



ANNUAL REPORT

ON THE ACTIVITIES  
OF BRNO UNIVERSITY  
OF TECHNOLOGY

IN **2017**



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UNIVERSITY  
OF TECHNOLOGY

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## **Annual Report on the Activities of Brno University of Technology in 2017**

The Annual Report on the Activities of Brno University of Technology (BUT) for the year 2017 is presented in accordance with law no. 111/1998 Coll., on universities. It has been elaborated according to the framework curriculum of the university activities for the year 2017 issued by the Ministry of Education, Youth and Sports of the Czech Republic. The document is divided into a text and table part with a fixed structure based on the framework curriculum. On the other hand, the introductory part remains entirely in the management of the University and presents the information beyond the required curriculum.

The Annual Report offers the data and substantial results of all activities related to the mission of Brno University of Technology in the scope of both Czech and international post-secondary education and offers the public an overview of the University's major scientific and research activities.

The Annual Report was approved by the Academic Senate of BUT on 24<sup>th</sup> April 2018.

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# Contents

1	<b>Introduction</b>	7
1.1	Introductory Words by the Rector	8
1.2	Significant events at BUT in 2017	9
1.3	Major projects of BUT	16
1.4	Achieved objectives within the BUT Long-Term (Strategic) Plan for 2017	22
1.5	Activities of the Academic Senate of BUT in 2017	22
2	<b>Basic information about the university</b>	25
2.1	Full name of the university, commonly used abbreviations, location and its constituent parts	26
2.2	Organizational chart of BUT	27
2.3	Members of Scientific Board, Management Board, Academic Senate, and Internal Rating Board	28
2.4	Representation of BUT among universities	31
2.5	Mission, vision and strategic objectives of BUT	32
2.6	Changes in the internal regulations of Brno University of Technology in 2017	33
2.7	Providing information pursuant to § 18 of Act no. 106/1999 Coll. On Free Access to Information	33
3	<b>Degree programs, organization of study and educational activities</b>	35
3.1	Number of accredited degree programs	36
3.2	Other educational activities (outside the implementation of accredited study programs)	36
4	<b>Students</b>	37
4.1	Measures to reduce academic failure	38
4.2	Measures applied to limit the extension of studies	38
4.3	BUT and specific scholarship programs	38
4.4	Advisory services for students provided at BUT	39
4.5	Identification and support of students with specific needs	39
4.6	Support of exceptionally gifted students and BUT applicants	40
4.7	Support and identification of socio-economically challenged students	40
4.8	Support of parenting students	41
5	<b>Graduates</b>	43
5.1	Cooperation and contact of BUT with its graduates	44
5.2	BUT graduate employability surveys, measurement for increase in employability, surveys of graduate employability and a follow-up reflection of the content of study programs	44
5.3	Cooperation with prospective employers of BUT	45
6	<b>Interest in studies</b>	47
6.1	Characterization of entrance exams	48
6.2	Cooperation of BUT with secondary schools	48
7	<b>Employees</b>	49
7.1	Employment Code for academic staff and motivational revenue tools for employees based on achieved results	50
7.2	Development of pedagogical skills of academic staff	50
7.3	Gender equality	50
7.4	Problems of sexual and gender-based harassment	51
8	<b>Internationalization</b>	53
8.1	Support of participation of students in foreign mobility programs	54
8.2	Integration of foreign members of the academic community	55
9	<b>Research, development, artistic and other creative activities</b>	57
9.1	Linking creative and educational activities	60
9.2	Engaging bachelor's and master's students in creative activities	60
9.3	Targeted funds for research, development and innovation gained in 2017	61
9.4	Support of doctoral students and employees in post-doctoral positions	61
9.5	Share of application sphere in the creation and implementation of degree programs	61
9.6	Cooperation with industry on the development and transfer of innovations and their commercialization	62
9.7	Support of horizontal (i.e. intersectoral) mobility of students and academics	62

10	<b>Quality assurance and evaluation of activities</b>	63
10.1	Significant events related to quality assurance and evaluation of implemented activities in 2017	64
11	<b>BUT national and international excellence</b>	67
11.1	International and important national research, development and creative activities, integration of research infrastructure into international networks, and involvement in professional or artistic networks	68
11.2	National and international awards in 2017	69
11.3	International assessment of BUT and its constituent parts, including foreign accreditation	69
12	<b>Third role of the University</b>	71
12.1	Transfer of knowledge into the application sphere	72
12.2	Activities in the region, cooperation with regional governments and major institutions	72
12.3	Characteristics of BUT activities beyond the region	73
	<b>Table part of BUT Annual Activity Report for 2017</b>	75
	Tab. 2.1: Accredited degree programs (numbers)	76
	Tab. 2.2: Degree programs in a foreign language (numbers)	77
	Tab. 2.3: Joint/Double/Multiple Degree programs implemented with a foreign university	78
	Tab. 2.4: Accredited degree programs implemented jointly with another university or institution located in CR	81
	Tab. 2.5: Accredited degree programs implemented jointly with a community college	82
	Tab. 2.6: Lifelong Learning (LLL) Courses at the University (Number of Courses)	83
	Tab. 2.7: Lifelong Learning (LLL) Courses at the University (Number of Courses)	83
	Tab. 3.1: Students in accredited degree programs (numbers)	84
	Tab. 3.2: Paying Students (numbers)	85
	Tab. 3.3: Unsuccessful students in first year of the studies (in %)	87
	Tab. 3.4: Scholarships for students according to the purpose of the scholarship (numbers of individuals)	87
	Tab. 4.1: Students in accredited degree programs (numbers of completed studies)	88
	Tab. 5.1: Interest in studies at BUT	90
	Tab. 6.1: Academics and researchers (average FTE numbers)	91
	Tab. 6.2: Age structure of academic and research staff (numbers of individuals)	92
	Tab. 6.3: Numbers of academic staff by the range of workloads and the highest qualification achieved (numbers of individuals)	92
	Tab. 6.4: Executives (numbers of individuals)	96
	Tab. 6.5: Academic and scientific staff with foreign citizenship (average recalculated numbers)	97
	Tab. 6.6: Newly Appointed Assoc. Professors and Professors (numbers)	99
	Tab. 7.1: BUT involvement in internal cooperation programs (regardless of the source of funding)	100
	Tab. 7.2: Mobility of students and academic staff by country	101
	Tab. 7.3: Mobility of graduates (share of completed studies)	102
	Tab. 8.1: Conferences (co)organized by BUT	103
	Tab. 8.2: Application sphere experts participating in teaching in accredited study programs (numbers)	104
	Tab. 8.3: Numbers of specializations for which the curricula include the mandatory completion of a professional internship of at least 1 month (numbers)	104
	Tab. 8.4: Transfer of knowledge and research results into application sphere	105
	Tab. 12.1: Housing and food	105
	Tab. 12.2: BUT Libraries	105
	Tab. 12.3: Institutional Development Plan of BUT in 2017	106
13	<b>Conclusion</b>	111



