors the fulfilment of the set objectives and the monitoring of data and results in the IS. The evaluation takes the form of an appraisal interview conducted by the direct supervisor, which includes a self-assessment of the employee.

The results of this evaluation can have a direct impact on the level of personal remuneration, thus strengthening the motivation to achieve a high level of professional and pedagogical activity. For other staff, the evaluation is currently in the preparation phase and will focus mainly on assessing their competences.

Remuneration at the College of Polytechnics is governed by the Internal Wage Regulation, which is reviewed regularly to ensure fair and transparent pay conditions for all staff. Classification into pay grades is based on the highest level of education attained and also on the type of work performed and its highest level of difficulty.

There are four pay grades for academic and scientific staff, while there are eight for other staff. In addition to the above criteria, grading also considers experience, skills, abilities and other qualifications in accordance with the requirements of the particular post.

Staff members who join grant and project teams are selected solely on the basis of professional criteria such as qualifications, experience and contribution to the project, regardless of gender or age. Significant research and scientific achievements, activities related to the promotion of science or other activities falling under the so-called third role of an academic are also evaluated in the same way. These aspects are rewarded on merit, ensuring a level playing field and fair evaluation.

Staff appraisal is still formally anchored only for academic staff, under the Performance and Quality Management System. The results of this evaluation can have a direct impact on the level of personal remuneration, thus strengthening the motivation to achieve a high level of professional and pedagogical activity. For other staff, the evaluation is currently in the preparation phase and will focus mainly on assessing their competences.

6. The College of Polytechnics offers a range of tools to support the work-life balance of employees. Flexible working hours are used in most workplaces and, where the nature of the work allows, teleworking can be arranged. Employees can also use part-time work or work under agreements for work outside the employment relationship.

Special support is provided to academics on return from maternity leave, when they are able to gradually return to work through a reduction and subsequent gradual increase in their working hours. The same flexibility is offered to staff caring for a close person or young children.

An important benefit for academic staff is the possibility of individual scheduling of so-called "indirect teaching activities", which they can plan according to their own time possibilities and preferences.

The College of Polytechnics also promotes the integration of work and personal life through sports and social activities that foster teamwork and contribute to a good working atmosphere. Some events are open not only to employees but also to their families.

Teambuilding activities include bowling tournaments, bike rides, group outings.

Events open to the general public include a social ball, social evening, open lectures, Researchers' Night and more. Employees can also benefit from a social fund allowance that can be used for cultural, social, health and educational activities, including for their children.

The College of Polytechnics emphasizes the work and mental well-being of its employees, so it also offers various sports activities such as fitness classes, relaxation exercises, yoga, swimming.

In addition, employees have access to psychological counselling, which provides support in the areas of mental health and well-being, among other things.

7. In order to prevent and manage potential problems and security threats, the College of Polytechnics Jihlava has adopted the College of Polytechnics Internal Security Policy, which sets out basic objectives and procedures also in the area of personal and social security. Social security is declared in the follow-up document Declaration of Social Security at the College of Polytechnics. College of Polytechnics Jihlava declares to promote equal opportunities, create a safe environment and foster a culture of mutual respect.

This declaration highlights several key aspects. The College of Polytechnics strives to create a safe and supportive environment for all students, staff and visitors. This includes physical, emotional and psychological safety. Other aspects include the definition of undesirable behaviour. Undesirable behaviours that are not tolerated by the College of Polytechnics include bullying, humiliation, harassment (sexual and gender-based), disadvantage and discrimination, aggression and abuse of power.

The College of Polytechnics is committed to promoting the prevention of the occurrence of unwanted behaviour and raising awareness of issues relating to academic ethics, social safety, diversity and equal opportunities. Prevention and awareness-raising actions include the publication of four educational videos entitled "*You don't have to – you can!*". These videos present model situations involving ethical dilemmas and are accompanied by expert explanations that help to understand the issues and offer appropriate solutions.

The College of Polytechnics provides support to those at risk and protection to whistleblowers and victims in cases of breaches of academic ethics and social safety. It is further committed to providing sufficient support to students and staff who feel threatened by or are victims of bullying, discrimination or other violence. The College of Polytechnics also provides protection to victims and whistleblowers of unwanted behaviour and maintains confidentiality and anonymity where possible.

The College of Polytechnics respects diversity and maintains a work environment open to all regardless of gender, race, nationality, religion, disability, age, sexual orientation, and more. The College of Polytechnics creates equal opportunities for all and enables individuals to fulfil their potential regardless of individual differences. The College of Polytechnics has a procedure in place for reporting and dealing with incidents of unwanted behaviour, with the College of Polytechnics HR Manager being the point of contact. Notifications can be made in writing or electronically, even anonymously. The preferred form of resolution is informal moderated resolution, where the parties try to find an amicable solution. If the informal solution fails, the complaint moves to the formal process. In the event of a proven breach of academic ethics and social safety, the College of Polytechnics will act appropriate to the seriousness of the breach.

Students and staff of the College of Polytechnics who need psychological help can contact the academic psychological counselling service.

4.7.1 Gender balance in management positions

Senior staff	2020		2024	
	Men	Women	Men	Women
Rector	1		1	
Vice-Chancellor	2	2	2	2
Dean ¹⁷				
Academic Senate	3	11	3	12
Scientific/Artistic/Academic Council	23	9	21	11
Quaestor	1		1	
Board of Directors	8	1	7	1

Note: If one person holds more than one of these positions within the HEI, he/she will be counted in each.

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:

The College of Polytechnics Jihlava supports the cooperation of its academics with foreign universities and research institutions.

