

**Slovak University
of **Technology**
in Bratislava**



STU is **the best** technical university in Slovakia

MIROSLAV FIKAR, THE STU RECTOR

At the time of its establishment, STU was the first technical university in Slovakia. It is worth to recall that the group of its graduates comprises more than 120,000 engineers and technicians. Their work and talent have navigated Slovakia for more than 80 years towards the TOP 3 most industrially advanced countries in Europe.

For Slovakia, STU is one of the main pillars in the field of science, research and engineering education. The STU diploma has always been a guarantee of high professionalism and quality, inspiring respect and opening wide possibilities. Regarding the abovementioned, I tend to say that people are the soul of a university, and quality of a university derives from the standards and demands set up by its scientists, educators and students.





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THE UNIVERSITY STATUS

According to the latest results of the respected QS ranking for the year 2019, the STU ranked 710th within more than 20,000 world universities. In the Shanghai ranking, the STU belongs to the top 500 world's best universities in the field of Mathematics.

The STU graduates belong to the preferable job candidates in the companies in Slovakia; their starting salaries are the highest. The ranking compiled in 2019 and comprising 40 Slovak faculties states that three STU faculties occupied the first three places regarding the highest graduates' salaries.

INVESTMENT IN DEVELOPMENT

The University has been successful in obtaining investment and research grants; in October 2019, STU won the biggest academic investment project in the history of Slovakia. In a consortium with Comenius University, we will modernize many of our workplaces and laboratories for € 111 million, thus moving a great step towards the top international standards. We have won several Horizon 2020 grants. In 2019, STU became a founding member of the prestigious European Infrastructure Manufacturing platform.

Besides improving the research infrastructure, we keep increasing the social standard for both, employees and students. In the past 10 years, we have invested nearly € 20 million in the refurbishment of the University dormitories. We provide students with scholarships totalling more than € 3 million per year. Within the STU Start Hub business incubator, we also provide generous support to the young leaders and innovators who set up their own start-ups during their study. We are currently opening the first ever kindergarten in Slovakia for the children of our young employees. More and more foreign students choose STU for their alma mater; in 2020, they represented more than 5 % of the STU students.

THE FUTURE IS INTERNATIONALIZATION

We live in interesting times; never before have the pace and scale of the changes been as enormous as today. This naturally changes the position of universities in society. One of the typical manifestations of the academic tradition in Slovakia is a narrow local approach to science and research. We have to change it. The biggest challenge is related to deepening the internationalization of research and study along with the STU establishment in the international research area.

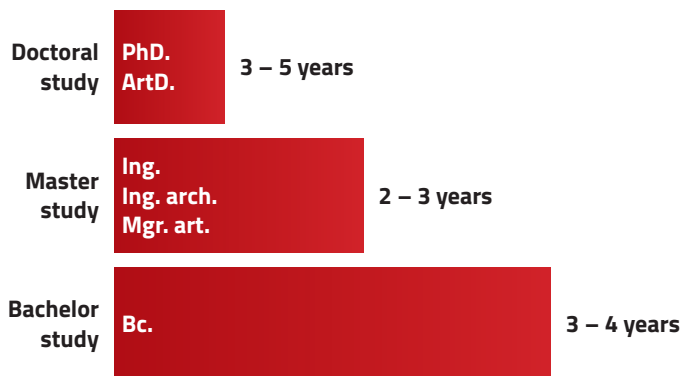


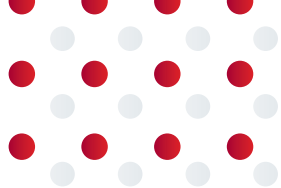
Education

Priority of complex education in a wide spectrum of engineering fields and programmes as well as in the fields of arts, humanities and pedagogy is a research-based practical orientation.

