

SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA



SLOVAK UNIVERSITY OF TECHNOLOGY

in Bratislava - historical roots

1762

- Mining and Forestry Academy
under the Empress Maria Theresa
- **First technical higher education institution in the world**
- Founded in Banská Štiavnica

1937

- University of Technology of M. R. Štefánik
- First Slovak technical university was founded in Košice

1939 - Slovak University of Technology, Bratislava

- Branch of Construction Engineering
- Branch of Specialised Sciences
- Branch of Forestry and Agricultural Engineering
- Branch of Chemical Engineering
- Branch of Mechanical and Electrical Engineering



STU in numbers

Over 170 thousand graduates (1940-2021)

About 11 thousand students

About 1,280 teaching and research staff

750 research projects

250 industrial contracts

116 international educational contracts

7 faculties (schools)

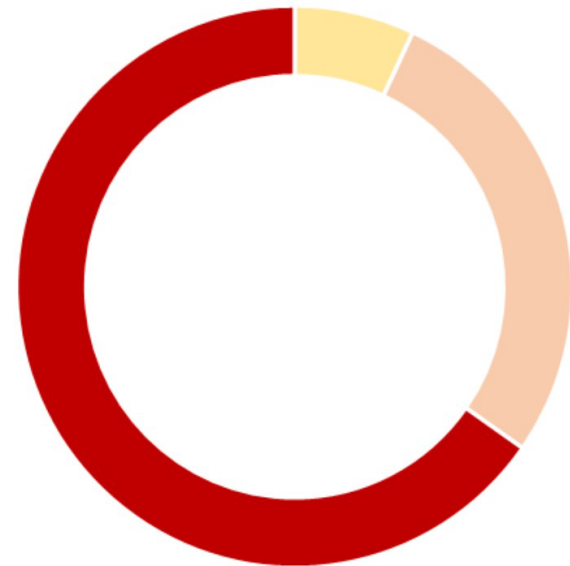
1 university institute

Current number of staff and students

HIGHLY QUALIFIED STAFF



- Doctoral study (745)
- Master study (2964)
- Bachelor study (6969)*



Faculties and workplaces



Faculties

- Faculty of Civil Engineering
- Faculty of Mechanical Engineering
- Faculty of Electrical Engineering and Information Technology
- Faculty of Chemical and Food Technology
- Faculty of Architecture and Design
- Faculty of Material Sciences and Technology
- Faculty of Informatics and Information Technologies

University workplaces

Institute of Management

Lifelong Learning Institute

STU Research Centre

Multimedia centre, Computing Centre,
Publishing House,

Student Houses, Academic Sports Centre



Study system, quality...

Study system

Harmonized with Bologna Declaration & European Credit Transfer System (ECTS)

ECTS Label – ECTS information package, from 2012

DS Label – Diploma Supplement (3 cycle degree study system), from 2013



What can be studied at STU

- Applied Informatics
 - Applied mechatronics
 - Electrical energy
 - Electronics
 - Nuclear and physical engineering
 - Robotics and cybernetics
 - Telecommunications
-
- Informatics



What can be studied at STU

- Automation, computerization and management in chemistry and food industry
- Biochemistry and biophysical chemistry for pharmaceutical applications
- Biotechnology
- Chemistry, medicinal chemistry and chemical materials
- Chemical engineering
- Food, nutrition, cosmetics



What can be studied at STU

- Applied mechanics and mechatronics
 - Automobiles and mobile working machines
 - Energy machinery and equipment
 - Environmental protection technique
 - Automation and computerization of machines and processes
 - Engineering technologies and materials
 - Quality measurement and management in engineering
-
- Materials engineering
 - Mechatronics in technological devices
 - Computer Support of Manufacturing Technologies
 - Integrated security
 - Production technologies and production management
 - Personal work in an industrial enterprise



What can be studied at STU

- Civil Engineering
 - Geodesy and cartography
 - Engineering structures and traffic structures
 - Landscaping and landscape planning
 - Civil Engineering and architecture
 - Water structures and water management
-
- Architecture and Urbanism
 - Design
-
- Investment planning in an industrial enterprise
 - Spatial planning

STU
SvF



STU
FA



STU

SLOVENSKÁ TECHNICKÁ
UNIVERZITA V BRATISLAVE

Institute of Management

Research, innovations...