The College of Polytechnics implements the following activities in the field of academic staff mobility in order to develop academic staff mobility and increase the number of such mobility:

- It promotes international mobility opportunities and develops a targeted mobility offer.
- It monitors opportunities and conditions for international mobility.
- It proposes rules for the implementation of international mobilities.
- It negotiates with partner universities on the possibilities of new forms of mobility, including virtual mobility, and their formalisation.
- It handles offers of foreign universities and new forms of mobility.
- It promotes international mobility and new forms of mobility.
- It updates offers of international universities and new forms of mobility.

The College of Polytechnics Jihlava recognizes the importance of actively working to remove barriers to academic staff mobility and creating a suitable environment for all academic staff. Barriers in relation to mobility abroad can be linguistic, administrative, cultural, psychological, but also familial. Barriers also include gender-based barriers that can have a significant impact on women's

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.

participation in mobility programmes. Identifying and removing barriers that limit mobility is therefore crucial.

In the past reporting period 2020–2024, several international projects were solved with partners from Austria (Interreg) and the Republic of Korea (international GACR project), where short-term research stays of our academics abroad were also carried out.

After a period of no mobility of academic staff during the covid-19 pandemic, the College of Polytechnics is trying to develop these trips again. The number of mobilities also fluctuates depending on the workload of individual academics, their current career paths and the current situation in international cooperation.

The numbers of recorded short-term stays in the period under review are (year/number): 2020/3, 2021/0, 2022/25, 2023/14, 2024/16, where it should be mentioned that in the years 2020–2021 even short-term foreign stays of academic staff were limited (covid-19).

Two long-term research stays were carried out by Ing. Jakub Dostál, Ph.D., in Great Britain and Estonia. There were no other long-term research stays of our academic staff in the period under review. There are several reasons for this. At the beginning of the 2020–2022 reporting period, travel was not allowed due to restrictions related to the covid-19 pandemic; furthermore, the College of Polytechnics does not have doctoral programs whose students are directly required to do long-term internships abroad. Some academics are prevented from participation in mobilities by their teaching load and involvement in research projects.

The strategic direction of the College of Polytechnics to be a research institution cooperating with foreign partners is evidenced by the Memorandum of Cooperation signed in 2024 with National Chin-Yi University of Technology, Taiwan, which includes, among other things, cooperation on research activities. Another Memorandum of Cooperation is ready to be signed this year with Tallinn University of Technology (Estonia). Examples of long-term stays are the research stays of Ing. Jakub Dostál, Ph.D.:

1) Scientific stay at the Tallinn University, School of Governance, Law and Society, Department of Political Science, Estonia, prof. Leif Kalev, in the period of 08/2019–08/2020. Dr. Dostál participated in research on the value of volunteering in the social sector in the context of the perspectives of donors, volunteers and public grant-making organizations on volunteering. He was also involved in research on the specificities of international volunteering, with an emphasis on the special territories of EU member states and the role of universities, with an emphasis on managerial aspects. The outcome of this research stay is, among other things, the published paper Dostál, J. (2020). Revealed value of volunteering: A volunteer centre network. *Annals of Public and Cooperative Economics*, 91(2), 319-345.

2) Scientific stay at the University of the West of England Bristol, Department of Accounting, Economics and Finance, England, United Kingdom, dr. Azeem Haroom, in the period of 11/2022–01/2023. Dr. Dostál participated in research on the value of volunteering in fundraising campaigns and the interpretive framework of the value of volunteering in various contexts, e.g. in satellite accounts of non-profit institutions, in marketing communications of the organization etc. The findings of the research have not yet been published.

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:

The acquisition of research infrastructure is linked in particular to the ability to obtain external funding. The cost of expensive equipment is generally not a fully deductible cost. To finance these investments, special subsidy titles are used or public funds are obtained on the basis of individual subsidies. The College of Polytechnics given its size does not currently have to address the unavailability of equipment for individual research teams. Individual laboratories belong to individual departments according to their expertise. The laboratories have designated heads who are responsible to the heads of the departments for their operation and organisation. In case of the need to share equipment between departments, it is the responsibility of the heads of departments to agree on the sharing and the rules for sharing according to the specific situation.

Table 4.9.1 shows the cost of the acquired infrastructure. The College of Polytechnics acquires infrastructure that is used for R&D primarily from external funding sources. Given that the College of Polytechnics is an educational institution, the acquisition of infrastructure is planned with a view to the development of study programmes, but at the same time it is also used for R&D. Large investment units were therefore acquired in connection with the development of study programmes from ERDF or National Recovery Plan funds. In addition, resources from the Vysočina Region can be used for the acquisition of larger investments. Minor assets are thus acquired from the above sources, which are supplemented to a lesser extent by research projects, from which minor equipment is acquired primarily for the needs of these projects.

Investments in research infrastructure are also planned for future years, especially in connection with the submitted project to support intersectoral cooperation. In addition to the institution's own research plan, collaboration activities and technology transfer development, a significant part of the investment is the acquisition of research infrastructure for joint research with companies. In the context of this project, the systemic set-up of joint sharing and efficient use of research infrastructure will also be addressed. Efficiency will be addressed both with regard to maximum utilisation and with regard to the rules given by the support providers.

The College of Polytechnics does not host large research infrastructure projects.

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.

