Annual Report 2023

STU

SLOVAK UNIVERSITY OF
TECHNOLOGY IN BRATISLAVA

STU

Rector's address

In 2023, the Slovak University of Technology (STU) in Bratislava commemorated the 86th anniversary of its establishment. Its tradition, however, goes back to the Mining Academy founded in Banská Štiavnica in 1762, the first technical school of university-type in the territory of today's Slovakia.

During the previous academic year, we harmonized the STU's internal regulations with extensive amendment to the Act on Higher Education Institutions and the Act on Quality Assurance, including the standards governing the internal system of education quality assurance. After subsequent assessment by the Agency, we hope to gain authority to independently decide on the formation and changes of study programmes.

The total number of STU students in the 2022/2023 academic year increased by 4% compared to the previous year. The number of foreign students of regular studies increased by 84%. The share of foreign students at STU reached 16.5% of the total number of university students. Compared to the academic year 2021/2022, it grew by 7.2%.

Together with its partners within the EULiST consortium, STU won the European Universities project, implementation of which started in November 2023.

For many years, STU has belonged to the leading research universities in Slovakia. It has been ranked in three important world rankings: the QS World University Rankings®, THE (Times Higher Education) World University Rankings and the U.S. News Best Global Universities. It occupied the best position in the QS World University Rankings®: 1000-1200 out of 1498 evaluated universities.
STU belongs to the top universities in Slovakia in terms of its graduates' employability. Since 2022, STU holds the label of "HR Excellence in Research".

Despite difficult conditions, STU successfully managed to develop research activities. The STU share in the total volume of funds from domestic and foreign grants distributed to public universities in Slovakia in 2023 makes 17%.
As for international scientific research programs, STU belongs to the most successful institutions in Slovakia.

Oliver Moravčík
Rector

KEY FIGURES 2023

176 706
graduates

10 976
students

1 347
teaching and research staff

514
Erasmus+ agreements

419
contractual research projects

323
study programmes

180
international projects

150
research projects

101
framework agreements with foreign universities

7+1
faculties (schools) + University Institute


SLOVENSKÁ VYSOKÁ ŠKOLA TECHNICKÁ
1938

The Slovak University of Technology in Bratislava offers university education in engineering disciplines. The STU education system is based on scientific research, as well as on artistic, engineering and other creative activities. The STU faculties, departments, institutes and experts cooperate directly with industrial companies and social organisations, actively taking part in international cooperation.

Vision

The Slovak University of Technology in Bratislava strives to be an internationally recognized, research-oriented technical university. It seeks to provide a high quality, internationally comparable education to a broad spectrum of students in promising fields, based on independent and critical thinking, entrepreneurship and creativity, while regarding practical application and success in life, and taking into account the human aspects of education and technological progress. The University aims at contributing to the economic and social development of the Region.

Mission

As a research-oriented technical university, the STU's mission is to apply and disseminate new knowledge achieved in scientific research, engineering and other creative work, as well as educate and enlighten the young generation in the spirit of the principles of humanism and philanthropy. STU thus develops harmony, knowledge, wisdom, altruism and creativity in a person, and contributes to the development of education, science, culture and health for the good of society as a whole, thereby contributing also to the development of a knowledge-based society.

Rector: Oliver Moravčík, Dr. h. c., Prof. h. c., Prof. Dr. Ing.
Chair of the Academic Senate: Marián Peciar, Prof. Ing., PhD. (to 23 May 2023); František Janíček, Prof. Ing., PhD. (since 24 May 2023)
Chair of the Administration Board: Vladimír Slezák, Ing.

Photo: Pavel Kudiváni

Faculties & Institutes

- **FACULTY OF CIVIL ENGINEERING**
  www.svf.stuba.sk
  Building constructions, services and technologies; geodesy and cartography; land constructions; transportation constructions; mathematical-computational modelling; water constructions and water systems

- **FACULTY OF MECHANICAL ENGINEERING**
  www.sjf.stuba.sk
  Applied mechanics & mechatronics; automation of machines; automobiles & mobile machines; chemical and food machinery; metrology & production quality systems; thermal, hydraulic and production machinery

- **FACULTY OF ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY**
  www.fei.stuba.sk
  Applied informatics & communication systems; cybernetics, robotics & smart technologies; electronics; electrical engineering; nuclear & physical engineering, power engineering

- **FACULTY OF CHEMICAL AND FOOD TECHNOLOGY**
  www.fchpt.stuba.sk
  Biotechnologies; chemical engineering; environmental engineering; food chemistry & technologies, fuels & polymers; inorganic & organic technologies; inorganic, organic, analytical & physical chemistry

- **FACULTY OF ARCHITECTURE AND DESIGN**
  www.fad.stuba.sk
  Architecture & urban development; product design

- **FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY**
  www.mtf.stuba.sk
  Automation & informatics in industry; industrial management; materials engineering; processing and application of non-metals; production machinery and systems; production technologies

- **FACULTY OF INFORMATICS AND INFORMATION TECHNOLOGIES**
  www.fiit.stuba.sk
  Computer engineering; information security; information systems; security; internet technologies

- **INSTITUTE OF MANAGEMENT**
  www.stuba.sk
  Entrepreneurship; investment planning; spatial planning

Highlights of 2023

SUCCESSFUL COMPLETION OF THE ACCORD PROJECT - Advancing University Capacity and Competence in Research, Development and Innovation (co-investigator: Comenius University)

The project was focused on 5 key activities - reducing CO2 emissions; increasing the attractiveness of the educational environment; modernization of IT infrastructure; renewal of the research infrastructure/ equipment; joint research programs.

ACCORD

SCIENCE FOR FUTURE

The funds obtained by STU represent the sum of € 67 855 876.41 from the total budget of € 128 468 788.80. Through the successful implementation of the project, STU acquired 5 buildings at the low-energy level (after reconstruction), 71 236.78 m^2 renovated floor area, 780 new instruments for 20 laboratories (biotech, advanced materials, ICT).

INCLUSION OF SCenT - SPECIALIZED CENTRE FOR TECHNOLOGICAL HAZARDS INTO THE SPECIALIZED CENTRES OF THE COUNCIL OF EUROPE (EUR - OPA PLATFORM)

STU became the first and only Slovak research institution included in the network which is officially recognized by the Slovak Republic and the international community. More than the 5-year effort aimed at inclusion was thus successfully completed. The Centre is currently setting up international collaborations; a training project for the nuclear security of Ukraine will be implemented in nearest future in cooperation with the specialized Centres of San Marino and Ukraine.

EULiST - European Universities linking Society and Technology

STU belongs to the top 10% of European universities that have jointly formed alliances of European universities and received financial support from the European Commission under the Erasmus+ program (10 countries, 200 000 students, 20 000 employees).

STU received € 1 096 216 (including 20% assumed co-financing) from the total budget of € 14 370 932.

STU IN THE WORLD RANKINGS

The Slovak University of Technology in Bratislava has ranked among the leading research universities in Slovakia for many years, which also confirms its position in the world rankings of universities.

STU appeared in three important world rankings.

In the QS World University Rankings®, STU achieved the position between 1000 – 1200 out of 1498 evaluated universities; besides STU, also five other Slovak universities appeared in the ranking.

In THE World University Rankings, STU was ranked 1501-1800 out of 2671 evaluated universities; besides STU, also other eight Slovak universities ranked there, too.

The U.S. News Best Global Universities has been comparing American universities with the world ones for 30 years. Five universities from Slovakia, including STU, appeared in the ranking.

Apart from THE, other rankings rate STU as the best university of a technical focus in Slovakia.

STU was ranked second out of 32 evaluated universities in Slovakia in the UniRank which evaluates the quality, credibility and popularity of university websites and profiles on social networks.

SIGNIFICANT RESULTS IN THE FIELD OF SCIENCE, TECHNOLOGY AND ART

Scientist of the Year Award 2023, the category of Innovator of the Year
Alexander Schrek, Assoc. Prof., Ing., PhD.
received the award for his significant innovative contribution in the field of formability of laser-welded combined semi-finished products

L'Oréal - UNESCO Program For women in science in Slovakia, category of engineering science and technology
Laureate in the category of physical and formal sciences
Olga Vyviurska, Mgr., PhD.

Personality of science and technology under the age of 35 in Slovakia
Martin Klaučo, doc. Ing. MSc., PhD.
received the award for research and practical deployment of tunable explicit controllers for the optimization of industrial applications

Top student personality of Slovakia (absolute winner)

Student personality of Slovakia in the fields of Natural Sciences and Chemistry (laureate)
Uniqa Award for sustainability (laureate)
Miroslava Mališová, Ing., PhD.
deals with the development of advanced motor fuels, tries to find alternative fuels from plants of a non-food character

Education

STU holds the **ECTS Label** (as one of three universities in the Slovak Republic) and the **DS Label** (as one of five universities in the Slovak Republic). It provides attractive and high-quality higher education, which is evidenced by the high employment rate of its graduates, reaching almost 100 %, while their starting salaries being the highest in the economy of Slovakia. A long-term positive trend in the STU education is its cooperation with practice, as evidenced by the numerous awarded STU students.