# 1

## Introduction

## 1.1 Introductory Words by the Rector



Dear Readers,

I am considering the importance of the year 2017 and its impact on both the Brno University of Technology and us who are connected with it. Of course, the year was filled with numerous activities: the students were studying and doing their best to prepare for their future professions, lecturers were giving seminars and instructions, scientists were addressing interesting research projects... Apparently, the year 2017 was nothing exceptional. However, I would stress a few topics that made the year 2017 different from previous ones. The first topic I would like to mention is the implementation of a full-scale wage regulation that has been long discussed and agreed by the deans of all faculties and that has brought additional funds to our employees' wallets according to the overall indicators.

I am really glad that all the BUT deans have agreed to avoid a so-called zero option, e.g. that the increase in the wage rates will be balanced by a reduction of the personal surcharge. Unfortunately, not all staff groups and BUT faculties have benefited from this agreement. However, it is important to note that despite this increase, the basic wages remain very low and the aim of BUT management is to prepare a new, modern wage regulation that will significantly boost the rewards of those who do their jobs well.

The year 2017 can also be characterized as an electoral one, with the Academic Senates of the individual faculties and the University, the Deans and Rector being elected. Let me congratulate all those elected and wish them a lot of energy and interesting ideas that will make our faculties, constituent parts and the whole University even more renowned and recognized not only in Europe, but also worldwide. It is sometimes necessary to avoid our particular interests and to look at the problem from a global perspective, e.g. from the point of view of our University as a whole.

Thirdly: I would like to mention the successful efforts of universities, the Czech Conference of Rectors and the Council of Universities to bring additional resources into the university budgets for 2018. The minister's office promised 5 billion CZK, however, the 3 billion CZK that we have finally received will allow us to stop the current fall in real budgets. These resources also mean an increase in the shamefully low scholarships of our PhD students. After all, the young people who are now engaged in PhD studies, in other words those who in the future will be involved in research and the education of future graduates, should be fairly rewarded so that they will not have to depend on the support of their families. I firmly believe that the growth of the finances for our universities will continue in 2019 and in the following years.

Last but not least, it is certainly necessary to mention the change to the university law, which kept us busy in 2017, and will certainly continue to do so in years to come.

I wish you a lot of patience when reading this report.

Prof. Dr MSc Petr Štěpánek, PhD, Dr.h.c.  
Rector of BUT

## 1.2 Significant events at BUT in 2017

### Actions and Events

On 24 October 2017, the BUT Academic Senate reelected **Petr Štěpánek, the present BUT Rector**, for the term 2018–2022, thus extending his current four-year term. He was voted for by 21 of the 22 senators present. In 2017, elections also took place at three BUT faculties. Jaroslav Katolický, the present Dean of the Faculty of Mechanical Engineering, will continue to hold office, Vladimír Aubrecht was elected the dean of FECC and Miroslav Bajer became the dean of the Faculty of Civil Engineering. Their terms will start in February 2018.



▲ **BUT has modernized its website** [www.vut.cz](http://www.vut.cz). On December 29, 2017, BUT launched an upgraded version of the whole-university web site, which will significantly simplify the orientation of the candidates. The modern structure will also facilitate access to business representatives who are interested in cooperation with BUT. Based on an in-depth analysis of all target groups, BUT has structured a whole-university web site to make it responsive and adaptable to mobile or tablet browsing.



▲ BUT hosted the final of the European BEST Engineering Competition in summer 2017. 120 top technicians won participation in the **EBEC Final Round 2017**; however, there

were 6,500 students from all over Europe who entered the competition. The best students in technical disciplines measured their strengths from 1 to 7 August 2017 in Brno. The A team of BUT students, who won the Central European EBEC Central round in Hungary, also advanced to the final.

The team of Professor Miroslav Druckmüller of the Faculty of Mechanical Engineering had just 120 seconds to record the dates of the **Total Solar Eclipse** that occurred on Monday, August 21, 2017, over part of the US. Historically, this year the researchers have been able to collect the highest amount of quality data. Jana Hoderová, the mathematician, successfully coped with the physically most demanding path. Her observation site was on Whiskey Mountain, and all the observation equipment and instruments had to be brought there on horseback.

The first university work-room focusing on 3D printing and related technologies was opened at the Faculty of Mechanical Engineering, BUT. Our students have an extraordinary chance to get free access to top-notch equipment that is not commonly available, and to develop their prototype ideas. A work-room called **"MachineLAB"** is a part of the FabLabNet European network.