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	CZK 781 30 804 €	CZK 724 28 554 €	CZK 834 32 899 €	CZK 1 885 74 364 €	CZK 1 588 62 647 €	CZK 5 812 229 269 €
Cost of repairs and maintenance of equipment						
Acquisition of tangible (DH) and intangible (DN) assets for R&D&I (investments)						
Of which software				CZK 116 4 557 €	CZK 32 1 262 €	CZK 148 5 819 €
Of which other intangible fixed assets						
Of which land, buildings and structures						
Other intangible fixed assets (machinery, apparatus, equipment, etc.	CZK 20 921 825 282 €	CZK 2 041 80 522 €	CZK 265 10 441 €	CZK 5 299 209 016 €	CZK 18 765 740 244 €	CZK 47 291 1 865 505 €
Total infrastructure spending in years ²¹	CZK 21 792 856 086 €	CZK 2 765 109 076 €	CZK 1 099 43 340 €	CZK 7 300 287 937 €	CZK 20 385 804 153 €	CZK 53 250 2 100 593 €

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:

The total R&D budget includes the funds of the Long-term Conceptual Development of the Research Organisation, funds for Specific University Research, project funding and contract research; part of the funds are allocated by the College of Polytechnics from its own resources. The funds shown are those relating exclusively to the financing of R&D activities.

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.

Among the major projects in the period 2020–2024, where the College of Polytechnics was involved as a partner, we select:

Development of novel components for electromembrane modules using additive technologies (2020–2022), TACR TREND

The aim of this project was to optimize and intensify the performance of the electromembrane modules based on physical modelling and verification of the created models using additive technologies (3D printing). Specifically, these included heterogeneous ion-exchange membranes, separator grids and the separators themselves for electrodialysis (ED) or electrodeionization (EDI) processes. A secondary objective was to acquire know-how in the field of 3D printing of prototypes (rapid prototyping). This is a method that allows the verification of designed innovations cheaply, easily and quickly, and therefore is more economically advantageous and easier from the point of view of feasibility 3D printing prototypes only in the quantities needed to verify their functionality. At the same time, this method saves financial and human resources and greatly expands the range of possible innovations.

Investigators from the Department of Engineering Studies prepared samples of heterogeneous ion-exchange membranes, performed modelling and simulation of structures for heterogeneous ion-exchange membranes and their characterization.

The main beneficiary was MEGA a.s.; other partners, in addition to the College of Polytechnics, were the Technical University of Liberec and MemBrain s.r.o.

Financial support for the College of Polytechnics Jihlava: CZK 1,145 thousand

Development of an optimized custom production system (2022–2023), OP PIK Ministry of Industry and Trade

The main project beneficiary was the company INAPA s.r.o., which operates on the market of packaging materials made of solid and corrugated paper boards. This is a market segment with long-term environmental sustainability and potential for further significant growth in the future. The general trend in customers in the engineering manufacturing sector is to transfer the knowledge and choice of the appropriate packaging type to the supplier. In order for this custom manufacturing to work effectively, the system that is the subject of this project needed to be developed. This system includes three groups of R&D activities, namely the development/innovation of production equipment, the setup of on-line production data collection and evaluation, and the subsequent verification of functionality on specific prototypes. The College of Polytechnics worked with the project beneficiary mainly in the first group of activities.

Financial support for the College of Polytechnics Jihlava: CZK 897 thousand

Controllable gripping mechanics: Modelling, control and experiments (2023–2024), GACR-international bilateral project

The aim of the project was to extend the knowledge of gripping mechanics, based on 3D printed electroactive materials and pneumatically expandable origami/kirigami structures, for applications in robotics, biomedicine and aerospace. The project aimed to address open scientific questions in the field of compliant robotics, in particular whether electroactive materials produced by 3D printing are suitable for controlled deformation; what contact forces can be expected with respect to electrical excitation; what are the ranges of controllable deformations; whether real-time control of finger mechanics is possible. The project combined physical and numerical modelling of excited deformations; measurement and parameter identification of constitutive electromechanical coupling models; predictive control design with detailed and reduced numerical predictions.

The team from the Department of Technical Studies focused on the fabrication of the EA structure for gripping the experimental stand using 3D printing and processing the necessary samples to identify material parameters with numerical support in the commercial software COMSOL. In

addition, College of Polytechnics activities included the design and implementation of a suitable approach to sensing contact forces.

The main beneficiary of the project was the Institute of Thermomechanics of the Academy of Sciences of the CR, v. v. i., and, besides the College of Polytechnics, the Institute of Information Theory and Automation of the Academy of Sciences of the CR, v. v. i. also participated in the solution; the project was carried out bilaterally with the South Korean partner Kyung Hee University.

Financial support for the College of Polytechnics Jihlava: CZK 2,688 thousand

Development of innovative biocompatible coatings preventing cold-welding effect (2023–2025), TACR TREND

The current solutions of temporary fixation devices designed for the treatment of complicated fractures in periarticular regions pose significant problems in their surgical removal. Typically, screws and splints are made of the same titanium alloy. The screws that fix the splint to the bone tissue cannot be easily loosened and removed due to the cold weld of two identical materials. The screws have to be drilled out or otherwise removed, which significantly prolongs the patient's stay in the operating room. The objective of the proposed project is to develop a suitable thin coating to coat the screw portions of the locking splints. The coating material will prevent the formation of cold welds and will bring an undeniable financial and competitive advantage when implementing the proposed solution in practice.

The main beneficiary of the project is the company Advamat s.r.o., further partners collaborating on the project besides the College of Polytechnics are MEDIN, a.s., and Czech Technical University in Prague,

Financial support for the College of Polytechnics Jihlava: CZK 662 thousand

Historical mining structures in the Vysočina region as evidence of the development of society and cultural heritage objects (2023 – 2027), Ministry of Culture CR

The main goal of the project is to create effective tools for understanding historical mining and resource extraction in general as fundamental elements of the development of society, as important causes and evidence of the development of the landscape, evidence of cultural identity, national specifics and their development over time, and thus strengthen their understanding as an important form of historical cultural heritage.