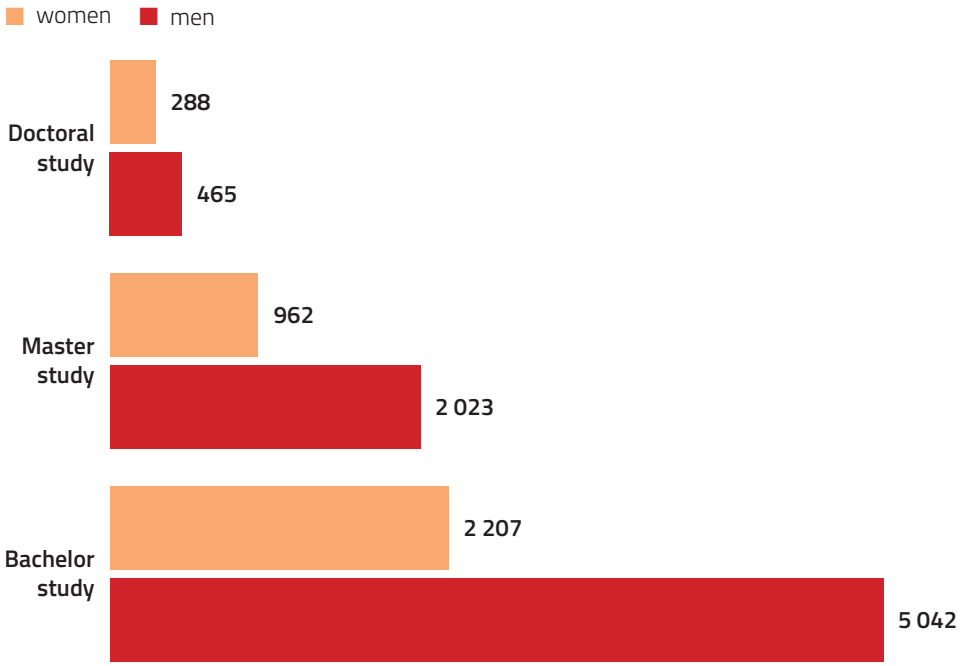
In the academic year 2022/2023, education and training were carried out in a total of 150 full-time study programmes (51 Bachelor degree, 50 Master degree and 49 Doctoral degree), either in the Slovak language or in combination of Slovak and English languages, also possibly in combination of the Slovak and English and Czech.

Forty Doctoral study programmes were conducted in external form of study.

The number of study programmes delivered in English was 27; out of those, there were 5 full-time Bachelor degree, 8 full-time Master degree, as well as 14 full-time and 6 external Doctoral degree study programmes. STU also offers a professionally oriented Bachelor degree study programme of "Operating Technician of Transport and Production Technology" at the STU Faculty of Mechanical Engineering in cooperation with VOLKSWAGEN SLOVAKIA, a. s.

In the academic year 2022/2023, a total number of the STU students was 10 976 students, of which there were 7 249 Bachelor students, 2 985 Master students and 742 Doctoral students (587 full-time and 155 part-time).

STU students in the academic year 2022/2023



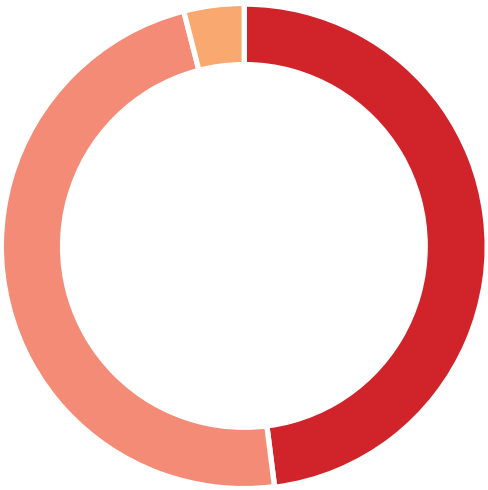
On a national scale, there are only 18.7 % of students from the Bratislava region, while 16.3 % are from the Trnava region (the residence of STU MTF).

Compared to the academic year 2021/2022, there was an increase of 84 % of foreign students; in the academic year 2022/2023, there was 16.5 % of foreign students out of the total number of STU students; most of them came from Ukraine (1 193 out of a total of 1 813 foreign students).

In the academic year 2022/2023, the STU students received a total of 127 prestigious awards on the national level outside the University, and 42 awards on the international level.

In the academic year 2022/2023, as many as 2 573 graduates completed their studies at STU, of which 1 217 were Bachelor graduates, 1 237 Master graduates, and 119 PhD. graduates (102 in full-time and 17 in external study forms).

STU graduates in the academic year 2022/2023

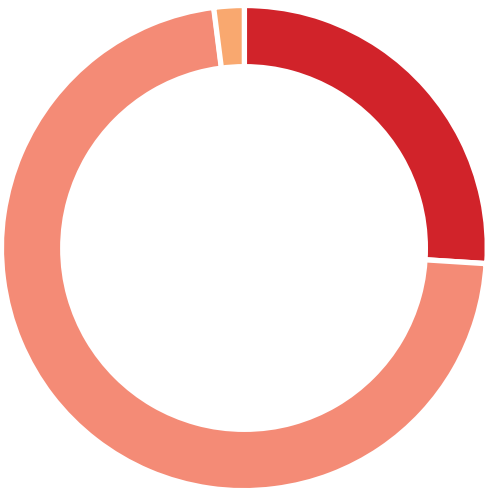


- Bachelor study (1 217)
- Master study (1 237)
- Doctoral study (119)

Source: STU

Since its establishment until the end of 2023, STU provided higher education to 176 706 graduates, of which there were 46 311 Bachelor degree graduates, 126 145 Master degree graduates and 4 250 Doctoral degree graduates.

The total number of graduates since the University establishment until the end of 2023



- Bachelor study (46 311)
- Master study (126 145)
- Doctoral study (4 250)

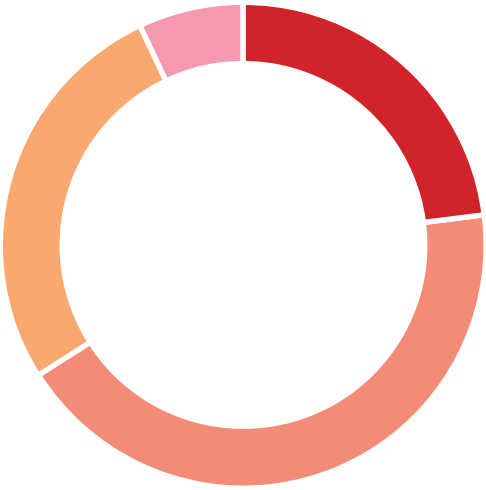
Source: STU

INTERNATIONAL ACADEMIC MOBILITY

In the academic year 2022/2023, STU registered a total number of 548 students participating in academic mobility, including 266 outbound STU students and 282 inbound foreign students. Compared to the academic year 2021/2022, this represents an increase of 85 students.

STU accomplished the highest number of international mobility through the Erasmus+ program. Erasmus+ academic mobility was implemented in 30 countries participating in the program.

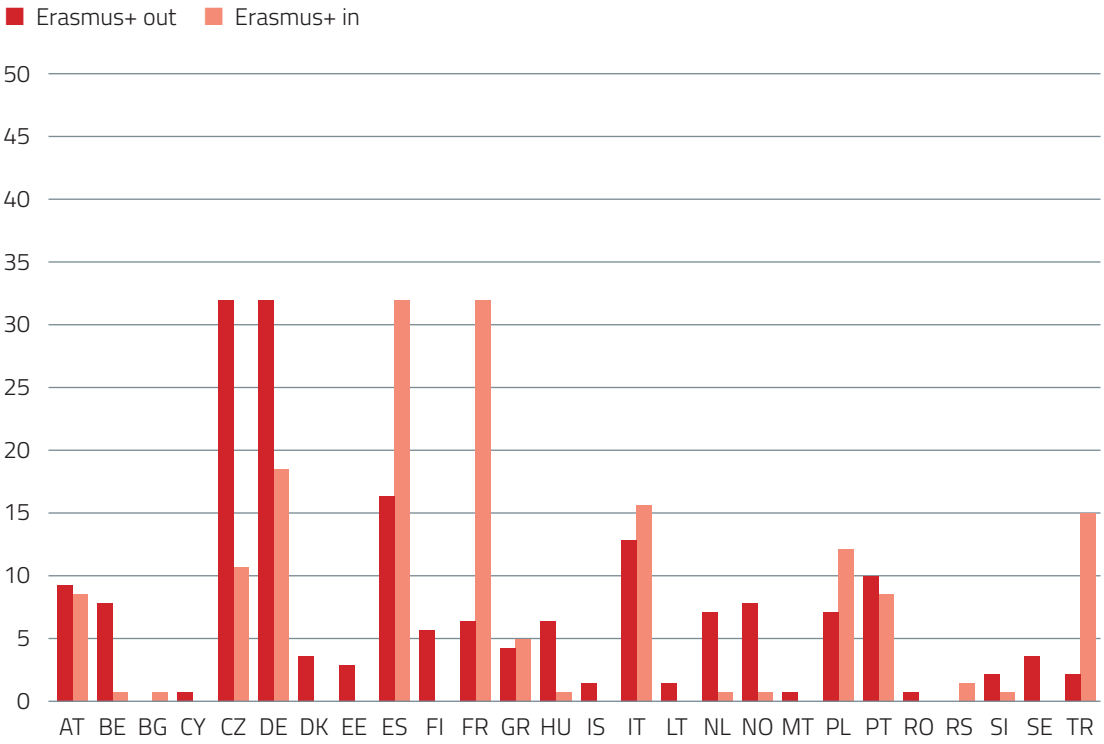
Percentage of the outbound STU students/graduates within the Erasmus+ program, according to study degree in the academic year 2022/2023



- Bachelor study (23%)
- Master study (43%)
- Doctoral study (27%)
- Graduates (7%)

Source: STU

Overview of the Erasmus+ outbound and inbound students in the academic year 2022/2023 according to country



Source: STU

FURTHER EDUCATION

In the academic year 2022/2023, a total of 4 302 STU students participated in 166 courses of further education programmes (38 accredited and 128 non-accredited). The educational programmes took place in both, distant and face-to-face forms.