Share of public universities in grants

Share of the public universities in domestic grants



Source: MŠVVaŠ SR

Share of public universities in the foreign research grants

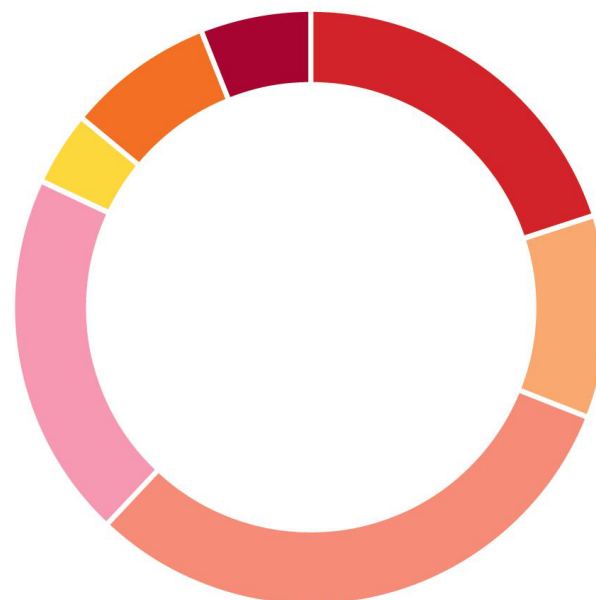


Source: MŠVVaŠ SR

Research areas and grants

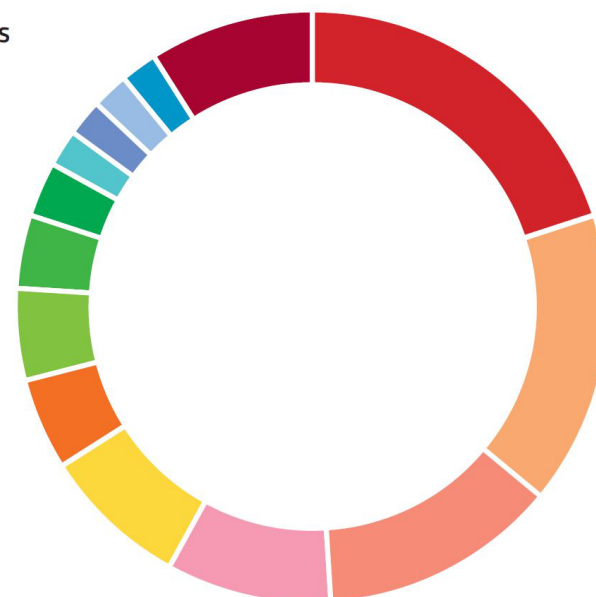
RESEARCH AREAS

- Civil Engineering (20%)
- Mechanical Engineering (11%)
- Electrical Engineering and IT (31%)
- Chemical and Food Processing Technologies (20%)
- Architecture (4%)
- Materials and Technologies (8%)
- Other (6%)