In the course of the project implementation, the historical mining works and the related functionally interconnected technological facilities in the Vysočina region will be documented. The obtained data will serve as a data base for the project's application outputs, which will enable the systematic promotion of tools for the monument protection of historical mine works and the solution of the problem of the use of mine works as objects of presentation of cultural identity and interpretation of cultural heritage.

The team from the Department of Travel/Tourism of the College of Polytechnics is focusing on the development of a methodology for the evaluation and selection of historical mining works for the interpretation and presentation of cultural heritage.

The Museum of Vysočina, p.o., is the main project beneficiary; the Institute of Theoretical and Applied Mechanics of the CAS, v. v. i., is also involved in the project.

Financial support for the College of Polytechnics Jihlava: CZK 3,218 thousand

Interpretable Prescriptive Maintenance using Artificial Intelligence (2024–2026) Interreg Austria–Czech Republic 2021–2027, Priority 1 - Research & Innovation

Predictive maintenance is now a highly sought-after topic in industrial manufacturing and automation, where artificial intelligence features are increasingly being deployed. In this project, the main focus will be on physics-based predictive maintenance using artificial intelligence and advanced numerical simulations of robot and cobot gearbox behaviour. The aim of the project is AI-assisted predictive maintenance for SMEs. In order to maintain gearbox machines using decision

support systems despite the existing shortage of skilled personnel, better acceptance of AI by service personnel must be achieved. Broad applicability against various wear processes is to be ensured by creating a knowledge base and synthetic data on operational samples of gearboxes and gears.

The main beneficiary of the project is Software Competence Center Hagenberg GmbH, other members of the consortium besides the College of Polytechnics are FH OÖ Forschung & Entwicklungs GmbH, AC2T research GmbH, University of South Bohemia in České Budějovice, Intemac Solutions, s.r.o., Center for Digital Production GmbH, Intelligent Predictive Networks GmbH, Business Upper Austria - OÖ Wirtschaftsagentur GmbH, dataPartner s.r.o., Software Competence Center Hagenberg GmbH.

Financial support for the College of Polytechnics Jihlava: CZK 3,034 thousand

AI Catalyst for SMEs (2024 -2027) Interreg Austria–Czech Republic 2021–2027, Priority 1 - Research & Innovation

Meaningful use of AI offers great opportunities for businesses and can make a significant contribution to economic progress and global competitiveness. The AI Catalyst for SMEs project contributes to putting the know-how from research into practice, including what applications AI offers, which AI solutions can be applied to which problems, and demonstrates the critical key factors for successful AI implementation. In addition, possible applications are reflected from an ethical point of view. Within the framework of cross-border project activities, companies are informed and trained about the benefits and possibilities of using AI. This includes the joint cross-border development of the AI Readiness Radar, AI-Trainingsmodul for managers, development and reflection from Good Cases, AI SDT Labs, an online platform and AI Days.

The main beneficiary of the project is FH OÖ Forschung & Entwicklungs GmbH, other members of the consortium, besides the College of Polytechnics, are the South Bohemia Science and Technology Park, Institute for Advanced Studies IHS Vienna, University of Economics in Prague, FH OÖ Forschung & Entwicklungs GmbH.

Financial support for the College of Polytechnics Jihlava: CZK 2,110 thousand

METAMORPHOSIS (2024–2026) Marie Skłodowska-Curie Actions, HORIZONT EUROPE

The main objective of the METAMORPHOSIS is to give public and local communities the opportunity to meet with researchers, learn about their passion for science, their personal motivation and inspiration to choose their profession, the methods they use, and the results they achieve. It opens doors to places where scientists work and also brings research to places with limited public access. At this event, popularisers, elementary and secondary school students, adults and general public can get insights into research work, careers and cutting-edge technologies used in various research disciplines. Within the project, two editions of the Researchers' Night will be held across the Czech Republic and activities in the field of popularization of science will be transferred to primary schools in more remote areas.

The main beneficiary of the project is the University of Chemistry and Technology, Prague, and the consortium consists of 18 research organisations across the Czech Republic.

Financial support for the College of Polytechnics Jihlava: CZK 254 thousand

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
College of Polytechnics Jihlava	CZK 24 420 963 313 EUR	90.4 %	6 %	3.6 %

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	9 %	11 %	13 %	32 %	33 %	20 %
Applied Research	52 %	34 %	34 %	37 %	39 %	39 %
Experimental development and innovation	39 %	55 %	53 %	31 %	28 %	41 %
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
Total							
In the role of another participant							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK/EUR)				
			2020	2021	2022	2023	2024
<u>Office of the Government of Lower Austria</u>	<u>INTERREG AUSTRIA – CZECHIA 2021-2027</u>	<u>Priority 1 - Research & Innovation</u> <u>Duration of the projects 2024 – 2027</u>					<u>CZK 5 143 202 896 €</u>
<u>European Research Executive Agency</u>	<u>Horizont Europe - Marie Skłodowska-Curie Actions</u>	<u>METAMORPHOSIS</u>					<u>CZK 254 10 000 €</u>
Total							<u>CZK 5 397 212 896 €</u>

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
GACR							
TACR			CZK 1 467 57 860 €	CZK 1 230 48 517 €			
Ministry of Education, Youth and Sport of the Czech Republic			CZK 604 23 826 €	CZK 393 15 503 €			
Total			CZK 2 071 81 686 €	CZK 1 623 64 020 €			
In the role of another participant							
Provider / Investor	Programme/Grant Scheme	Project name	Support (in thousands CZK/EUR)				
			2020	2021	2022	2023	2024
Ministry of Industry and Trade			CZK 627 24 725 €		CZK 266 10 511 €	CZK 630 24 870 €	
TACR			CZK 383 15 099 €	CZK 376 14 814 €	CZK 387 15 255 €	CZK 335 13 201 €	CZK 328 12 930 €
Ministry of Culture CR						CZK 488 19 241 €	CZK 680 26 820 €
GACR						CZK 1 072 42 288 €	CZK 1 616 63 755 €
Total			CZK 1 010 39 824 €	CZK 376 14 814 €	CZK 653 25 766 €	CZK 2 525 99 600 €	CZK 2 624 103 505 €