Together with TU Wien, STU continued providing an accredited two-year combined distance education Professional MBA Automotive Industry delivered in English with e-learning support. Among more than 100 graduates of the course, there were managers of important manufacturing and non-manufacturing global companies from 29 countries in Asia, Europe, Africa and America.

In the academic year 2022/2023, a total of 785 participants joined the educational programmes in the 1st general year and in 39 other courses provided by the STU **University of the Third Age (UTV)**. Interest in this form of education increased significantly compared to the academic year 2021/2022 (by 269 participants). The UTV offer was enhanced by 3 new educational programmes.

The **Language Centre** of the Institute of Lifelong Education provides educational language programmes and vocational training for foreign students interested in studying in the Slovak language. In the academic year 2022/2023, 119 foreign students completed the Slovak language course.


Catalyst 2960 Series
Catalyst 2960 Series
R6
Catalyst 2960 Series
Catalyst 2960 Series
Cisco 2500 SERIES
R8

Research

Research plays a key role in the education process. Thanks to research, the University is able to prepare well educated and highly trained experts. The STU graduates have mastered the up-to-date knowledge and received hands-on experience with the advanced technologies, while discovering new knowledge and inventing original technical solutions. Current interesting projects include robotics, wastewater monitoring of coronavirus, development of ecological plastics, spatial planning etc.

Current interesting projects addressing the contemporary challenges:

BEST PRACTICES IN ROBOTICS

Bin-picking, Medical environment, Drones in indoor environment, Highly variable production

WASTEWATER MONITORING OF CORONAVIRUS

Early warning tool to alert COVID-19 presence: Speed of definition of COVID-19 outbreak, Possibility to measure trends in COVID-19 disease, Real time overview of the COVID-19 widespread, Development of smart microsensors for online detection

GENERATIONS OF ECOLOGICAL PLASTICS

NonOilen®: Based full on biobased polymers, Full biodegradable, Improved mechanical properties

OTHER INTERESTING PROJECTS

Digital Water Technology, Post-Quantum Cryptography, Ion Beam Technology, Blockchain, Smart Mobility, Spatial Planning, Nuclear Engineering

Within the framework of established cooperation with public institutions and related purpose-oriented research, STU dealt with the extremely topical topic of electromobility, particularly the issue of extinguishing electric cars and the disposal of burning residues of batteries from electric cars.

Outputs: a series of trainings for firefighters and the publication "Electromobility: Risks of electric cars and lithium-ion batteries", distributed as a practical guide to interested groups (first responders in particular).

Dealing with the topic, STU cooperates with the Ministry of the Interior of the Slovak Republic, while expanding its coverage to other related areas.

GRANT SCHEMES

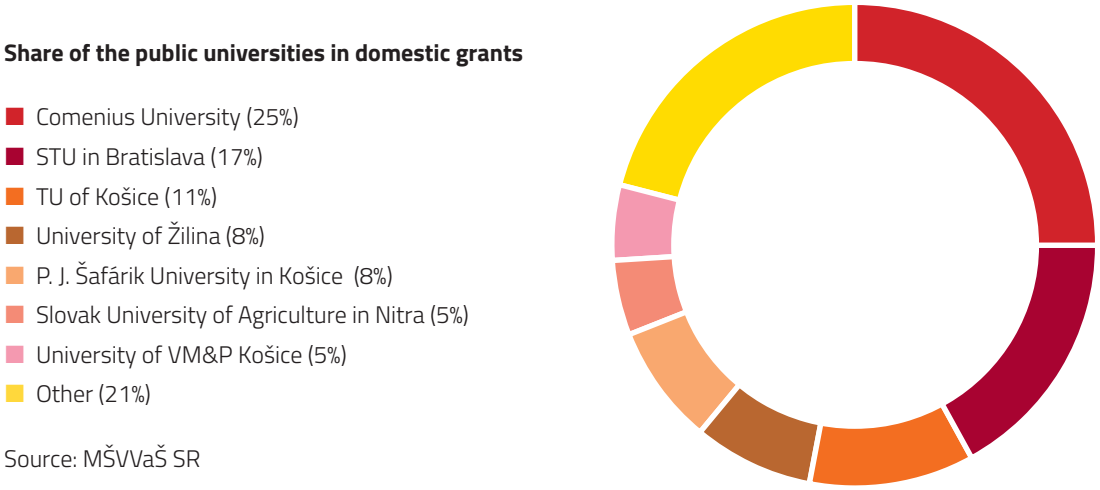
The basic prerequisites for implementation of scientific and research activities are the funds obtained from the budget, based on the external factors determined by evaluation of the University (comprehensive accreditation; the University share of the indicators determining the subsidy distribution in the current calendar year).

Internal factors include the existing research capacity of the University, its instrument base or infrastructure of workplaces. In the light of these indicators, STU belongs to the best universities in Slovakia.

Domestic Research Grants

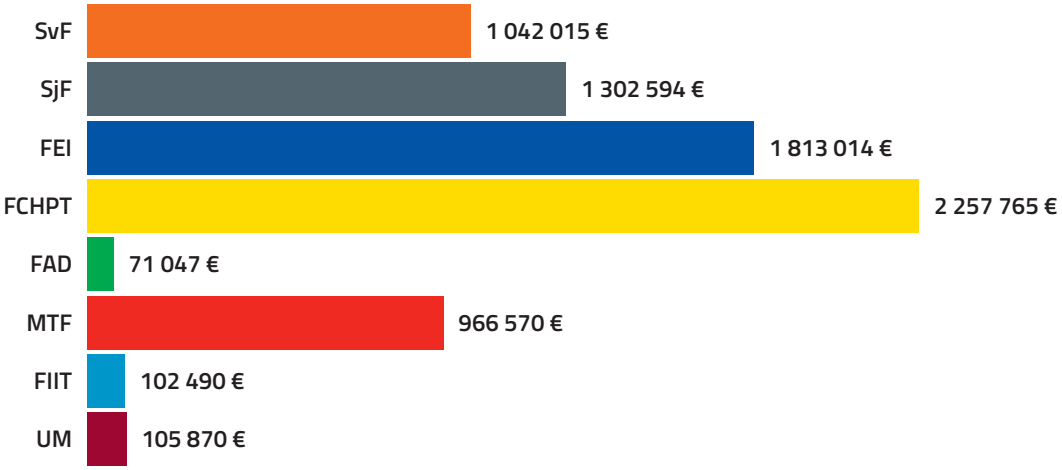
Seven Slovak higher education institutions obtained 80 % of financial funds.
STU gained 17.3 % out of the total volume of the above-mentioned financial means.

Share of the public universities in domestic grants



Source: MŠVVaŠ SR

Financial means from the domestic grant agencies according to individual STU parts in the year 2023



Source: STU

Foreign Research Grants

Up to 80 % of the funds was obtained by seven universities, while the STU's share represents 17 %.
In other foreign grants, STU ranks second with its 11 %-share in the total amount of the funds received.