▲ **The BUT Ball**, which took place in the indoor halls (G1 and G2) of the Brno Exhibition Center; was visited by more than three thousand guests. The third year of this renewed BUT tradition was unique in many ways: Vladimír Bobula, a graduate of the Faculty of Information Technology, proposed marriage to his girlfriend in front of thousands of guests.



▲ BUT aims to support the technical education of children through the project of a technical university for secondary level elementary school pupils. **The BUT Junior** project started with a matriculation in September 2017. Each month, children aged 12–16 learn interesting facts from a technical or scientific field, such as chemistry, architecture, informatics, or construction, e.g. areas covered by BUT. BUT Junior University raised enormous interest among the public, fifty students and substitutes registered for the project in the first seven days after its launch.

BUT hosted **the Summer Olympics of Children and Youth** in June 2017. Three thousand young athletes aged between 10 and 18, who competed in 22 sports, headed to the Moravian metropolis. The organization involved 1,500 volunteers. A total of 4,500 people used BUT sport facilities, dining halls and dormitories. The event was organized by the Czech Olympic Committee and the building of the Faculty of Business Management was chosen as an imaginary Olympic home where the final ceremony took place.



▲ The Faculty of Civil Engineering hosted **the European Youth Parliament** in July. This was the largest conference of its kind in Europe, attended by over 300 students from 40 countries. EYP is a Europe-wide student network of out-of-school educational organizations that have been working for 30 years in the field of politics, education and communication.

Brno University of Technology introduced the **BUT Academic Wine** for 2017. BUT newly cooperates with Moravian winemakers associated in the V8 Alliance. Marcinčák's family winery, which is a member of this alliance, prepared the first

samples of the year to be selected as the BUT Academic Wine. The winemaker himself is a graduate of the BUT Faculty of Business and Management. The Rhine Riesling and Babovka from the Marcinčák Winery was selected as the first BUT Academic Wine. This wine was labeled the BUT Academic Wine of 2017, and ceremonially presented on December 13, 2017 at the BUT Rector's Office.



▲ Nearly 150 individuals and 50 relays competed in a legendary **Mechanical Engineering Stairs** race. The race took place at FMI after a five-year break as the sporting tradition was interrupted by the demanding reconstruction of the 74-meter tall A1 building. Ondrej Piňos, a student on the Bachelor's degree program of the Faculty of Mechanical Engineering, won the race, conquering all 18 floors and 362 stairs in 1:28.36.

On 19 April, the opening ceremony of the **Re-FACT exhibition** took place at the BUT Rector's Office where the works of art by both domestic and foreign students of the Institute of Historical Monument Care of the Faculty of Architecture were presented. These subjects are taught by Helena Zemánková, who also presented her publication *Conversion of Abandoned Buildings and Areas*.

The Institute of Radio electronics FEEC BUT organized an International Conference called **Microwave and Radio Electronics Week** from April 19<sup>th</sup>–21<sup>st</sup> 2017. The international event was attended by more than 200 guests from 15 countries. The lectures were delivered by 6 foreign professors and researchers, and the institute also organized three specialized workshops. Microwave and Radio Electronics Week united two separate international events: the 27<sup>th</sup> International Radio Electronics Conference and the 18<sup>th</sup> Annual Conference of Microwave Technology COMITE.

Experts from the Institute of Forensic Engineering of BUT participated in the preparation of the international **Crisis Management and Crisis Situations Addressing** conference. This two-day event focused on the principles and management of crises, environmental safety and risk analysis. The event was jointly-prepared by the Institute of Forensic Engineering of BUT and the Department of Crisis Management of the Faculty of Logistics and Crisis Management of TBU in Zlín.

In 2017 the **Gallery of FFA** renewed its activities in the center of Brno at 53 Údolní Street. Its program follows that at the Aula Gallery, whose operation was suspended due to the relocation of the Faculty in 2016. The gallery has returned to its original name, clearly declaring its mission and publicizing the institution of which it is an integral part. The gallery gives space to a generation of artists and curators up to 35 years of age.

Computer processing photos, extracting information from speech, and image and video processing. These are just a few projects in which the research teams of the Faculty of Information Technology of BUT will make use of the high-performance servers that were donated to the faculty in October 2017 by **Facebook Inc.** The company has selected FIT scientists, along with 14 other major research groups from Europe, to be involved in the Facebook Artificial Intelligence Research (FAIR) program, which aims to accelerate advances in artificial intelligence.

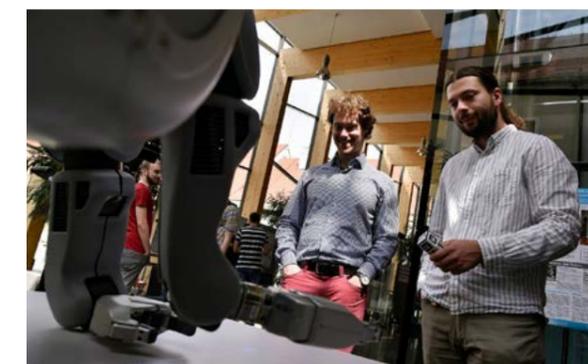
On the occasion of the open door day for Berlin monuments, a lecture was given at the **ICOMOS Congress (International Council of Monuments and Settlements)** by Vladimír Slapet, the Professor of the Faculty of Architecture. He concentrated primarily on two Berlin regions that want to apply for a UNESCO World Heritage Site nomination. This applies to East Berlin's Karl Marx-Allee (formerly Stalin's alley) and the Hansaviertel residential district.

The Faculty of Business and Management, BUT organized the 5<sup>th</sup> **Brno International Week** this year. This international event was visited by 25 guest lecturers from abroad who delivered lectures or seminars for students. The event included lectures and workshops and so-called roundtables where the Faculty members met with representatives of foreign universities.