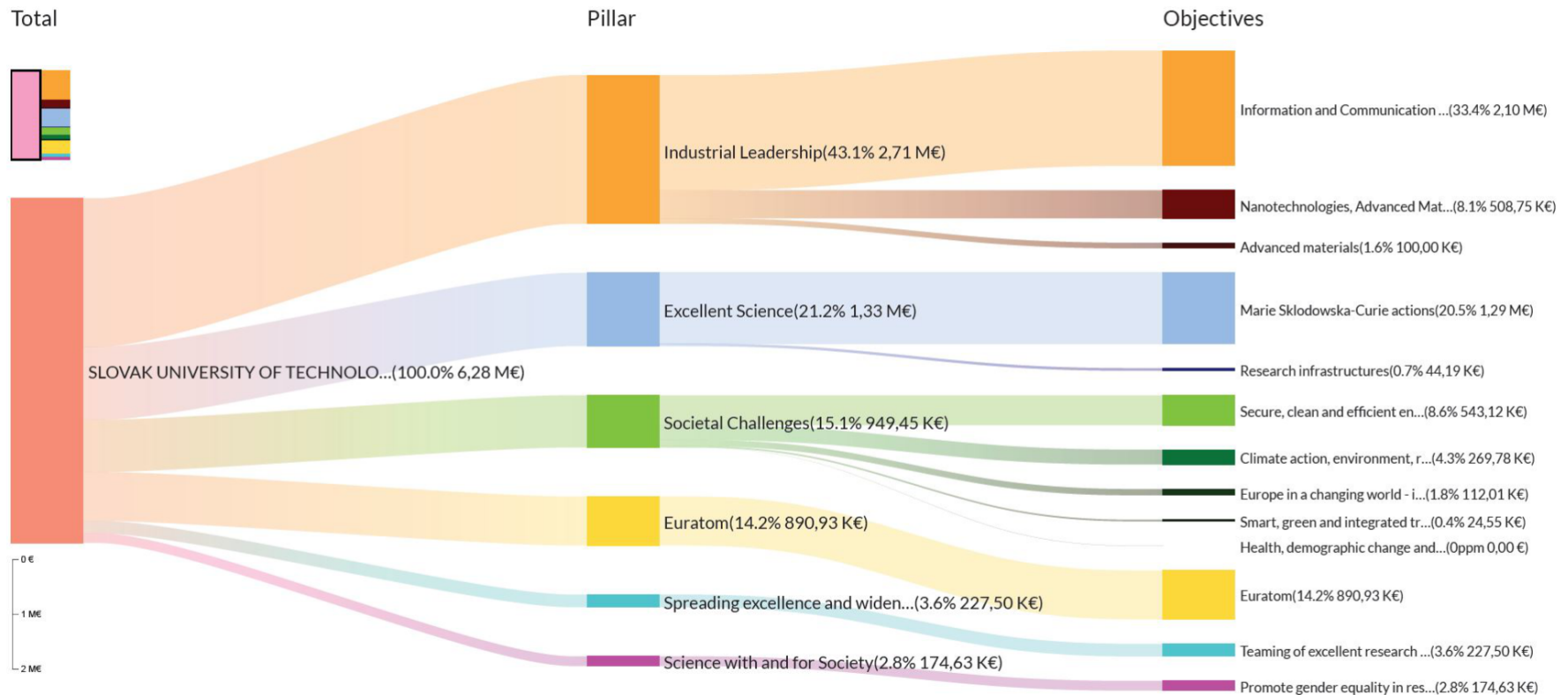
OVERVIEW OF INTERNATIONAL PROJECTS

- Horizon 2020 (20)
- CEEPUS (16)
- Erasmus+ (13)
- INTERREG (9)
- COST (8)
- 7th Framework Programme (4)
- ESA (4)
- International Visegrad Fund (3)
- Eureka (2)
- NATO (1)
- DAAD (1)
- Empir (1)
- Norwegian Fund (1)
- Other (9)



Top research projects

Distribution of the funds contracted within H2020 projects
at STU according to individual H2020 pillars and topics



Source: signed projects, eCORDA H2020 database, 2021-12-04 (h2020viz.vinnova.se)

Current challenges

Interesting projects addressing the current challenges:

BEST PRACTICES IN ROBOTICS

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

GENERATIONS OF ECOLOGICAL PLASTICS

NonOilen®: Fully based on bio-polymers, Fully biodegradable, Improved mechanical properties

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

OTHER INTERESTING PROJECTS

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

STU - University research park

Project financed by EU structural Funds (Operational Program of Research and Development) in the value of 80 mil. €

- **University research park in Bratislava focused on**

Information and communication technologies, electrical engineering, automation and control systems, nanoelectronics and photonics