Share of public universities in the foreign research grants

- Comenius University (18%)
- STU in Bratislava (17%)
- TU of Košice (11%)
- A. Dubček University of Trenčín (15%)
- University of Žilina (6%)
- Slovak University of Agriculture in Nitra (6%)
- University of Economics in Bratislava (6%)
- Other (21%)

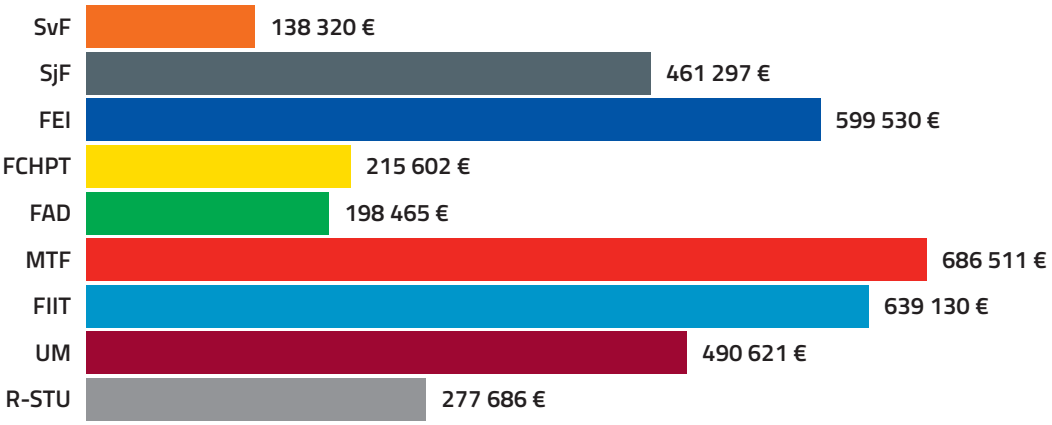
Source: MŠVVaŠ SR

Share of the public universities in other foreign grants

- University of Prešov (6%)
- University of Ss. Cyril and Methodius in Trnava (8%)
- STU in Bratislava (11%)
- University of Žilina (8%)
- Slovak University of Agriculture in Nitra (15%)
- TU of Košice (6%)
- Constantine the Philosopher University in Nitra (7%)
- University of Economics in Bratislava (7%)
- Other (32%)

Source: MŠVVaŠ SR

Share of the STU parts in foreign grants



Source: MŠVVaŠ SR

H2020 AND HORIZON EUROPE

Having been involved in international scientific research programs for many years, STU belongs to the most successful organizations in Slovakia in terms of the number of funded projects as well as the volume of the received contribution from the EC within the Horizon 2020 and Horizon Europe framework programs.

Projects solved

	●	●	●	●	●	●	●	●**	∑
H 2020	2	/	13	/	/	2	1	2	**20**
Horizon Europe	2	/	8 *	1	/	2*	/	/	**13**

Source: Funding & tender opportunities portal, Single Electronic Data Interchange Area (SEDIA)
* a joint project ●● / ** STU ●

The Horizon 2020 and Horizon Europe projects implemented in the year 2023 are listed in the Table Appendix in page 33.

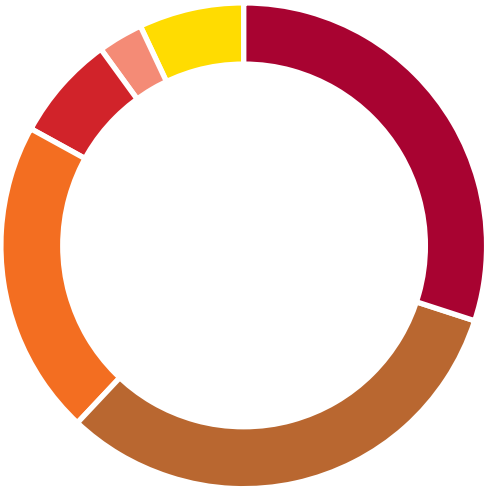
CONTRACTUAL RESEARCH

Departments of the STU faculties in Bratislava deal with the research projects for domestic and foreign economic entities in the form of contractual research which is obtained in a competitive form with exactly defined subject of performance and form of output, while the research results are usually handed over upon the review of the results. In the year 2023, 419 contractual research projects for industrial practice were solved at STU.

Share of the public universities in the research projects from other subjects

- STU in Bratislava (30%)
- University of Žilina (32%)
- TU of Košice (21%)
- Comenius University (7%)
- Slovak University of Agriculture in Nitra (3%)
- Other (7%)

Source: MŠVVaŠ SR

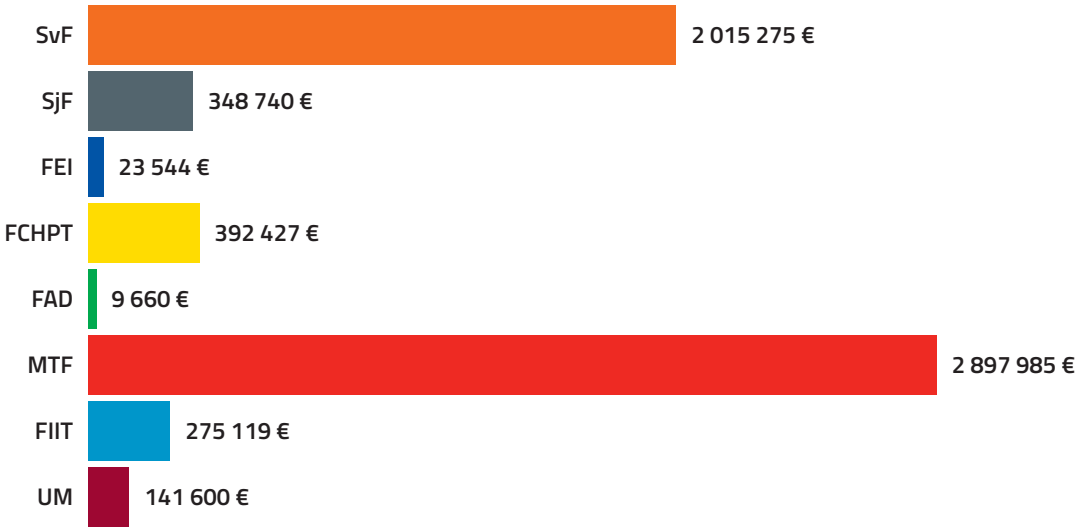


Contractual research projects

	●	●	●	●	●	●	●	●	Σ
No. of projects	64	42	5	29	2	261	14	2	**419**

Source: STU

Research contracts for work in the year 2023

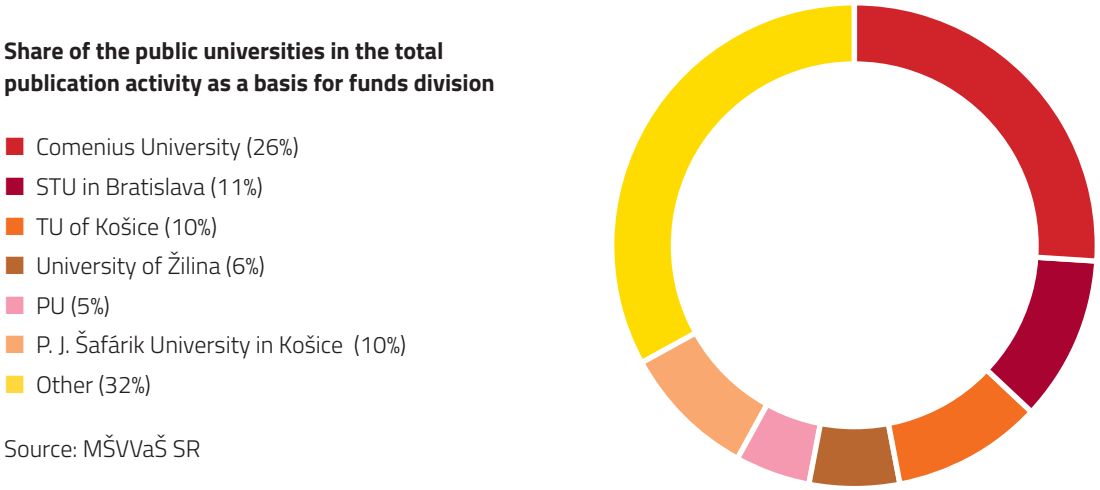


Source: STU

OUTPUT OF CREATIVE ACTIVITY

Quality of the creative activity outputs is a decisive factor in the evaluation of the scientific and artistic activity of each university. STU's share in the total publication output of the Slovak universities represents 11%. STU is thus the second most productive university.

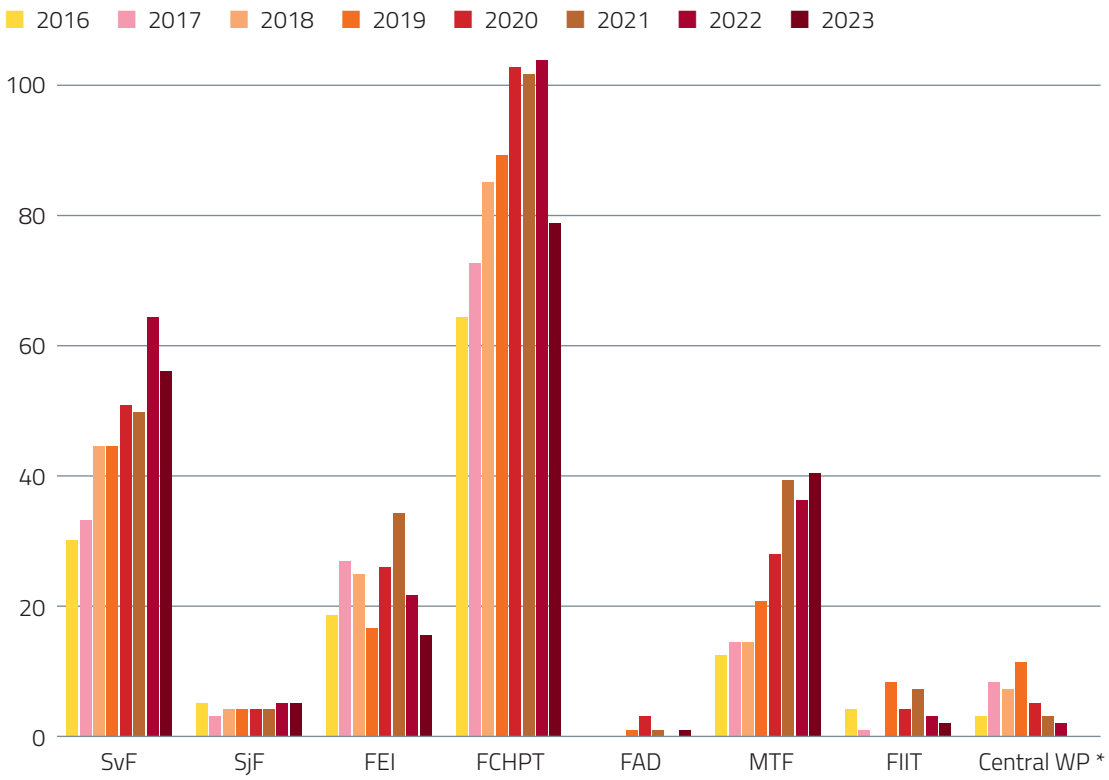
Share of the public universities in the total publication activity as a basis for funds division



Source: MŠVVaŠ SR

The number of publications of individual STU faculties indexed in the Web of Science in Q1 proves the highest number of indexed records attributed to the Faculty of Chemical and Food Technology; the trend keeps rising since 2017. The second highest share is ascribed to the Faculty of Civil Engineering.