▲ The Institute of Forensic Engineering organized **Crash Days** – publicly accessible car crash tests. The 2-day event was held on October 24, 2017 on the premises of the scrap iron plant in Staré Město near Uherské Hradiště. The crash tests serve to probe the behavior of vehicles, particularly their ability to protect the crew in such situations.

On 7 March 2017, the Faculty of Civil Engineering of BUT hosted **the Mobility conference** oriented on mobility in the Moravian metropolis. The event addressed the construction of underground tramways or Park and Ride car parks on the outskirts of Brno. The participants also discussed the cycling routes and the possibility to build a P + R car park near the Brno Exhibition Center, and its connection to the city center by a cableway.



▲ The third student conference on innovation, technology and science in IT was held in May. The students of the Faculty of Information Technology presented the results of their creative work. The expert jury selected a total of 63 student projects that excelled in innovation, security, robotics, programming languages, modeling or sound and image processing in the **Excel@FIT** competition.

In October 2017, the Faculty of Chemistry participated in establishment of the **National Bioplastic Cluster**. The Cluster means new opportunities for Czech companies in the rapidly growing bioplastic market. The origin of the Cluster has been agreed between the Faculty of Chemistry, where the unique Czech **Hydal** biotechnology has been produced, and Nafigate Corporation, which seeks commercial applications for this biotechnology. The company began to negotiate entry to the US market last year. Hydal was introduced to American investors and companies in New York with the goal to extend its successful expansion from China to the United States.

## Achievements and awards



▲ The latest **Dragon 7** model won the first Czech formula in the Formula Student international competition on the European continent. In August 2017 the team of BUT students became the absolute winner of the Formula Student Czech Republic race at the motor-racing circuit in the city of Most, where it competed against other 45 racing cars. The BUT team became the winner not only in the category of combustion engine cars, but, with a total of 938 points, became the absolute winner of the entire competition. The **TU Brno Racing** team successfully completed the international races of the season and ranked 5<sup>th</sup> in the overall world ranking list. A total of 540 teams participated in the student formula competition in building single combustion engines.



▲ In January 2017, BUT graduates Ivan Koleček and Aleš Svoboda won **the City of Brno Award**. Ivan Koleček, the architect, is a graduate and former teacher of the Faculty of Architecture. Since 1969 he has been working in Switzerland offering students of the Faculty of Architecture internships and training sessions in his Swiss atelier. Aleš Svoboda, a graduate of the Faculty of Civil Engineering, is a well-known expert on the Brno underground system and the author of several publications. He has played important part in making the Master of Mint cellar, the ossuary under the church of St. James and the Labyrinth under the Cabbage Market in the center of Brno accessible to the public.

The best master's degree in informatics came from the Faculty of Information Technology, BUT. Jiří Matyáš suggested how to double the battery life of mobile phones and other devices. His idea won the first place in the **IT SPY**

competition, where he beat 1,700 diploma theses from 16 Czech and Slovak universities.

CEITEC BUT won two **prestigious ERC grants** from the European Research Council and ranked in the top 10% of the candidates from all over the world who annually succeed in this event. Vojtěch Adam, along with his team will focus on research on the protein called metallothionein. Another successful grant holder is Petr Neugebauer, who is developing a revolutionary method of paramagnetic resonance.



▲ The international jury and hundreds of participants of the EUPRIO (European Public Relations and Information Officers) marketing conference unambiguously agreed on the **EUPRIO Award** winner in 2017. The BUT recruitment campaign I Belong Here, which is focused on attracting women to technical disciplines, was awarded the best marketing achievement of any European university.

The Faculty of Mechanical Engineering BUT repeated its victory in the contest called **The School Recommended by Employers**. The competition is organized by the Czech Club of Employers and prominent Czech employers evaluate university faculties according to the quality of their graduates.



▲ The cup of **the eight-member rowboats race** returned to BUT in 2017. The red mixed eight-member rowboat of BUT defeated the Masaryk University team. BUT also won a following race, participating along with teams from five

other universities from the Czech Republic and Slovakia. BUT also scored at the European Universities Championship in Serbia, where Štěpán-Adam Havlíček, a student of the Faculty of Mechanical Engineering, BUT, won the skiff race. Our students took 2<sup>nd</sup> place in the double skiff race.

On 21 September 2017, the Technology Agency of the Czech Republic awarded the Faculty of Chemistry, BUT, the **TA Prize** in the category Originality for Research and Development project of Advanced Thin Film Elements for the direct monitoring of the time variable using precisely calibrated color changes. The project is being addressed by the team of Michal Veselý of the Faculty of Chemistry. Its objective is the development of advanced thin film elements, which can draw attention to the recommended dose of a certain type of radiation, safe exposure time, expiration time, light resistance limits and durability.

**Alfred E. Hunt's medal** for the best tribological article was won by researchers from the FME Design Institute. The Society of Tribology and Lubrication Engineers annually awards the most important publication in the field of tribology. The commemorative medal has been awarded since 1948, BUT received this prestigious world award for the first time ever. The medal was presented to the BUT scientists at a ceremony in Atlanta, USA.

Jakub Sochor, a PhD student of the Faculty of Information Technology, received the **Joseph Fourier Award in the category Computer Science and Informatics** for his Automated Traffic Surveillance project: Fine Grain Recognition of Vehicles and Automatic Speed Measurement. The ceremony took place on 16 June 2017 at the headquarters of the French Embassy in the presence of the French Ambassador to the Czech Republic. The laureates received the award from the hands of Professor Jean-Marie Lehn, the Nobel Prize winner in Chemistry in 1987.



▲ On April 28, 2017 the premises of the CEITEC BUT research center, which is located near the Palacky Hill campus, was announced the **Building of the Year of the South Moravian Region**, sharing first place in the civic amenities category with the Pavlov archeopark. The foundation stone of CEITEC BUT was laid in the summer of 2012; the building was completed four years later. The building was designed by Arch.Design and cost 625 million CZK.