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
MEDIN, a. s.	Tests and numerical FEA simulations for medical devices		CZK 24 942 €	CZK 245 9 735 €		CZK 760 29 986 €
Erilens s. r. o.	Design of innovation of production processes and equipment for finger splint production	CZK 497 19 605 €				
CEEC RESEARCH s.r.o.	Walling materials market analysis		CZK 69 2 706 €			
ROBODOCK s.r.o.	3D concrete - technical solution designs		CZK 387 15 253 €			
OPTOKON a.s.	Spectrum analyser operating software					CZK 90 3 550 €
PalletX s.r.o.	SW solution for composite pallet production optimization					CZK 45 1 760 €
Total		CZK 497 19 605 €	CZK 480 18 901 €	CZK 245 9 735 €		CZK 895 35 296 €
In the role of another participant						
Project name		Support (in thousands CZK/EUR)				

Provider / Investor		2020	2021	2022	2023	2024
Total						

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:

In particular, the use of LCDRO support is governed by the College of Polytechnics' internal *Guidelines on Long Term Support for Creative Activity and Quality*. This is a document that sets out the basic systemic framework of support.

From the point of view of the use of funds, the setup according to the Directive can be divided into 2 levels:

1) Funding for scientists' activities

This category includes funding for projects of the Internal Grant Competition, Individual Creative Support for partial activities of individual researchers, the possibility of funding significant activities of scientists outside the set schemes.

2) Motivation for further scientific work

This category includes, in particular, the setting of remuneration for the results achieved. The criteria for rewards for publication results are set, considering the method of publication (journals in WoS and SCOPUS), the quality of results according to the metrics of the databases and the alignment with the priority fields of the College of Polytechnics. There are also criteria for excellence for WoS publications – quartile ranking in the supported field and journal quality. Non-publication and application results are assessed on a committee basis, where committees are formed according to the field of the specific result.

In addition, staff are rewarded for active scientific activities – projects, membership in scientific groups, membership in editorial boards of professional journals, participation in the evaluation of research projects at national and international level, etc.

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:

Cooperation with institutes of the Academy of Sciences of the Czech Republic

Within the framework of this cooperation, joint basic research projects are implemented within the framework of GACR calls. These projects are:

Structurally controlled wave propagation in multi-material 3D printed bodies

Controllable gripping mechanics: Modelling, control and experiments

Historical mining structures in the Vysočina region as evidence of the development of society and cultural heritage objects

In addition, the College of Polytechnics is approached to participate in joint activities of science popularization, e.g. Science Week of the CAS, Brain Awareness Week, etc.

Cooperation with OPTOKON a.s.

This is a long-term systematic cooperation with the Jihlava company OPTOKON, a.s. The cooperation started in teaching activities and continues in the research areas of the implemented contract research. Currently, the strategic partnership continues with the preparation and submission of a joint strategic project "*Durability and reliability of structural components under extreme operating conditions*", when collaborative, research-oriented research will be carried out in a research direction. This is a project with a planned duration until 2028.

Cross-border cooperation within the Interreg Austria-Czech Republic

Cooperation in this programme is also gradually developing. In the last programming period, mainly institutional cooperation projects were implemented. From 2024 onwards, two projects have already been implemented under the Research and Innovation priority axis. These are projects where the College of Polytechnics is a partner:

- Interpretable Prescriptive Maintenance using Artificial Intelligence
- AI Catalyst for SMEs

Additional projects under the Program continue to be developed.

Memorandum of Understanding between National Chin-Yin University of Technology (Taiwan) and College of Polytechnics Jihlava

One part of the Memorandum concerns the interest in collaborative research. The Memorandum was concluded in 2024. Cooperation with Taiwan is also supported at the national level and therefore the concluded Memorandum is a precondition for the development of future cooperation.

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:

The College of Polytechnics Jihlava is a non-university type HEI and does not implement doctoral study programmes.

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.

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:

The College of Polytechnics Jihlava continued its efforts to raise funds for research and develop research collaborations during the period under review. The College of Polytechnics engaged in projects across disciplines and established collaborations with both the private and public spheres. International collaborative projects are also gradually being attracted.

It is an effort to establish and support long-term systematic work by individual departments on specific topics that are relevant to the focus of the College of Polytechnics. These themes are not determined by the management, but there is a continuous discussion with individual departments so that they formulate these themes themselves and propose their progressive development. We endeavour to lead the discussion in such a direction that the output of creative activity in individual topics is not only high-quality publications, but especially results that can be applied in practice, whether in the private or public sphere. At the same time, we want the individual research efforts to be long-term in nature and for there to be a certain continuity in the departments associated with investment in research infrastructure.