Number of publications of individual STU faculties in Web of Science v Q1



Source: ARL Library system / * Central workplaces

Number of publications of individual STU faculties in Scopus, registered in ARL

	●	●	●	●	●	●	●	●	Σ
2016	186	60	238	34	30	124	68	24	**732**
2017	275	87	191	15	22	163	59	27	**816**
2018	212	87	248	51	25	137	48	9	**780**
2019	302	86	231	138	43	180	78	31	**1045**
2020	274	65	224	210	23	180	43	15	**1001**
2021	150	36	191	189	24	145	23	11	**737**
2022	212	41	246	207	30	146	51	15	**948**
2023	188	50	217	174	32	158	59	9	**861**

Source: ARL Library system

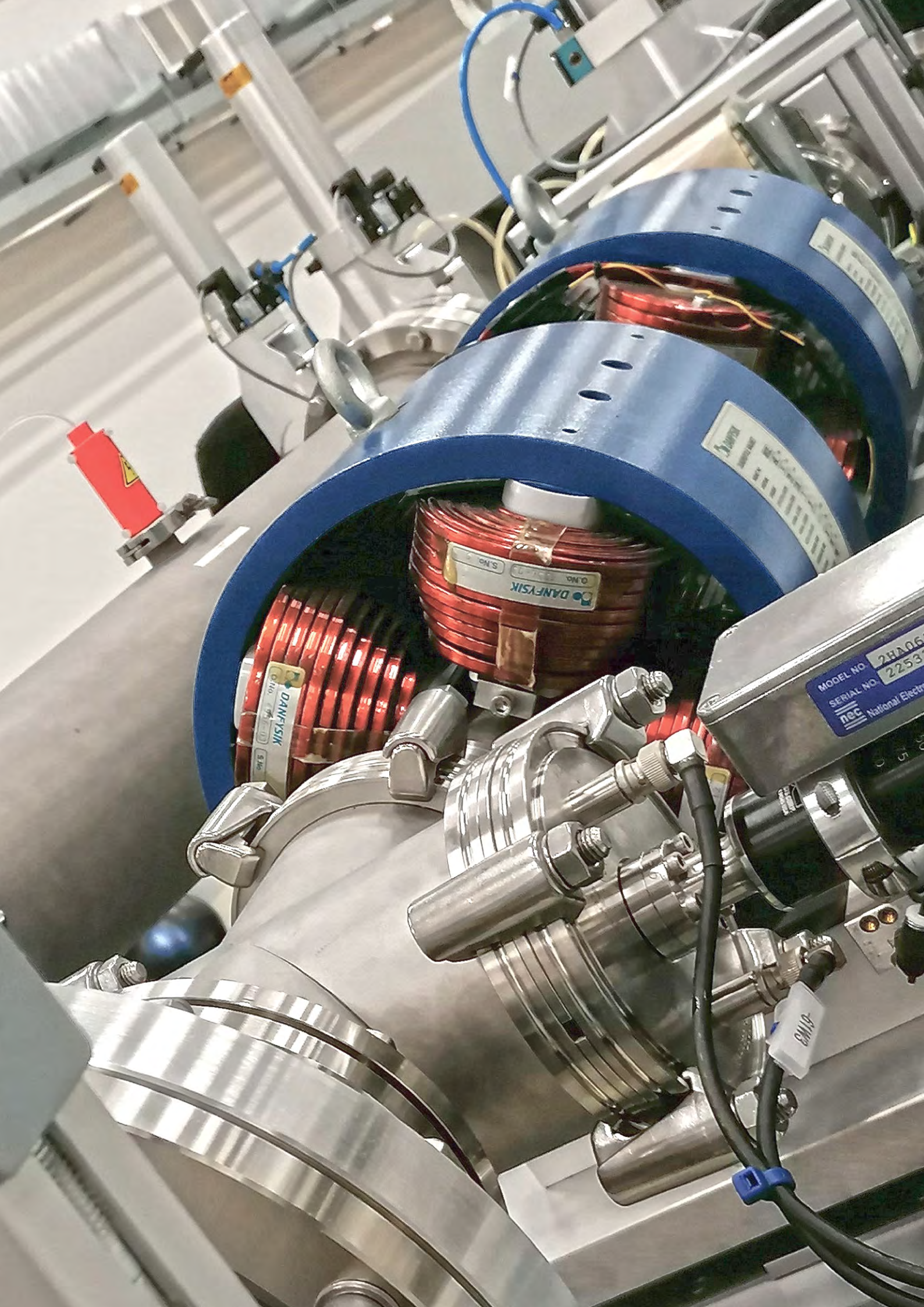
EXCELLENT ACHIEVEMENTS OF THE STU AUTHORS

Rector's Award for the best publications in the year 2023

- Category of Publications published in 2021 – 2023
  and attributed as a highly cited paper in the WOS database:
  Radko Mesiar, Prof. RNDr., DrSc. ●
  co-author of the article "New operations based on Aczél-Alsin t-norms in the field
  of interval intuitionistic fuzzy values and their application in multicriteria decision-making"
- Category of Publications published in the NATURE or SCIENCE journals
  Silvia Kohnová, Prof. Ing., PhD., Ján Szolgay, Prof. Ing., PhD. ●
  paper "Megafloods can be expected in Europe based on observations in hydrologically similar basins"
  published in the Nature Geoscience journal

Rector's Award for an original artistic or architectonic work in the year 2023

- Category of Original artistic work
  Paulína Ebringerová, Mgr. art., ArtD. ● :
  AFLOAT – an object, monumental air installation
- Category of Original architectonic work
  Martin Kusý, Ing. arch., Pavel Paňák, Ing. arch. ● :
  Reconstruction, modernization and completion of the Slovak National Gallery area
  in Bratislava (implementation)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INTERNAL SCHEMES OF SUPPORTING CREATIVE ACTIVITY IN STU

STU continuously strives to identify and support both, individuals and excellent research teams via several internal mechanisms. Those include the schemes of supporting excellent teams of young researchers and the offer of postdoctoral positions.

Projects for supporting young researchers
The program for supporting young researchers is one of the STU several motivational tools. In 2023, young scientists succeeded for the 13th time in the competition within the scheme of the Program for the Young Researchers Support, and won grants for their scientific research projects. In accordance with the current Directive, young STU employees (PhD students and employees under the age of 30) submitted a total of 154 projects. Of those, 95 projects were financed, while 29 of which were implemented by women and 66 by men.

Excellent teams of young researchers
Additional support for young researchers is the extension of the Grant scheme to support excellent teams of young researchers under the conditions of STU in Bratislava. In 2023, the 9th year of the program involved 18 teams formed of the representatives of six STU parts, while nine projects received the support.

Financed projects:

Design and optimization of gas sensors in IoT system for environmental application, gasIoT
Principal investigator: Michal Sobota, Ing.

GreenSTU
Principal investigator: Andrea Šeligová, Ing. arch., PhD.

Elastomeric magnetic and mixed composite materials
Principal investigator: Andrea Kvasničáková, Ing., PhD.

Identification of materials in cultural heritage collections based on synthetic plastics through their characteristic "fingerprints"
Principal investigator: Izabela Lukačovič Vajová, Ing., PhD.

Additive manufacture of nickel-based porous electrodes for hydrogen economy
Principal investigator: Jana Záchenská, Ing., PhD.

Mapping of interior spaces using unmanned aerial vehicles
Principal investigator: Matej Rajchl, Ing.

Alternative natural adsorbents and green solvents for tracking contaminants in water
Principal investigator: Nicolette Viktoryová, Ing.

Ongoing maneuver in connected and cooperative intelligent transport
Principal investigator: Matej Janeba, Ing.

Miniature experimental instruments for researching advanced control methods on embedded hardware
Principal investigator: Ján Boldocký, Ing.