In March 2017 Luděk Šimoník, a student of the Faculty of Architecture, BUT, won 1<sup>st</sup> place in the **Xella** competition with

his design of the Moravian Gallery in Brno. His project was best rated both by the jury and the Gallery Director himself. The task for the young architects was to design a gallery of contemporary arts and to use the park behind the building in the center of Brno.

**The Josef Hlávka Award** for Scientific Literature was won by the authorship team of Zdeněk Kolíbala from the FME for the publication of Robots and Robotic Production Technologies. An extensive publication of nearly 800 pages, it has gained a leading position in the science of inanimate nature. The Robots book was published by the VUTIUM publishing house. Samuel Dušek, an FECC student, won the student category of the Josef Hlávka Award. The jury was impressed by his outstanding Bachelor thesis Design of voltage references in the BiCMOS processor ONC18, which won him not only a red diploma, but also the FECC Dean's Award.



▲ Jaroslav List, a student of the Faculty of Mechanical Engineering, became the **king of the Brno May Celebration** on May 6, 2017. This was the fourth victory in a row for a student from BUT. Jaroslav List was given the symbolic key to the Moravian metropolis in front of thousands of viewers.

In September Professor Lukáš Sekanina of FIT won the **Award of the Chair of the Czech Academy of Sciences** for the research project Advanced methods of evolutionary design of complex digital circuits. The objective of the award-winning project was to develop, on the basis of evolutionary design, new optimization methods for circuits that are important in computer architectures. These methods currently represent the most modern approach in the world.

Tereza Hejmová, the assistant of FFA Graphics Design Studio 2, succeeded in **The Most Beautiful Czech Book** Competition when the jury appreciated her StArt: Sport as a Symbol in Fine Arts, a publication which she had graphically modified. This publication won 1<sup>st</sup> place in the category of books on fine arts and the prize of the Ministry of Culture of the Czech Republic. BRNOX, the guide to Brno Bronx, was awarded third place in this competition. This book was edited graphically by Kristína Drinková, a student of the above-mentioned FFA Studio.

2<sup>nd</sup> place in the prestigious **Golden Semicolon** competition, organized by PR Club, was awarded to the university magazine Events at BUT in April 2017. The magazine shares

interesting stories of BUT students, graduates and employees. A better position in the category of public and state administration journals was only achieved by the Forum magazine of the Charles University in Prague.

Students of the Faculty of Business and Management successfully represented BUT at the **International Student Olympics** held in St. Petersburg, Russia. The event was attended by 294 students from Russian and European universities. In the International Business section, student Kristina Lork won 3<sup>rd</sup> place and shared 2<sup>nd</sup> place with Ioannis Papadopoulos for her best Business game presentation.



▲ The three-month internship at a well-known London architectural studio was won by Miroslav Strnad, a graduate architect of the Faculty of Civil Engineering thanks to a **Kaplicky scholarship**. He has historically become the third holder of this prestigious scholarship. The jury was impressed by his design of a spiritual center with a church in the Brno district of Líšeň. Miroslav Strnad received the award in October at the DOX in Prague; his internship will begin in April 2018.



▲ **ATEROS** – The Autonomously Telepresence Robotic System was one of the winners of the **Golden Ampere 2017** competition. The System was created at BUT by the working group of Luděk Žalud. ATEROS is a multi-robotic system for autonomous exploration of places that are inaccessible or dangerous to people. The system can automatically create 3D maps of the area and can also search for people.



▲ **The best technical project of 2017** is, according to the Engineering Academy, a unique hydropower plant with a whirlpool turbine from BUT. The prize was won by the team of the Fluid Engineering Department of Viktor Kaplan, FME, BUT supervised by František Pochylý. The jury appreciated the installation of a new type of whirlpool turbine at the small hydropower plant in Želina near Kadaně. This turbine efficiently and economically uses small water courses for electricity generation and can become an impetus for the further development of small hydropower plants in the Czech Republic.



▲ Petr Jambor, a student of FAA, BUT, received the gold medal for **The Most Beautiful Book in the World** at the Leipzig Book Fair, on March 9, 2017. The Palimpsest publication had already won 1<sup>st</sup> place in the Bibliophilia and Author's Book category in the Most Beautiful Czech Book Competition organized by the Ministry of Culture of CR in 2016.

BUT swimmers became the absolute winners of the swimming competitions at the 10<sup>th</sup> annual **Belgrade Sport Tournament**. Four male and three female students brought home the incredible total of 24 medals and a cup for the winners of the scoring contest between all the participating universities. The sporting competition was held from 18 to 20 May 2017 in Belgrade, Serbia, and BUT students participated for the first time

Tomáš Pikálek, a PhD student of the Faculty of Mechanical Engineering and a member of the Instrumentation Institute of the Academy of Sciences of the Czech Republic, received the prestigious **Werner von Siemens Award** on Thursday, February 9, 2017. In his diploma thesis he presented a completely new method of measuring the refractive index of air. This method facilitates the use of much more accurate laser beam measurements in industrial production.

## Anniversaries



▲ On October 17, 2017 **the Faculty of Chemistry** commemorated the 25<sup>th</sup> anniversary of its renewed existence. The FC was closed in 1951 and had to wait until 1992 to reopen. The teaching activities of the Faculty, in cooperation with the Faculty of Science of MU, began in the academic year 1992/1993, when 27 students were admitted. After 25 years, the Faculty of Chemistry, BUT can boast 3,552 successful graduates in all forms of study.

On September 20, the Faculty of Information Technology held **Alumni 25**, the reunion of graduates after a quarter of century. The students who successfully completed their studies in Computer Science at the former Faculty of Electrical Engineering, BUT reunited with their alma mater in November 2017. Graduates had the opportunity to get acquainted with current affairs at the faculty, meet former classmates and teachers, and establish new professional contacts with the University.