At the same time, work is underway to improve the quality of research facilities within the institution. A Gender Equality Plan has been developed and the Code of Ethics has been updated. Internal regulations, which describe in particular the motivational tools for researchers, are also gradually being innovated so that research activities are directed towards relevant fields and with the possibility of application in practice. A separate Department of Science, Research and Output Commercialization was created and will focus on supporting research activities and their further application at the College of Polytechnics. The Research Environment Project at the College of Polytechnics was also developed during the evaluation period and is currently under evaluation.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 4

Document name	No. criteria	Location (link in HTML)
Strategic Framework for Human Resources Development of the College of Polytechnics Jihlava	4.6, 4.7	https://www.vspj.cz/cs/soubor/stahnout/6afa01522400eb1ee8802e149c2db10a
Development Strategy, Career Regulations and Evaluation of Academic Workers of the College of Polytechnics Jihlava	4.6, 4.7	https://www.vspj.cz/cs/soubor/stahnout/222eb374b31a9c3ffcbd45358d3e2621

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:

The mission and vision of the College of Polytechnics is described in the *Strategic Management System of the College of Polytechnics*, in the *Strategic Plan of the College of Polytechnics for the period 2021+*, and in other strategic documents of the College of Polytechnics. The College of Polytechnics' strategic intent for 2021+ is based on the priorities articulated in the Education Policy Strategy 2030+, on the Strategic Plan of the Ministry for Higher Education for the period from 2021 (hereinafter "SZ MŠMT 2021+") and the National Research, Development and Innovation Policy of the Czech Republic 2021+.

The College of Polytechnics is a professionally oriented public HEI focused on applied education whose mission is to provide professionally diverse study programmes based primarily on the needs of the regional labour market, to promote intensive collaboration and innovative development of the application sphere, to foster relevant creative activity and applied research, to provide lifelong learning programs, and to assist the cultural and general educational development of the region.

The vision of the College of Polytechnics in the field of R&D&I is to be **a recognised HEI in the field of applied development**, which is a carrier of innovation, has modern technological equipment and expertise that will enable it to offer a broad research and laboratory base to application partners, including knowledge transfer.

College of Polytechnics pursues quality and development in five strategic pillars: I Education, II Research, III Third Role, IV Strategic Management, and V Internationalization. In these strategic pillars, the College of Polytechnics has set strategic goals that guide the school towards higher quality, openness and competitiveness.

The strategic goal in creative activity is to increase the quality, social relevance and international dimension of creative activity and excellence of applied research results. The priority objectives are:

- Strengthen strategic management and effective use of R&D capacity.
- Support research and creative activities considering the specificities of all areas of education in accredited study programmes.
- Increase the number and quality of applied results and actively participate in technology transfer.
- Develop a system for the management and development of human resources in science and research.

³⁹ For so-called R&D&I capacities, see Definition of Terms in Methodology HEI2025+.

The vision was pursued through specific activities that intersected with the above priority objectives:

- the involvement of the College of Polytechnics in research projects has increased, the College of Polytechnics has been either the principal investigator or co-investigator;
- a number of projects generated results applied in practice;
- The College of Polytechnics communicated intensively with regional public administration actors, thanks to which it was possible to include a project for intersectoral cooperation of the College of Polytechnics with the application sphere within the Integrated Territorial Investments of the Jihlava Agglomeration with a negotiated allocation for this project;
- In connection with the above, the project "*Durability and reliability of structural elements in extreme operating conditions*" was prepared and submitted to the call of the Operational Programme Jan Amos Komenský. The subject of the project is not only the cooperation with the Jihlava company OPTOKON a.s. on scientific topics, but it is also important for the College of Polytechnics in terms of the possibility to finance the acquisition of new research infrastructure and one part of the project is dedicated to the development of cooperation with other subjects of the application sphere and the development of activities in the field of technology transfer. The implementation of the project is planned for the years 2025–2028 and the total eligible costs are approx. CZK 90 million (€ 3.5 million);
- within the institutional setting, a number of internal regulations have been adopted to improve the institutional background for R&D at the College of Polytechnics (e.g. creation and implementation of a Gender Equality Plan, adoption of a new Code of Ethics);
- the internal document Guidelines for the long-term support of creative activity at the College of Polytechnics and its quality was modified and updated and provides a basic framework for the implementation of creative activities – in the period under review, the document includes a prioritization of disciplines that correlates with the disciplines cultivated at the College of Polytechnics, and the definition of excellence is being modified, taking into account the concept of excellence at the national (in the future) and international level;
- the terms and conditions of the College of Polytechnics Internal Grant Competition are being upgraded in order to improve the quality of the results that projects generate; projects in prioritized fields are supported, results according to the 2017+ Methodology are preferred/required, direct support within the eligible costs is provided for results of higher quality (e.g. publication fees are only eligible for outputs in journals in the 1st or 2nd quartile in WoS);
- The College of Polytechnics has become a beneficiary of financial support from Specific Undergraduate Research, which aims to engage students in research activities. In 2024, the first student projects were implemented, and with the development of master's degree programmes, further development in this area is expected;
- a project *Research Environment at the College of Polytechnics* was prepared and submitted to the Operational Programme Jan Amos Komenský. The aim of the project is to acquire and set up a strategic human resources management system in order to maintain HR AWARD, further systematically set up the Open Science support area and then develop and improve other aspects of the research environment development at the College of Polytechnics – ethics and research integrity, update the Gender Equality Plan, the system and rules for the responsible and effective use of AI in science and systematic training of the College of Polytechnics staff in all these areas;
- College of Polytechnics has developed its activities in the field of popularization of science, participated in events organized at the national level, created its own products e.g. the Polytechnicast podcast; in 2024, the College of Polytechnics is part of the consortium of universities and research organisations that are part of the HORIZONT EUROPE-funded METAMORPHOSIS project, which aims not only to continue the activities of the Night of Scientists on the basis of an established organisational network, know-how and coordination

method, but also to further develop the efforts to popularise science by emphasising the European dimension and expanding it further.