BERTHOLD

Post-doc working positions

The STU program of Postdoctoral Work Stays was replaced by the SASPRO 2 program. Its goal is to strengthen the scientific organizations of the Slovak Academy of Sciences (SAS) and the faculties of STU and Comenius University (UK) with the researchers from the top foreign workplaces, improve the quality of cooperation between scientific and applied sectors, and support multidisciplinary approaches to project solutions. The program also attempts to intensify the mutual links between SAS, STU and UK, supporting their cooperation with foreign workplaces and building a network of contacts facilitating international cooperation.

In 2023, eight researchers working at STU within SASPRO 2 dealt with the following projects:

- **Hardware security of neural networks**
  Xiaolu Hou, Bc., Ph.D.
- **AIpology - Artificial intelligence for personalised oncology**
  Michal Kováč, doc. Mgr., MSc., PhD.
- **Numerical methods for computationally evolving manifolds**
  Jooyoung Hahn, MSc., PhD.
- **Green analytical approaches to the wine industry quality control based on digital imaging and chemometrics**
  Adriano De Araújo Gomes, Dr.
- **Common aspects of theoretical physics and technical sciences**
  Veronika Gáliková, Mgr., PhD.
- **Graphic carbon nitride - advanced nanomaterials in wastewater treatment**
  Tomáš Homola, doc. RNDr., PhD.
- **Research into regional innovative capacity**
  Sila Ceren Varis Husar, Ing., PhD.
- **Atomic 2D layers of quaternary and ternary alloys for innovative photocatalysis**
  Ravi Kumar Biroju, Dr.

STU Doctoral School

The STU Doctoral School covers interdisciplinary educational activities for the development of scientific and research competencies of doctoral students and young researchers in the areas such as publishing, presentation skills and communication, research funding and grant writing, career development, research ethics, intellectual property protection, etc.

In the summer semester 2022/2023, various seminars were organized for Doctoral students within the subject of Methodology of scientific work 2; in the winter semester 2023/2024, seminars/webinars were organized within the subject of Methodology of scientific work 1.


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Awards granted to STU employees

STU Medal

Martin Bajus, Prof. Ing. DrSc.

Pavel Čičák, Prof. Ing., PhD.

Ján Szolgay, Prof. Ing., PhD.

STU Scientific Personality for the year 2023 in the "Significant scientific contribution" category

Martin Sahul, Ing., PhD.

STU Scientific Personality for the year 2023 in the "Young scientist" category

Michal Mičjan, Ing., PhD.

Martin Klaučo, Ing., PhD. (honourable mention)

Habilitation and inauguration proceedings

At the meetings of the Scientific Board of STU (VR STU) in 2023, 14 proposals for the appointment of professors were approved. Subsequently, the following have been appointed by the President of the Slovak Republic for the time being:

Vladimír Chmelko, Prof. Ing., PhD. (Applied Mechanics)

Zora Petráková, Prof. Ing., PhD. (Construction Industry)

The appointment of others professors will be carried out in the course of 2024.

Support Services in the Field of Research

Access to databases of scientific knowledge is an essential part of the work of scientists in the current global and interdisciplinary science and research. STU creates conditions to support creative activity of its employees and students by providing services, particularly that of the University Library, to the scientific workplaces and units of international scientific and technical cooperation.

Research Integrity, Open Science, Open Access, STU OA Institutional Repository
STU is committed to fulfilling the obligations defined in the national document of Declaration on strengthening the scientific integrity in Slovakia, the aim of which is the observance of the highest ethical standards in the area of research and education integrity, as well as the support for Scientific Integrity in the National Code of Ethics.

STU Concept of open science
In the year 2023, STU continued implementing the Open Access policy in accordance with the European Commission's Recommendation on Open Access to Scientific Information.

HR Excellence in Research
STU is one of the successful scientific institutions of the European Union, which received the label of "HR Excellence in Research". It is a prestigious award granted by the European Commission to those institutions that have demonstrated their commitment to complying with the 40 principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers within the Human Resources Strategy for Researchers (HRS4R).

Utilisation of the creative activity results in practice

Protection of industrial property at STU is ensured by the Knowledge Transfer Office. The Office provides professional advice to the authors of industrial property objects in the field of industrial property protection, filing applications at the Slovak Republic Industrial Property Office, promoting the results of research and development applicable in practice, searching for and negotiating with partners from industry, etc.

45 **Author's notice on creating an object of industrial property**
41 **Granted patents**
28 **Registrered utility models**
27 **Applications of utility models**
20 **Patent applicattions**
3 **Patent applications (CZ)**
3 **Applications of utility models (CZ)**
2 **PCT application**
1 **European patent applications**

STU Technology Incubator

STU TI trains STU students and graduates in the development of entrepreneurial skills (8-month START program), inspires their entrepreneurial activities and helps them develop their startups (1-year UP program). STU provides assistance to students, graduates and doctoral students in the form of educational activities (lectures and workshops with experts from practice) in coworking, mentoring through the established network of mentors, involving startupists in competitions and networking.

A total of 92 companies have been incubated in the STU Technology Incubator since its establishment in 2005. Of these, 60 are actively operating, 18 have disappeared or are in liquidation, and 14 are inactive. The STU incubator has supported several world-famous companies, such as Innovatrics, Solargis, and Visibility. The current members are startups, such as DAITABLE, SommifyAI, or DigFin.

STU Scientific, s.r.o.

Mission of the STU Scientific, s.r.o. is to support the economic valorisation and appreciation of the STU intellectual property, members of its academic community and other partners in the business sphere. Currently, there are the following spin-off companies established on the University premises, benefiting from the STU scientific research potential:

- **STUVITAL, s.r.o.**
  Research and preparation of fortified particularly cereal products via applying innovative technology of recovery of cereal by-products and original recipe ingredients.

- **IVMA STU, s.r.o.**
  Design of electrodes for spot resistance welding of galvanized sheets. The research was conducted in cooperation with Matador Vráble, a future user of the research results. Further activity is focused on the field of base and applied research of Electro Spark Deposition (ESD) along with implementation of the ESD research results in industrial practice.

- **SMME - STU, s.r.o.**
  Research and development in the field of mechatronic systems utilising the latest knowledge and trends in the information, communication and control technologies.

- **Neural medical s.r.o.**
  The main activity of the Company is the analysis, processing and evaluation of data from wearable biometric and medical devices, the design of new algorithms for the processing of measured data representing the health status of patients, based on the utilisation of artificial neural networks (UNS) and machine learning.

- **InnoSTU s.r.o.**
  The main focus of the Company is provision of services in the fields of industrial automation, applied informatics and cyber security. Its goal is to bidirectionally connect the academic sphere with practice, and thus provide support to the companies interested in developing and increasing the efficiency of their technological processes. Ensuring efficient utilisation of resources via automation and artificial intelligence is the only option to remain competitive.

- **ENFEI s.r.o.**
  Operation of the electricity system with a focus on optimizing the development and operation of electrical networks of all voltage levels, as well as the source base of the electricity system of the Slovak Republic. In the area of smart grids, it concerns mainly the preparation of pilot projects, technology designs as well as the testing and verification of systems.

- **Hydrotechnika STU, s.r.o.**
  Transfer of the research and development knowledge in the field of water structures into practice.

- **B&J NUCLEAR, s.r.o.**
  The Company focuses on implementation of the research findings in the field of reactor physics to engineering applications. It specializes in analyses of safe operation of nuclear reactors, optimization of radiation shielding and operation of current and advanced nuclear fuel. The Company activities are performed in the form of expert analyses, development of methodologies and safety analyses of selected states and configurations of nuclear facilities. The Company is also actively involved in the national and international projects, the research and development in the field of natural and technical sciences, the field of nuclear energy in particular.

- **MicroPoll s. r. o.**
  The Company's key activities comprise the standard analyses of basic parameters (organic, inorganic and microbial pollution) of various types of water, soil and air, the chemical analyses aimed at the occurrence of micro and nanoplastics and micropollutants, the occurrence of pathogens and resistance genes, the development of new types of sensors used in the diagnosis of diseases and in the analysis of pollutants and military agents, the new types of detectors aimed at analysing water, soil and air pollution, the research into the development of new types of materials (e.g. micro and nanofibres usable as e-textiles, sensors in the form of textiles and products made of them) or for the production of self-cleaning materials and suits designed particularly for security forces and athletes.

- **Orglabs s.r.o.**
  The key interest is research and development activity in the field of organic electronics, sensors and IoT (internet of things). Applied research in the above-mentioned areas combines multidisciplinary issues into one discipline and brings to the market a new generation of organic sensors, as well as other elements of organic electronics.