STUDY SYSTEM

- three degrees, in spirit of the Bologna Declaration
- credit system compatible with the European Credit Transfer System enabling two-way mobility of students
- linked to prestigious partner universities within the Erasmus+, CEEPUS and IASTE international programmes
- focused on lucrative study fields with long-term and stable effectiveness in the labour market





STU Facts & Figures

€ 110 900 000

ACCORD* Project

€ 3 000 000

Scholarships granted per year

120 000

Graduates (1940 - 2019)
since the University establishment

10 900

Students 2019/20

1 280

Teachers and researchers

7+1

Faculties + University institute

740

Research projects

250

Contractual research projects

116

Framework agreements
with foreign universities

90

International projects

400

Study programmes

*

STU as a leader of the biggest academic investment project in the history of Slovakia, in consortium with the Comenius University (2019 – 2023)



Research

Research is a tool for searching new knowledge and the basis of university education.

RESEARCH FIELDS*

- Technical Sciences (27 %)
- Chemical Sciences (20 %)
- Information and Computational Sciences (18 %)
- Mathematical Sciences (11 %)
- Physical Sciences (5 %)
- Biological Sciences (4 %)
- Medical and Health Care Sciences (4 %)
- Education (2 %)
- Others (9 %)

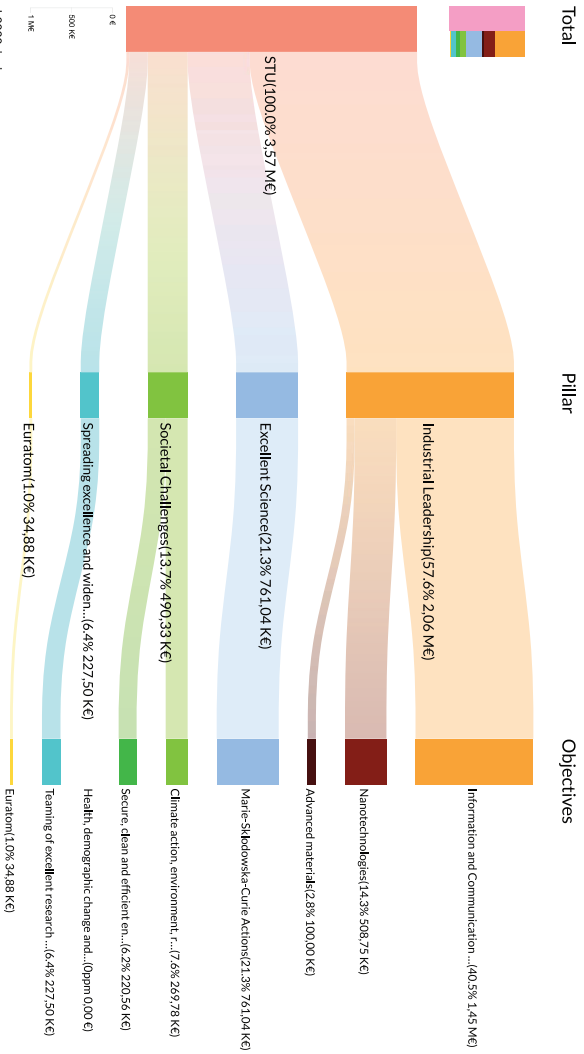


* Based on the number of publications in the year 2018

**STU is a member of EIT Manufacturing
and EIT Raw Materials**

Research

STU IN THE PROGRAMME OF THE HORIZON 2020 EUROPEAN COMMISSION



H2020vzrinnovase
 Source: signed projects, eCORDA H2020 database, April 15, 2019

Source: <https://app.dimensions.ai>



Excellent research

Excellent research, research into know-how along with knowledge acquisition significantly move forward the boundaries of knowledge, while changing both technology and quality of life and significantly influencing further research across borders.