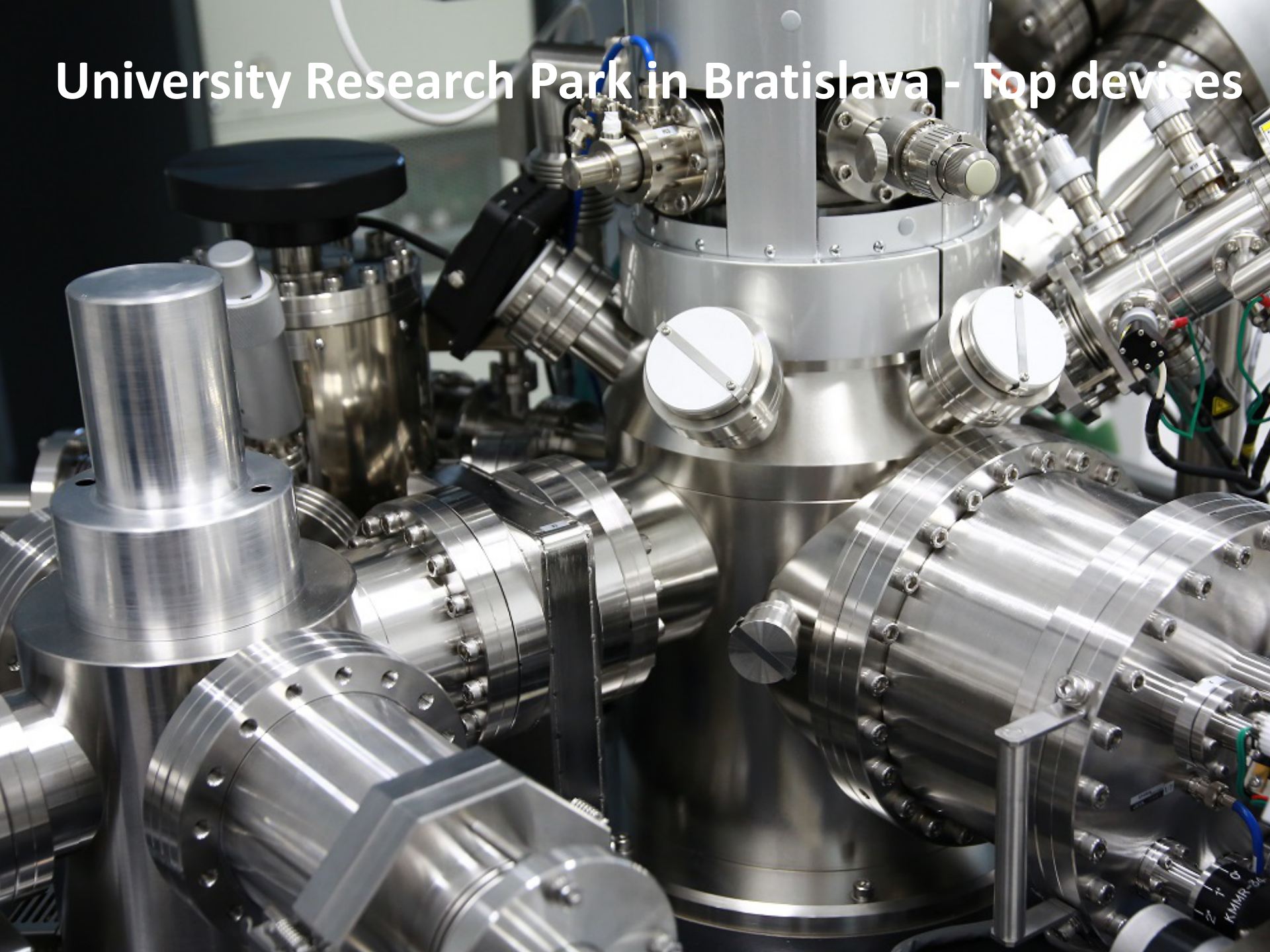
- **University research park in Trnava focused on**

Material engineering, ion and plasma technology, automation and computerisation of industrial processes