▲ **The Faculty of Business and Management** commemorated 25 years of its existence in September. In the 1990s, the Faculty started to teach Economics of Industrial Management and today the Faculty offers studies in nine different programs. Its development has been significantly accelerated by international cooperation with foreign universities. This cooperation enabled the Faculty to offer the first MBA degree courses in the Czech Republic. The international conference Perspectives of Business and Entrepreneurship Development in Digital Age took place during the celebrations.

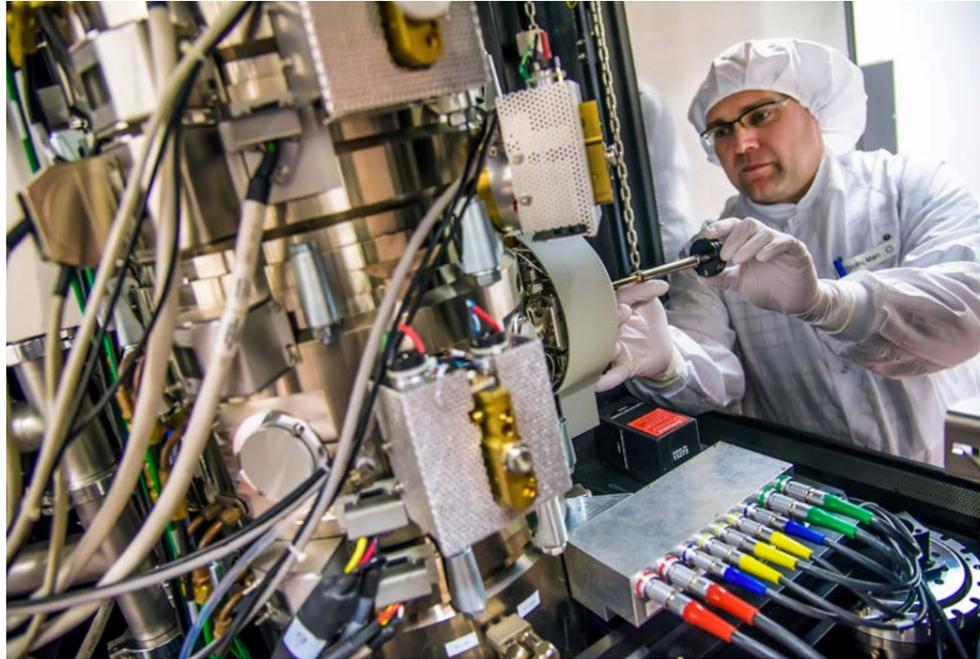


▲ **The Institute of Biomedical Engineering, FEEC**, celebrated 50 years of its existence in 2017. The Institute (formerly the Department of Medical Electronics) has profiled itself as a modern workplace for the education of biomedical engineers, with research focused on biosignal processing, medical imaging, cell biology, bioinformatics or chemoinformatics. At the beginning of March 2017, the Institute of Biomedical Engineering organized an interactive exhibition called Biomedicine or Sci-Fi becomes a Reality in the Vaňkova shopping gallery. During the ten days of the exhibition, the Institute's staff offered a three-day scientific show.



▲ More than 80 years ago, namely on March 8, 1937, the Brno Technique was renamed the **Technical College of Dr. Edward Beneš**. This name had been used by the University until 1938 and in the post-war period between 1945 and 1951, when the reorganization of post-secondary education was carried out. Edvard Beneš also visited "his" school on March 16, 1937. The highlight of his visit was his ceremonial graduation awarding him an honorary doctor of technical sciences degree.

## 1.3 Major projects of BUT



### Central European Institute of Technology (CEITEC) of BUT

Just a year after the official launch of the full operation of the new laboratories, CEITEC BUT has achieved considerable success, not only in the field of international cooperation and research, but also through the acquisition of several prestigious international scientific grants. In 2017, Prof. Vojtěch Adam and Dr. Peter Neugebauer's obtained an ERC grant and prof. Tomáš Šikola was awarded the FET OPEN (Future and Emerging Technologies) project as the major coordinator of the international consortium. Vojtěch Adam and his team will focus on research on a protein called metallothionein, which has the potential to prevent resistance to cancer treatment. Petr Neugebauer, a former graduate who is developing a revolutionary method of paramagnetic resonance with application potential in a wide range of disciplines such as physics, chemistry or medicine, received an ERC grant. The PETER project also focuses on the use of amplified plasma electron paramagnetic resonance within the FET Open Call, coordinated by the CEITEC BUT. It is necessary to mention two more Teaming H2020 Challenge projects: Back4Future, which cooperates with Austrian institutions (BOKU and TU Wien) and the RICAIP project, which cooperates with the Industry 4.0 concept (involving CEITEC BUT, CIIRC CTU and the German institutions DFKI and ZeMa).

Our scientists were also awarded at the 25<sup>th</sup> AMPER Fair, where a traditional competition for the most expedient exhibit took place. Luděk Žalud won with ATEROS – the autonomous telepresence robotic system. The European Ceramics Society (ECerS) acknowledged David Salamon for his important contribution to ceramics research.

Cooperation with the Japanese company Rigaku continued with the signing of a gift agreement, which will allow covering of the costs of the internship of a selected student in the company's headquarters in Tokyo in the years 2017–2019. The memorandum with South Korea's Gyeongnam Technopark was signed to promote cooperation. Internationally, CEITEC PhD School also succeeds in maintaining a favorable trend in the percentage of foreigners involved in doctoral studies. A total of 41% are foreign students, of which less than half (42%) are students from Slovakia. The fact that 29% of CEITEC students are women is very positive.