5.1.1 R&D&I capacities of HEI in the year 2025

Field of Research	FORD	FORD share [%]	Predominant type of research	Total share of field of reaserch [%]
1. Natural Sciences	1.1 Mathematics	4.3	Balanced basic and applied research	6.2
	1.2 Computer and information sciences	0.5	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	1.4	Balanced basic and applied research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	14.5
	2.2 Electrical engineering, Electronic engineering, Information engineering	5.8	Applied research	
	2.3 Mechanical engineering	3.4	Applied research	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering	5.3	Applied research	
	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	10	Basic research	23.2
	3.2 Clinical medicine	3.3	Basic research	
	3.3 Health sciences	4.7	Basic research	
	c	5.2	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	Applied research	56.1
	5.2 Economics and Business	32.8	Applied research	
	5.3 Education		Zvolte položku.	
	5.4 Sociology	5.2	Applied research	
	5.5 Law		Zvolte položku.	
	5.6 Political science		Zvolte položku.	
	5.7 Social and economic geography	1	Applied research	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences	15.7	Applied research	
	6.1 History and Archaeology		Zvolte položku.	

6. Humanities and the Arts	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 %

5.1.2 Target R&D&I capacities of HEI for the next five-year period

Field of Research	FORD	FORD share [%]	Predominant type of research	Total share of field of reaserch [%]
1. Natural Sciences	1.1 Mathematics	1	Basic research	10
	1.2 Computer and information sciences	7	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	2	Balanced basic and applied research	
2. Engineering and Technology	2.1 Civil engineering		Zvolte položku.	35
	2.2 Electrical engineering, Electronic engineering, Information engineering	8	Applied research	
	2.3 Mechanical engineering	8	Applied research	
	2.4 Chemical engineering		Zvolte položku.	
	2.5 Materials engineering	9	Applied research	
	2.6 Medical engineering	2	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	8	Balanced basic and applied research	
3. Medical and Health Sciences	3.1 Basic medicine	5	Basic research	20
	3.2 Clinical medicine	1	Basic research	
	3.3 Health sciences	9	Basic research	
	3.4 Other medical sciences	5	Balanced basic and 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	Balanced basic and applied research	35
	5.2 Economics and Business	25	Applied research	
	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	4	Balanced basic and applied research	
	5.8 Media and communications		Zvolte položku.	
	5.9 Other social sciences	5	Applied research	
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 %

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
Strategic Plan of the Ministry for Higher Education for the period from 2021+	Strategic Plan of the College of Polytechnics for the period 2021+
National Policy on Research, Development, and Innovation of the Czech Republic 2021+	Strategic Plan of the College of Polytechnics for the period 2021+ The Strategy of Scientific, Research, Development, Innovation and Other Creative Activities of the College of Polytechnics Jihlava
Gender Equality Strategy 2021-2030	GENDER EQUALITY PLAN VSPJ Code of Ethics VSPJ
National Research and Innovation Strategy for Smart Specialisation of the Czech Republic 2021–2027 (RIS 3)	Strategic Plan of the College of Polytechnics for the period 2021+ The Strategy of Scientific, Research, Development, Innovation and Other Creative Activities of the College of Polytechnics Jihlava Setting up the research directions – some of them corresponding with RIS 3 Specialisation domains

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:

In the next five-year period, the College of Polytechnics is, as for R&D, focusing on the following:

Completing the transformation of the College of Polytechnics research environment, which includes:

- setting up a system of strategic management in the field of human resources, so as to increase the attractiveness of the College of Polytechnics as an employer of research organisations. The system will be set up to meet the conditions for obtaining and maintaining the HR AWARD mark, which also carries with it a quality standard recognised internationally;
- defining criteria and setting conditions for conducting safe and ethically responsible research and setting internal processes so that research activities meet these criteria while maintaining research freedom. In addition to the institutional setting, this will include training and awareness raising for staff on these issues;
- updating the existing Code of Ethics and Gender Equality Plan and ensuring implementation of these regulations in research activities;
- developing and implementing a strategy for Open Science and providing technical background for the implementation of the measures, ensuring the connection to the national infrastructure for open science (national repositories, etc.);
- improving facilities to support researchers, including project support, expert support for open science and technology transfer.

Increasing the number of quality R&D outputs in the disciplines cultivated at the College of Polytechnics, which includes:

- motivating and increasing competences for researchers to engage in R&D projects that generate such results;
- in view of the generally low success rate in national calls, motivating and creating facilities for researchers to participate in international research projects;
- supporting the establishment and development of research teams that will systematically address a specific scientific topic.

Expanding the College of Polytechnics' collaboration with the application sector, which includes:

- expanding cooperation with businesses on specific project plans that will generate outputs that are applicable in practice, in which the College of Polytechnics will have a stake (especially for technical programmes, possibly also for economic programmes);
- developing collaboration with the public and non-profit sectors and contributing research capacity for innovation in the public sector (for social work, health care and economic programmes);
- setting up and developing a system for technology transfer, application and commercialization of results.

Raising awareness of the College of Polytechnics as a research organisation regionally, nationally and internationally, which includes:

- promoting research activities to the professional public and participating in professional events;
- presenting the results to the general and professional public in an appropriate form;
- actively participating in professional events with international participation;
- encouraging staff participation in professional platforms at national and international level.

The above specific intentions for future areas are considered in relation to and in order to meet the priority objectives and sub-objectives set out in the College of Polytechnics Strategic Plan 2021+:

In the area of Priority Objective 1: Strengthen strategic management and effective use of R&D capacities, the following objectives are set:

- Complete a comprehensive transformation of the R&D environment and process setup.
- Ensure the development of R&D infrastructure services.
- Promote excellence and societal relevance of research.

In the area of Priority Objective 2: Support research and creative activities considering the specificities of all areas of education in accredited study programmes, the following objectives are set:

- Increase the motivation, training and development of academic staff to address creative challenges and in the protection of intellectual property and the management of intangible assets.
- Create conditions for the development of the acquisition of creative activity of the College of Polytechnics.
- Promote knowledge and technology transfer and open access to the results of creative activity.