„Project ACCORD “

Project financed by EU structural Funds in the value of 120 mil. €

University Research Park in Bratislava - Top devices



University research park in Trnava – Top devices



Leading research centres and laboratories

**AUTOMOTIVE
MECHATRONICS**

**SAFE OPTIMAL
PROCESS CONTROL**

**RESEARCH CENTRE
OF USER
EXPERIENCE AND
INTERACTION**

**COMPUTER VISION
AND COMPUTER
GRAPHICS
LABORATORY**

**ELECTRONICS AND
PHOTONICS**

METAL MATERIALS

**POLYMER
MATERIALS**

**CoE ION BEAM AND
PLASMA
TECHNOLOGIES FOR
MATERIALS
ENGINEERING &
NANOTECHNOLOGY**

**SPECTROSCOPY &
THERMAL
ANALYSIS**

**BUILDING
MATERIALS &
PHYSICS**

**PARTICULATE
MATERIALS**

**CENTRE FOR NANO
DIAGNOSTICS**

**APPLIED
BIOCATALYSIS**

**FERMENTATION
TECHNOLOGY**

**BIOTECHNOLOGICAL
PREPARATION OF
BIOPRODUCTS
ENRICHED WITH
BIOLOGICALLY ACTIVE
COMPOUNDS AND
ENZYMES**

**NUCLEAR
TECHNOLOGY**

**NATIONAL CENTRE
OF ROBOTICS**

**CENTRE OF
EXCELLENCE OF 5-
AXIS MACHINING**

**PHYSICAL
PROPERTIES OF
BUILDING
CONSTRUCTIONS**

**BIOMASS
PROCESSING**

**PRODUCT
DEVELOPMENT
RESEARCH CENTRE**

**SPECTRA CENTRE
OF EXCELLENCE EU**

Cooperation with industry

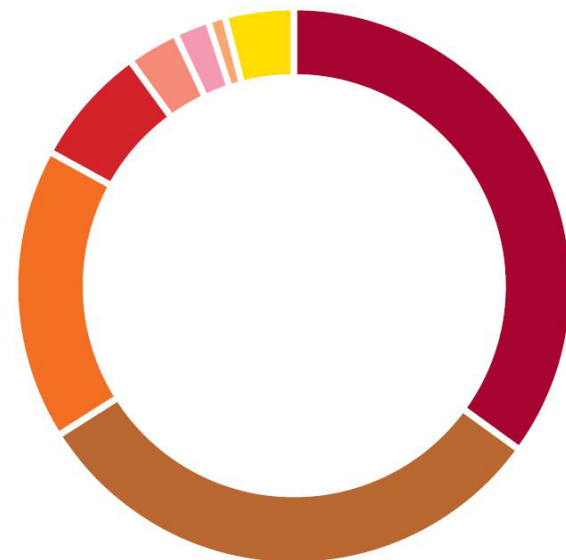
DOMESTIC STRATEGIC PARTNERS

AGRO CS
BRATISLAVA (the Capital of the Slovak Republic)
CENTRUM PRE VEDU A VÝSKUM
(Centre for Science and Research)
ESET
EUSTREAM
GEODHESY, CARTOGRAPHY AND CADASTRE
AUTHORITY OF THE SLOVAK REPUBLIC
MINISTRY OF ENVIRONMENT OF THE SLOVAK
REPUBLIC
MINISTRY OF TRANSPORT AND CONSTRUCTION
OF THE SLOVAK REPUBLIC
NAFTA (Oil)
NÁRODNÁ DIAĽNIČNÁ SPOLOČNOSŤ
(National Motorway Society)
PSA PEUGEOT CITROËN SLOVAKIA
SIEMENS
SLOVAK ACADEMY OF SCIENCES
SLOVAK HYDROMETOROLOGICAL INSTITUTE

SLOVENSKÁ ELEKTRIZAČNÁ PRENOSOVÁ
SÚSTAVA (Slovak Electric Power Transmission
System)
SLOVENSKÁ SPRÁVA CIEST
(Slovak Road Administration)
SLOVENSKÉ ELEKTRÁRNE (Slovak Power Plants)
SLOVENSKÝ PLYNÁRENSKÝ PODNIK
(Slovak Gas Enterprise)
SLOVENSKÝ VODOHOSPODÁRSKY PODNIK
(Slovak Water Management Enterprise)
SLOVNAFT
ŠKODA AUTO
VODOHOSPODÁRSKA VÝSTAVBA
(Water Management Construction)
VOLKSWAGEN SLOVAKIA
VÝSKUMNÝ ÚSTAV JADROVEJ ENERGETIKY
(Nuclear Energy Research Institute)
VÝSKUMNÝ ÚSTAV VODNÉHO HOSPODÁRSTVA
(Water Management Research Institute)

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

- STU in Bratislava (35%)
- University of Žilina (31%)
- TU of Košice (17%)
- Comenius University (7%)
- Slovak University of Agriculture in Nitra (3%)
- University of Economics in Bratislava (2%)
- P. J. Šafárik University in Košice (1%)
- Other (4%)



Univerzity Technology Incubator & Start-up Office

Entrepreneurship awareness program

Business development consultancy

Office space and services

InQb companies, start-ups, spin-off companies

Supported SMEs



STU International Cooperation

International Cooperation

> 450 International agreements

University agreements	Faculty agreements	Erasmus agreements
100	37	326

Memberships

- European Universities Association
- European Society for Engineering Association
- CESAER
- EULiST Consortium of 10 European Universities
- others (20 institutional, > 500 individual)