Table Appendix

Awards of individual students or students teams won at the international level

Buildner student award					1		
Eastern & Central Europe Region Young Energy Professional 2023	1						
EIT Food RIS Inspire Programme				1			
Inspireli Awards					4		
IT SPY			1				
Juniorstav - International Scienific Conference on Civil Engineering	7						
Karel Štulík Award				1			
Saint - Gobain Architecture Student Contest 2023	1						
Buildings with the scent of wood 2023	2						
Student Research Conference, Czech and Slovak round in Mathematics and Informatics	2						
Student Research Conference, University of Zielona Góra						1	
Urban Desing Awards					2		
Winter World University Games 2023			1				
World InterUnivesities Championship Barcelona 2022						1	
World InterUnivesities Championship Paris 2023							1
Xella - Marine 2023					2		
Xella 2022					2		
∑	**13**		**6**	**2**	**11**	**2**	**1**

Statistics of appointed Associate Professors (docent)

							∑
II./2023	1						**1**
IV./2023	1	2				1	**4**
VI./2023	1	1	2		1		**5**
XII./2023	1			2			**3**
∑	**4**	**3**	**2**	**2**	**1**	**1**	**13**

Number of publications of individual STU faculties in Web of Science v Q1, Q2, Q3 and Q4 registered in ARL

	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
●	29	22	13	6	32	13	19	8	43	18	5	10
●	5	3	1	4	3	4	2	9	4	2	5	6
●	18	21	19	25	26	22	39	34	24	18	28	32
●	62	51	47	23	70	81	45	39	82	62	51	22
●	0	0	0	0	0	1	1	0	0	0	0	1
●	12	11	15	8	14	11	17	14	14	8	23	13
●	4	3	3	4	1	0	0	7	0	2	6	3
●	3	4	3	0	8	5	6	3	7	2	2	1

	2019				2020				2021			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
●	43	21	14	6	49	28	16	5	48	41	12	9
●	4	1	3	10	4	6	5	5	4	17	3	2
●	16	25	16	28	25	24	16	40	33	58	23	20
●	86	73	44	22	105	73	52	23	103	95	27	9
●	1	0	0	0	3	0	0	0	1	2	0	0
●	20	32	17	11	27	28	14	12	38	43	8	9
●	8	5	3	4	4	3	5	1	7	1	1	3
●	11	12	1	0	5	7	2	2	3	9	2	2

	2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
●	62	30	14	12	54	32	15	13
●	5	9	2	2	5	14	0	0
●	21	36	19	16	15	53	12	12
●	106	62	31	27	76	87	16	14
●	0	3	0	0	1	3	0	0
●	35	32	10	4	39	52	13	3
●	3	5	4	1	2	7	2	0
●	2	1	0	0	0	2	1	1

Source: ARL Library system

The H2020 projects and Horizont Europa projects realised in 2023

The Horizont Europa projects

	Project title	Acronym	Principle investigator	Faculty	Call identifier	Finance scheme
1	Sustainable Transition to the Agile and Green Enterprise	STAGE	Marcel Kuruc, doc. Ing., PhD.	🔴 / 🔵	HORIZON-CL4-2021-RESILIENCE-01-29"	CSA
2	Acoustic and Thermal Retrofit of Office Building Stock in EU	ActaReBuild	Vojtech Chmelík, doc. Ing., PhD.	🟠	HORIZON-MSCA-2021-DN-01	MSCA
3	DELISA-LTO: DEscription of the extended LIfetime and its influence on the SAfety operation and construction materials performance – Long Term Operation with no compromises in the safety	DELISA-LTO	Vladimír Slugeň, Prof. Ing., DrSc.	🔵	HORIZON-EURATOM-2021-NRT-01	EURATOM
4	"Building European Nuclear Competence through continuous Advanced and Structured Education and Training Actions"	ENEN2plus	Štefan Čerba, Ing., PhD.	🔵	HORIZON-EURATOM-2021-NRT-01	EURATOM
5	European Sodium Fast Reactor - Safety by Innovative Monitoring, Power Level flexibility and Experimental research	ESFR-SIMPLE	Branislav Vrban, Ing., PhD.	🔵	HORIZON-EURATOM-2021-NRT-01	EURATOM
6	Innovative Structural Materials for Fission and Fusion	INNUMAT	Vladimír Kršjak, Ing., PhD.	🔵	HORIZON-EURATOM-2021-NRT-01	EURATOM
7	Establishment of a Network providing improved professionalised services and support to Euratom National Contact Points and programme applicants.	NetEuratom	Vladimír Slugeň, Prof. Ing., DrSc.	🔵	HORIZON-EURATOM-2021-NRT-01	EURATOM
8	eurOpean platForm For accEssing nucleaR R&d facilities	OFFERR	Branislav Vrban, Ing., PhD.	🔵	HORIZON-EURATOM-2021-NRT-01	EURATOM
9	Fostering Opportunities Towards Slovak Excellence in Advanced Control for Smart Industries	FrontSeat	Miroslav Fikar, Prof. Ing., DrSc.	🟡	HORIZON-WIDERA-2021-ACCESS-03	CSA
10	Novel optical nanocomposite sensors for analysis of micro and macro elements in corn plants	SENS4-CORN	Martin Sahul, Ing., PhD.	🔴	HORIZON-MSCA-2021-SE-01	MSCA

The H2020 projects and Horizont Europa projects realised in 2023

The H2020 projects

	Project title	Acronym	Principle investigator	Faculty	Call identifier	Finance scheme
1	Mitigating Environmentally Assissted Cracking Through Optimisation of Surface Condition	MEACTOS	Vladimír Slugeň, Prof. Ing., DrSc.	●	EURATOM FISSION NFRP-2016-2017-1	RIA
2	Energy efficient pathway for the city transformation: enabling a positive future	MAKING-CITY	Maroš Finka, Prof. Ing. arch., PhD.	●**	H2020-LC-SC3-2018-ES-SCC	IA
3	European Nuclear Experimental Educational Platform (ENEEP)	ENEEP	Ján Haščík, doc. Ing., PhD. Branislav Vrban, Ing., PhD.	●	NFRP-2018	CSA
4	European Joint Programme on Radioactive Waste Management	EURAD	Vladimír Slugeň, Prof. Ing., DrSc.	●	NFRP-2018	COFUND-EJP
5	Directional Composites through Manufacturing Innovation	DiCoMI	Ladislav Morovič, doc. Ing., PhD.	●	H2020-MSCA-RISE-2017	MSCA - RISE
6	The CALIPER project: Linking research and innovation for gender equality	CALIPER	Dagmar Cagáňová, doc., Mgr., PhD.	●	H2020-SwafS-2019-1	CSA
7	Joint European Canadian Chinese development of Small Modular Reactor Technology	ECC-SMART	Jarmila Degmová, Ing., PhD.	●	NFRP-2019-2020	RIA
8	Fracture mechanics testing of irradiated RPV steels by means of sub-sized specimens (FRACTESUS)	FRACTESUS	Vladimír Slugeň, Prof. Ing., DrSc.	●	NFRP-2019-2020	IA
9	Safety of GFR through innovative materials, technologies and processes	SafeG	Vladimír Slugeň, Prof. Ing., DrSc.	●	NFRP-2019-2020	RIA
10	STRUctural MATerials research for safe Long Term Operation of LWR NPPs	STRUMAT-LTO	Jarmila Degmová, Ing., PhD.	●	NFRP-2019-2020	RIA
11	Targeting Real chemical accuracy at the Exascale	TREX	Matúš Dubecký, Ing., PhD.	●	H2020-INFRAEDI-2019-1	RIA
12	DIH-World - Accelerating deployment and matureness of DIHs for the benefit of Digitisation of European SMEs	DIH-World	František Duchoň, Prof. Ing., PhD.	●	H2020-DT-2019-2	IA
13	Boost Of Organic Solar Technology for European Radiance	BOOSTER	Martin Weis, Prof. Ing., DrSc.	●	H2020-LC-SC3-2020-RES-IA-CSA	IA
14	Training European Experts in Inflammation: from the molecular players to animal models and the bedside	INFLANET	Karol Mikula, Prof. RNDr., DrSc.	●	H2020-MSCA-ITN-2020	MSCA-ITN-ETN

	Project title	Acronym	Principle investigator	Faculty	Call identifier	Finance scheme
15	Promotion of rural museums and heritage sites in the vicinity of European pilgrimage routes	rurALLURE	Andrea Hrčková, Mgr., PhD. Valentino Vranić, doc. Ing., PhD.	●	H2020-SC6-TRANS-FORMATIONS-2020	CSA
16	Biodiversity and Infrastructure Synergies and Opportunities for European Transport Networks	BISON	Maroš Finka, Prof. Ing. arch., PhD.	●**	H2020-MG-2020-SingleStage-INEA	CSA
17	Innovation Fostering in Accelerator Science and Technology	I.FAST	Andrea Šagátová, doc. Ing., PhD.	●	H2020-INFRAINNOV-2020-2	RIA
18	Sustainable EnErgy Skills in construction: Visible, Validated, Valuable	SEEtheSkills	Tomáš Funtík, Ing., PhD.	●	H2020-LC-SC3-EE-2020-2	CSA
19	Slovak Academic and Scientific PROgramme for experienced researchers	SASPRO 2	Mária Búciová, Ing. Mgr. Andrej Takáč, Ing.	●*	H2020-MSCA-COFUND-2019	MSCA-COFUND-FP
20	300mm Pilot Line for Smart Power and Power Discretes	R3-PowerUP	Daniel Donoval, Prof. Ing., DrSc.	●	H2020-ECSEL-2016-2-IA-two-stage	ECSEL-IA
21	Advanced RF Transceivers for 5G base stations based on GaN Technology	5G_GaN2	Daniel Donoval, Prof. Ing., DrSc.	●	H2020-ECSEL-2017-2-RIA-two-stage	ECSEL-RIA
22	first and euRopEAn siC eigTh Inches pilOt liNe	REACTION	Daniel Donoval, Prof. Ing., DrSc.	●	H2020-ECSEL-2017-1-IA-two-stage	ECSEL-IA
23	The next-generation silicon-based power solutions in mobility, industry and grid for sustainable decarbonisation in the next decade	Power2-Power	Daniel Donoval, Prof. Ing., DrSc.	●	H2020-ECSEL-2018-1-IA-two-stage	ECSEL-IA
24	Research for GaN technologies, devices, packages and applications to address the challenges of the future GaN roadmap	Ultimate-GaN	Daniel Donoval, Prof. Ing., DrSc. Juraj Marek, Ing., PhD.	●	H2020-ECSEL-2018-2-RIA-two-stage-1	ECSEL-RIA
25	Intelligent Reliability 4.0	iRel40	Alexander Šatka, Prof. Ing., CSc. Daniel Donoval, Prof. Ing., DrSc.	●	H2020-ECSEL-2019-1-IA	ECSEL-IA
26	Highly efficient and trustworthy components and systems for the next generation energy supply infrastructure	Progressus	Viera Stopjaková, Prof. Ing., PhD.	●	H2020-ECSEL-2019-2-RIA	ECSEL-RIA
27	Highly EFFICIENT and reliable electric drivetrains based on modular, intelligent and highly integrated wide band gap power electronics modules	HiEFFICIENT	Juraj Marek, Ing., PhD.	●	H2020-ECSEL-2020-2-RIA-two-stage	ECSEL-RIA