In the area of Priority Objective 3: Increase the number and quality of dominantly applied results and actively participate in technology transfer, the following objectives are set:

- College of Polytechnics Support of international research projects.
- Improve the applicability and relevance of applied research and the environment for transferring results into practice.

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 College of Polytechnics has developed a *Strategy for Scientific, Research, Development, Innovation and Other Creative Activities of the College of Polytechnics*, the purpose of which is to support and effectively target funds for activities leading to strengthening the scientific, research, innovation and other creative capacity of the College of Polytechnics and increasing the motivation of the staff of the College of Polytechnics in order to fully exploit their knowledge potential for the development of R&D.

In order to achieve the objectives set out in the Strategy the College of Polytechnics uses a range of support and motivational tools, which are set out in:

Guidelines for the long-term support of the College of Polytechnics' creative activity and its quality:

- rewards for results of creative activity with an emphasis on excellence
- individual support of creative activities of individual employees
- OPEN ACCESS fee funding option
- rewards for active scientific activity

Terms and Conditions of the Internal Grant Competition for the year:

- emphasis on projects with quality outputs
- emphasis on projects with the potential to develop the topic further into a specific project plan or contract research project
- support of principal investigators with less project experience in order to strengthen their competences for further project activities
- OPEN ACCESS fee funding option for quality results

Terms and Conditions of the Student Grant Competition for the year:

- emphasis on student involvement in scholarly work
- academics are the "mentors" of this work

Gender Equality Plan

- integrating the gender dimension into research and development at the College of Polytechnics
- introducing rules to support the creative activity of workers returning to work after a long period (maternity, parental leave, long-term illness)
- the introduction of a system to support the involvement of staff on maternity or parental leave in creative projects undertaken at the College of Polytechnics

Code of Ethics

- responsible research reflecting the latest developments in your field
- principles of intellectual property protection
- responsible presentation of results

Guidelines for the Disposal of Research, Development and Innovation Results at the College of Polytechnics

- commercialisation of results
- intellectual property
- protection of ownership, use and rights to intellectual property

Strategy for Development, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics

- support for up-skilling
- support for project, scientific research and creative activities
- support for internationalisation through mobility and internships abroad

The strategic documents, creative methodologies and incentive programmes for supporting the creative activities of academic staff are and will be gradually adjusted and developed in connection with the gradual implementation of the Methodology for the Evaluation of Research Organisations and the Evaluation of Programmes of Purposeful Support for Research, Development and Innovation (hereinafter referred to as "M2017+"), or with its new version being prepared at national level ("M2025+").

Furthermore, strategic tools will be developed to systematically address the areas of institutional resilience, open science and technology transfer.

5.3.1 Institutional tools and measures for the implementation of the research and development strategy

Name of instrument/measure	Description of the tool/measure	Implementation status	Year
Guidelines for the Long-Term Support of Creative Activity of the College of Polytechnics	Promoting excellence, supporting the creative activity of academic staff	Implemented	2024
Internal grant titles	Support for the scientific work of academic staff and students of the College of Polytechnics	Implemented	2024
Gender Equality Plan	Equal Opportunities, Gender Dimension of Research, Gender Equality Plan approved until 2025, to be updated	Implemented partially	2026
Code of Ethics	Ethical and responsible research	Implemented	2024
Technology transfer, commercialisation of results, protection of intellectual property	Guidelines for the Management of Research, Development and Innovation Results at the College of Polytechnics - to be upgraded	Implemented partially	2028
Human Resource Development	Strategy for Development, Career Regulations and Evaluation of Academic Staff of the College of Polytechnics Measures for obtaining and retaining the HR AWARD will also be addressed	Implemented partially	2028
Institutional resilience	Systemic institutional resilience measures	Not-implemented	2028
Open Science	Open Science System Settings	Not-implemented	2028

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:

Cooperation at international level was promoted. However, building such cooperation is a long-term affair. International partnerships have been gradually formed, projects have been prepared and the implementation of the first ones started in 2024. In earlier years, international cooperation projects were also carried out at the level of the College of Polytechnics, but they were not research projects and therefore cannot be listed. Here, however, we foresee further development of cooperation also in research directions.

In addition, a project was prepared and submitted within the framework of the OP JAK, the call Intersectoral Cooperation for ITI. Although the research topic itself is carried out with a local company, part of the project is also dedicated to expanding cooperation not only nationally but also internationally. For example, an activity is planned for short-term visits of scientists from foreign

institutes, or conversely, meetings of the College of Polytechnics staff abroad to expand collaboration.

Also, a Research Environment project has been prepared and submitted to the College of Polytechnics with the aim of obtaining the HR AWARD. In addition to the previously mentioned benefits to the research environment at the College of Polytechnics, the fulfilment of the HR AWARD standards is intended to contribute to strengthening the College of Polytechnics' position as a research organisation at an international level. For potential partners of international projects, this is a seal of approval that the College of Polytechnics meets the standards of the European Union and can thus become a full partner of the projects. At the same time, this will make the College of Polytechnics more open to the possible employment and involvement of foreign researchers.

A LIST OF SUPPORTING DOCUMENTS/LINKS FOR MODULE 5

Document name	No. criteria	Location (link in HTML)
The Strategy of Scientific, Research, Development, Innovation and Other Creative Activities of the College of Polytechnics Jihlava	5.3	https://www.vspj.cz/cs/soubor/stahnout/48f1a5c0692d3e5c6e6520a92ab0d601
Development Strategy, Career Regulations and Evaluation of Academic Workers of the College of Polytechnics Jihlava	5.3	https://www.vspj.cz/cs/soubor/stahnout/22eb374b31a9c3ffcbd45358d3e2621