Mobilities

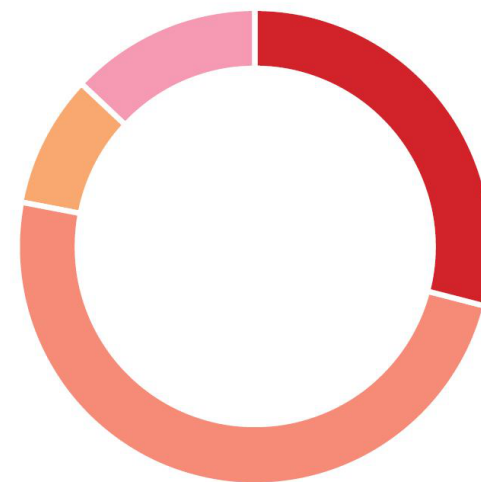
- Erasmus +
- ICM (Erasmus +)
- CEEPUS, IAESTE, BEST
- National Scholarship program
- Free movers

Erasmus +

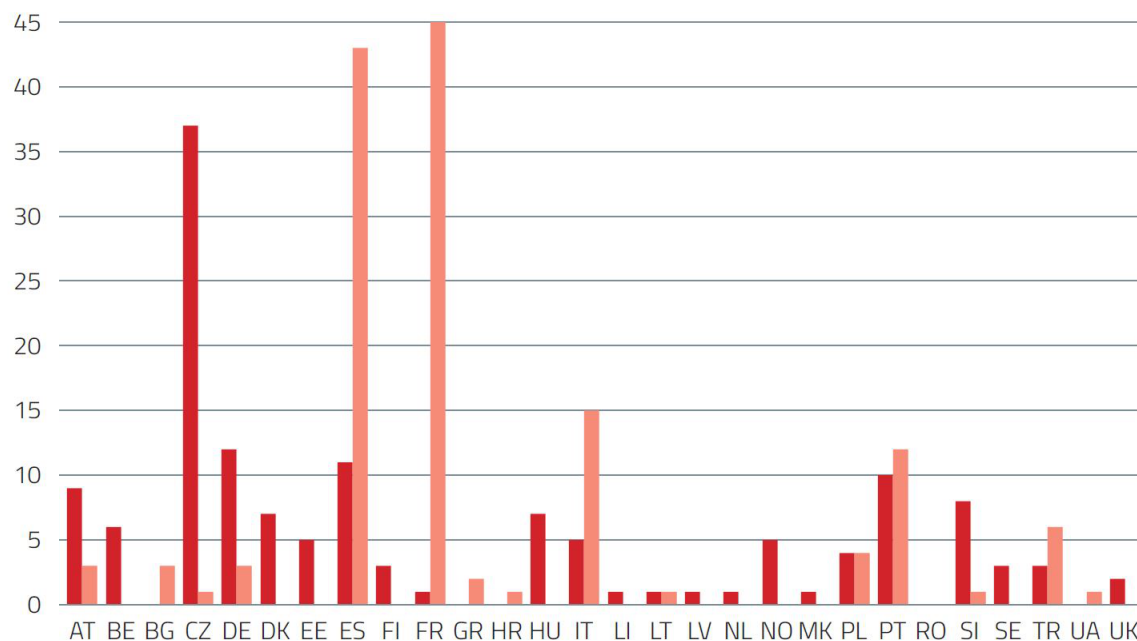
Percentage of the outbound STU students/graduates within the Erasmus+ program according to study degree in the academic year 2020/2021

- Bachelor study (29%)
- Master study (49%)
- Doctoral study (9%)
- Graduates (13%)

Source: STU



■ Erasmus+ out ■ Erasmus+ in



STU Students Services...

Students Services

STUDENT ACCOMMODATION

- Six dormitories with a housing capacity for 5,700 students;
- Accommodation located within 10 minutes (on foot or by public transportation) from the education facilities;
- Canteens and buffets in student dorms and faculty premises;
- Basic medical care in the student dormitories.

STUDENT FACILITIES

- Libraries, self-access centres; Online access to international database;
- Modern approach to education (e-learning, distance studies...)
- Free internet access;
- Special workplaces and labs;
- PC labs

Libraries at the Faculties



STU Environment





Technik Ensemble





Students formula team



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www.stuba.sk



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