Last but not least, the CEITEC groups were expanded by four senior and two junior groups. Two international scientists succeeded in the tender to start their activities at CEITEC at the beginning of 2018. The CEITEC BUT Campus near Palacky Hill is thus becoming a lively, international and modern place that attracts more and more scientists from abroad as well as young prospective students. More information at [www.ceitec.eu](http://www.ceitec.eu).



### IT4Innovations

IT4Innovations is a unique project aimed at building a national center of excellence in information technology. The project was launched in 2011 in cooperation with the Technical University of Ostrava, Silesian University in Opava, and the Institute of Geonics of the Academy of Sciences of the Czech Republic in Ostrava. The Faculty of Information Technology (FIT) is strengthening its concentration on a wide range of disciplines related to information technologies. The Center focuses on excellent research in the field of information technology with an emphasis on supercomputers (supercomputers Anselm and Salomon). A compact research environment develops computational methods and tools for their effective use. The Center can be considered a top international-level scientific workplace, performing basic, industrial and experimental research and development. It cooperates with external, especially commercial, entities (contract research), and also participates in a whole range of grant projects at national and international level (H2020). The Center puts emphasis on the practical training of young researchers and students and involves them in unique projects.

In 2017, there were more than 20 national grants and major international projects such as AQUAS (Aggregated Quality Assurance for Systems), ECSEL JU, PAMMOTH (Photoacoustic/Ultrasound Mamoscopy for screening-detected abnormalities in breasts), SPEAKER DICE Robust SPEAKER Dlariazation systems using Bayesian inferences and deep learning methods), MegaMaRt2 (MegaModelling at Runtime) for continuous development and runtime validation of complex systems. Cooperation with renowned companies such as Honeywell, NXP, Škoda Auto, CZ.NIC, RedHat and others is underway. The volume of contractual research in 2017 exceeded 20 million CZK. More at [www.it4i.cz](http://www.it4i.cz).

## Centre of New Technologies for Mechanical Engineering (NETME Centre)

The NETME Center is a scientific and research facility at the Faculty of Mechanical Engineering. The Center has established itself as a modern science center with a direct link to the application sphere. Collaborating with the regional industrial base and with a number of international collaborations in both applied and contractual research, the NETME Center has reached the position of the leading engineering center in the Czech Republic. Cooperation with industrial partners reached nearly 20 million in 2017. As in previous years, the NETME Center was able to establish and develop new long-term cooperation with strategic industrial partners from abroad (VoestAlpine Linz, AMAG Ranshofen, ArcelorMittal, Volkswagen AG, Siemens etc.). Examples of prestigious cooperation with foreign partners include Flexible Capillary Heat Exchangers (FLEXIHEAT) in cooperation with P.A.K. Engineering Ltd. from Great Britain. About a fifth of the NETME Center business partners come from abroad. This is a proof that the research centers can offer top-notch know-how and equipment. The most important partners include Škoda Auto, Honeywell, Koyo Bearings and many others.

The year 2017 was also significant for NETME Center in terms of the number of prepared and implemented projects at both national and international levels. In February 2017, the Integration of Sustainability Processes Laboratory (SPIL) began its work under the supervision of the internationally recognized researcher, Prof. Jiří Klemes. Significant successes at the national level include the Materials with inner architecture structured for additive technologies (ArMedit) that won at the national level in the Materials group.

The long-term strategic objective of the Center is to strengthen its engagement in international programs, particularly in the H2020 program. In the field of international project cooperation, 22 projects were prepared for the H2020 program in 2017, two of which received support – specifically the Energy Harvesting Methodologies for Trackside and Onboard Signaling and Communication Devices and the Energy Harvesting Project for Signaling and Communication Systems.

In the area of applied research, there were 29 projects of TA CR, of which 7 have been started. In the area of basic research, 19 projects of the GA CR were addressed in 2017, 8 of them have started. The number of scientific publications by the Center has been consistently high. The trend of a gradual increase of publications in prestigious impacted journals is highly positive. The aim of the Center is to develop internationally competitive research in the field of energy, aerospace and the automotive industry and to transfer the research results into practice so that it can continue to hold the position of a leading engineering center in the Czech Republic. More at <http://netme.cz>.



## Advanced Materials, Structures and Technologies Research Center (AdMaS)

Part of the Faculty of Civil Engineering, AdMaS is a modern scientific center and comprehensive research institution in the field of construction. It focuses on research, development and application of advanced building materials, structures and technologies. Its scope goes beyond the construction sector, which is evidenced by the research targeted at transport systems and the infrastructure of towns and villages.

The Center has completed its third year of full-scale operation at its new site on 139 Purkyňova Street. This year, the Center continued to work on R&D projects from previous years and began new ones, including the international Shift2Rail project of the H2020 program. In total, there were 24 projects in 2017 (e.g. GA CR, TA CR, Ministry of Industry and Trade, Ministry of the Interior of the CR).

The AdMaS Center exceeded 38 million CZK in the field of contracted research. In 2017, the number of international and foreign staff mobility continued to increase, contributing to creation of new partnerships and opening new areas of international cooperation (for example TU Wien, Burch University of Sarajevo, NOHARA from Japan, CSTB Paris).

In 2017, most of the planned monitoring indicators were met. Many of them have significantly exceeded the planned values, for example, there were 23 impacted publications instead of the planned 3, and 54 other publications rated according to the RVVI methodology instead of the planned 43.

In 2017, the Advanced Building Materials, Design and Technology project successfully continued. On 23 October 2017, an evaluation carried out by the Ministry of Education classified the project as "category A (the project fulfills or fulfilled the objectives in accordance with the grant agreement, excellent results of international importance were achieved)" with the amendment saying that "the presented results of the project are fully fulfilled and, in a number of criteria, they exceed the adopted objectives. The results of the cooperation with foreign workplaces can be characterized as excellent. These results are fully in line with current world trends and have a significant impact on these trends."