* Rectors Office / ** Department of Management

Projects implemented in 2023

	Project title	Acronym	Principle investigator	Faculty	Call identifier	Finance scheme
1	300mm Pilot Line for Smart Power and Power Discretes	R3-PowerUP	Daniel Donoval, Prof. Ing., DrSc.		ECSEL-2016-2	IA
2	Directional Composites through Manufacturing Innovation	DiCoMI	Ladislav Morovič, doc. Ing., PhD.		H2020-MSCA-RISE-2017	MSCA - RISE
3	first and euRopEAn siC eigTh Inches pilOt liNe	REACTION	Daniel Donoval, Prof. Ing., DrSc.		ECSEL-2017-1	IA
4	Energy efficient pathway for the city transformation: enabling a positive future	MAKING-CITY	Maroš Finka, Prof. Ing. arch., PhD.		H2020-LC-SC3-2018-ES-SCC	IA
5	European Joint Programme on Radioactive Waste Management	EURAD	Vladimír Slugeň, Prof. Ing., DrSc.		NFRP-2018	COFUND-EJP
6	The CALIPER project: Linking research and innovation for gender equality	CALIPER	Dagmar Cagáňová, doc. Mgr., PhD.		H2020-SwafS-2019-1	CSA
7	Intelligent Reliability 4.0	iRel40	Mikuláš Bittera, doc. Ing., PhD.		H2020-ECSEL-2019-1-IA	ECSEL - IA
8	Highly efficient and trustworthy components and systems for the next generation energy supply infrastructure	Progressus	Viera Stopjaková, Prof. Ing., PhD.		H2020-ECSEL-2019-2-RIA	ECSEL - RIA
9	Fracture mechanics testing of irradiated RPV steels by means of sub-sized specimens (FRACTESUS)	FRACTESUS	Vladimír Slugeň, Prof. Ing., DrSc.		NFRP-2019-2020	IA
10	Safety of GFR through innovative materials, technologies and processes	SafeG	Vladimír Slugeň, Prof. Ing., DrSc.		NFRP-2019-2020	RIA
11	Joint European Canadian Chinese development of Small Modular Reactor Technology	ECC-SMART	Jarmila Degmová, Ing., PhD.		NFRP-2019-2020	RIA
12	STRUctural MATerials research for safe Long Term Operation of LWR NPPs	STRUMAT-LTO	Jarmila Degmová, Ing., PhD.		NFRP-2019-2020	RIA
13	DIH-World - Accelerating deployment and matureness of DIHs for the benefit of Digitisation of European SMEs	DIH-World	František Duchoň, Prof. Ing., PhD.		H2020-DT-2019-2	RIA
14	Boost Of Organic Solar Technology for European Radiance	BOOSTER	Martin Weis, Prof. Ing., DrSc.		H2020-LC-SC3-2020-RES-IA-CSA	IA
15	Training European Experts in Inflammation: from the molecular players to animal models and the bedside	INFLANET	Karol Mikula, Prof. RNDr., DrSc.		H2020-MSCA-ITN-2020	MSCA-ITN-ETN
16	Innovation Fostering in Accelerator Science and Technology	I.FAST	Andrea Šagátová, doc. Ing., PhD.		H2020-INFRAINNOV-2020-2	RIA
17	Promotion of rural museums and heritage sites in the vicinity of European pilgrimage routes	rurALLURE	Andrea Hrčková, Mgr., PhD. Valentino Vranić, doc. Ing., PhD.		H2020-SC6-TRANS-FORMATIONS-2020	CSA
18	Biodiversity and Iodiversity and Infrastructure Synergies and Opportunities for European Transport Networks	BISON	Maroš Finka, Prof. Ing. arch., PhD.		H2020-MG-2020-SingleStage-INEA	CSA
19	Highly EFFICIENT and reliable electric drivetrains based on modular, intelligent and highly integrated wide	HiEFFICIENT	Juraj Marek, Ing., PhD.		H2020-ECSEL-2020-2-RIA-two-stage	ECSEL-RIA

	Project title	Acronym	Principle investigator	Faculty	Call identifier	Finance scheme
20	Sustainable EnErgy Skills in construction: Visible, Validated, Valuable	SEEtheSkills	Tomáš Funtík, Ing., PhD.	●	H2020-LC-SC3-EE-2020-2	CSA
21	Sustainable Transition to the Agile and Green Enterprise	STAGE	Marcel Kuruc, doc., Ing., PhD.	●	HORIZON-CL4-2021-RESILIENCE-01-29	HORIZON-CSA
22	European Sodium Fast Reactor - Safety by Innovative Monitoring, Power Level flexibility and Experimental research	ESFR-SIMPLE	Branislav Vrban, Ing., PhD.	●	HORIZON-EURATOM-2021-NRT-01-02	EURATOM-RIA *
23	eurOpean platForm For accEssing nucleaR R&d facilities	OFFERR	Jakub Lüley, Ing., PhD.	●	HORIZON-EURATOM-2021-NRT-01-12	EURATOM-RIA *
24	Establishment of a Network providing improved professionalised services and support to Euratom National Contact Points and programme applicants.	NetEuratom	Vladimír Slugeň, Prof. Ing., DrSc.	●	HORIZON-EURATOM-2021-NRT-01-15	EURATOM-RIA *
25	DELISA-LTO: DEscription of the extended LIfetime and its influence on the SAfety operation and construction materials performance – Long Term Operation with no compromises in the safety	DELISA- LTO	Vladimír Slugeň, Prof. Ing., DrSc.	●	HORIZON-EURATOM-2021-NRT-01-01	EURATOM-RIA *
26	Innovative Structural Materials for Fission and Fusionion in the next decade	INNUMAT	Vladimír Kršjak, Ing., PhD.	●	HORIZON-EURATOM-2021-NRT-01-04	EURATOM-RIA *
27	Building European Nuclear Competence through continuous Advanced and Structured Education and Training	ENEN2plus	Štefan Čerba, Ing., PhD.	●	HORIZON-EURATOM-2021-NRT-01-13	EURATOM-RIA *
28	Acoustic and Thermal Retrofit of Office Building Stock in EU	ActaReBuild	Vojtech Chmelik, doc. Ing., PhD.	●	HORIZON-MSCA-2021-DN-01-01	HORIZON-TMA-MSCA-DN **
29	Fostering Opportunities Towards Slovak Excellence in Advanced Control for Smart Industries	FrontSeat	Radoslav Paulen, doc. Ing., PhD.	●	HORIZON-WIDERA-2021-ACCESS-03	CSA
30	Center for Innovative Healthcare	CIH	Daniel Donoval, Prof. Ing., DrSc.	●	DIGITAL-2021-EDIH-01	DIGITAL-SIMPLE DIGITAL Simple Grants
31	Novel optical nanocomposite sensors for analysis of micro and macro elements in corn plants	SENS4-CORN	Martin Sahul, Ing., PhD.	●	HORIZON-MSCA-2021-SE-01	HORIZON-TMA-MSCA-SE HORIZON TMA MSCA Staff Exchanges
32	Affordable smart GaN IC solutions as enabler of greener applications	ALL2GaN	Juraj Marek, Ing., PhD.	●	HORIZON-KDT-JU-2022-1-IA	IA
33	Developing methodologies for the integration of low-grade energy sources into high-temperature district heating networks	LIFE22-CET-Low2-HighDH	Dušan Petráš, Prof. Ing., PhD.	●	LIFE-2022-CET	LIFE-PJG LIFE Project Grants

* EURATOM Research and Innovation Actions / ** HORIZON TMA MSCA Doctoral Networks

STU

Slovak University of Technology in Bratislava
Vazovova 5, 812 43 Bratislava, Slovak Republic

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