ENERGY

- Renewable energy sources, biomass, solar energy and water power, environment
- Flood protection
- Sustainable use of natural resources



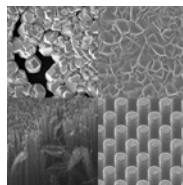
INFORMATION AND COMMUNICATION TECHNOLOGIES

- SMART technologies
- Safety, cryptography



MATERIALS AND MATERIAL TECHNOLOGIES

- Nanomaterials
- Biodegradable materials





ACCORD Project

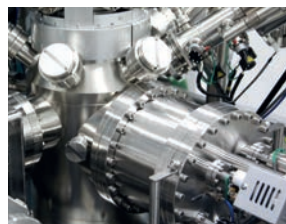
Advancing University Capacity and Competence in Research, Development and Innovation. The aim of the Project is to support cooperation of the two largest universities, the Slovak University of Technology (STU) in Bratislava and Comenius University (UK) in Bratislava, in the research and innovation via coordinated investments into the research and innovation capacities related to the higher education infrastructure.

STRATEGIC OBJECTIVES

- Strengthening the competitiveness of universities in the European Higher Education Area in the field of STEM, attracting new students from Slovakia and abroad, and retaining the most talented students as future researchers and university teachers;
- Increasing the participation of universities in joint research via modernizing the existing research infrastructure and targeted marketing of the existing and new capacities towards potential research partners;
- Strengthening the cooperation between academia and industry and creating opportunities for effective transfer of the science and research results, particularly in the fields of biotechnology/biomedicine, progressive materials as well as information and communication technologies.

KEY ACTIVITIES

- Reducing CO₂ emissions
- Increasing the attractiveness of the educational environment
- Modernization of IT infrastructure
- Renewal of research infrastructure/equipment
- Joint research programs



Budget

Total Project expenditure	€ 119 720 072.84
Total eligible project costs	€ 110 965 538.84
Total amount of NFC	€ 105 417 261.90
Co-financing	€ 5,548,276.94

Implementation period

Start	01 September 2019
Termination	21 December 2023



STU University Science Park

The STU University Science Park provides conditions and space for independent research and support for the new knowledge transfer into practice. It offers both newly established and renewed scientific laboratories equipped with the state-of-the-art devices, in some cases unique even in the European scale.

SCIENCE CITY BRATISLAVA

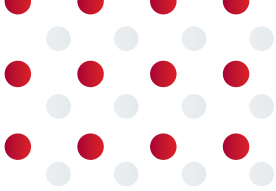
- Regional Centre of Mlynská dolina
- Regional Centrum
- Centre for Nanodiagnostics



CAMBO TRNAVA

- Centre of Materials Research
- Centre of Automation and Informatization of Production Processes and Systems
- Centre of Excellence of 5-axis Machining





Cooperation with **practice** and industrial property **protection**

The STU/companies cooperation projects are oriented on innovative solutions resulting in patents, utility models or innovations used in companies. STU provides its researchers with complete legal advisory in the field of intellectual property protection, search for and mediation of contacts to industrial partners, and active promotion of the implemented research results.

100

registered
and valid
utility
models

47

utility
model
applications
filed

65

filed
patent
applications

17

patents granted
and valid
(by 14 June 2019)

FORMS OF COOPERATION

- Joint research projects
- Assignments from practice based on the direct agreements and orders
- Student mobility and internship in companies at home and abroad
- Support for start-up companies





Knowledge **transfer** and research enhancement for **innovative** practice

Transfer of new knowledge, know-how and technical solutions into economic practice through spin-off companies with the STU property participation is one of the ways of economical intellectual property enhancement.



Support for the spin-off companies establishment and development

HYDROTECHNIKA STU, s.r.o.

Water structures research and development

ENFEI, s.r.o.

Optimisation of development and operation of electricity networks

SMME-STU, s.r.o.

Research, development and advisory in the field of electro-mobility and automobiles; their mechatronic and safety systems

IVMA STU, s.r.o.

Materials design for specific applications (materials in extreme conditions)

STUVITAL, s.r.o.

Research and development, implementation, education and training activities in the field of food

UXtweak j.s.a.

Development of online tools and services for testing software usability from users' experience viewpoint



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