Other major achievements include three first places in the Conversion of Waste to Resource competition. Three students of the Faculty of Civil Engineering, who have been implementing projects in the AdMaS laboratories, won the Best Students Project with the use of secondary raw materials. More at [www.admas.eu/en](http://www.admas.eu/en).

## Materials Research Centre (MRC)

In 2017, the Center's volume of contracted research reached 12.6 million CZK. There were also 54 new unique publications in the field of science and research. Three projects of international cooperation were launched and the total number of addressed projects was 16. CMR registered 19 new cooperation projects, the total number of partners from the application sphere reached 81.

The Center has patented two methods of eliminating ammonia slip in side energy products. Both patents are assigned to a licensing proceeding with an industrial partner and patent applications have been filed. The European patent research for the Magnetic Reactor was successfully completed and the relevant patent application was submitted to the European Patent Office in 2017.

The Center is the coordinator of the new international Geodust project, funded by the H2020 – RISE program. The Material Research Center organized an important international conference, EUROCOALASH 2017, that included rich international participation. The SoMoPro project (co-financed by the EU Marie Curie Program) was received to ensure the long-term residency of a foreign researcher specializing

in the field of the use of selected regional wastes for the production and application of bioplastics.

Since January 2017, an international project funded by the Norwegian Government (cooperation with NMBU As and several Norwegian industrial subjects) has been addressed, focusing on the biotechnological use of waste animal fat. In the area of organic electronics, the Center began to cooperate with the group of Prof. Sariciftci from the University of Linz. Prof. Sariciftci is ranked at 14<sup>th</sup> place in the TOP 100 world scientists specialized in material science. More at [www.materials-research.cz/en](http://www.materials-research.cz/en).



## Center of Sensor, Information and Communication Systems (SIX)

The SIX Center was established in 2010 as a joint initiative of the departments of the Faculty of Electrical Engineering and Communication Technologies engaged in the research and development of sensory systems, information and communication technologies. The aim of this initiative was to interconnect the shared research interests of the institutes and apply their synergy to large, complex research projects. The individual departments provided the SIX Center with their research laboratories. The year 2014 was the first year of the Center's full operation without direct financial support from public sources. Despite the absence of direct support, the SIX Center increased both the number of its staff and their calculated workloads, as well as the number of professional outputs and the volume of grants and commercial contracts. The Center also continued its expansion in 2017.

In recent years, an increasing proportion of applied research has been observed in the SIX Center's activities. This is a clear signal that the Center is playing its role of a regional research center linking academic and industry activities well. The interest of companies in professional cooperation is documented not only by the increasing volume of applied research projects, but also by the steadily rising volume of contract research projects – compared with 2016, the volume of contractual research projects increased by almost a half.

Since 2015, the SIX Center has been supported by the National Sustainability Program Project Interdisciplinary Research of Wireless Technologies (INWITE). The aim of the project is to develop the quantity and quality of basic research and increase the ambition of the Center in applied and commercial research. The professional objectives of the project are being implemented by a team of five working groups, supervised jointly by the professors of the Technical University of Vienna and the SIX Center. The structure of INWITE's expert groups is helping to shape the Center into six narrower areas (sensors, signals, radio-frequency systems, mobile communication systems, antennas and high-frequency circuits, and advanced cybernetic security). More at [www.six.feec.vutbr.cz](http://www.six.feec.vutbr.cz).



## Center for the Research and Utilization of Renewable Energy (CRURE)

The CRURE research center deals with the complex challenges of renewable energy sources. In 2017, three patents were granted and 26 journals were published, 13 of which appeared in journals with an impact factor according to the WoS database.

In addition to the basic research, the Center focuses on collaboration with industry and acceleration of the transfer of new technologies into the industrial sphere. All CRURE laboratories form a unique infrastructure that addresses important industrial partners whose production activities are closely linked to research activities.

The Center addressed 22 applied research projects in cooperation with the industrial sector. The funds received for applied research projects totaled about 21.4 million CZK. These are examples of current applied research projects: Optimization of Smart Grid Smart Grid operation in terms of its economy and safety, Optimization of synchronous machines to improve operating parameters and weight reduction, or Advanced Modular Aircraft Engine Control and Diagnostic Systems.

In 2017 CRURE was involved in a total of 113 research contracts with a financial benefit of approximately 14.72 million CZK. The most important research contracts are: assessment of the behavior of arc motion in critical DC currents in compact circuit breakers for Siemens, mathematical model for modeling and simulation of extreme conditions of operating polyvalent sources for Enkom, development, assessment and evaluation of switching off electrical devices for OEZ, switching off contactors for Schaltbau and for example, technical consulting, the so-called Storage International Study for CEZ.

An important part of the CRURE Center is the large infrastructure named CRURE Power Laboratories (CRURE PowerLab). The important components of the Center include: the Switchgear Laboratory and the Laboratory of High Voltage, which are located in the List's Science and Technology Park. These strategically important laboratories are used for the research and development of heavy current and high-voltage electrical equipment. The laboratory equipment allows, for example, the simulation of extreme short-circuit conditions in the network and lightning discharge into conducting wires.

CRURE also addresses issues related to chemical and photovoltaic power sources, electromechanics, electrotechnology, electric drives, power engineering and industrial electronics in five basic research areas: optimization of electromechanical energy conversion, chemical and photovoltaic power sources, automation and sensory technology, research on switching off switchgear and production, transmission, distribution and use of electricity. More at [www.cvvoze.cz/en](http://www.cvvoze.cz/en).



## 1.4 Achieved objectives within the BUT Long-Term (Strategic) Plan for 2017

Brno University of Technology has clearly defined its strategic objectives that are linked to the priorities in educational, creative and related activities. The basic strategic documents are the BUT Strategic Plan for the period 2016–2020 and the Annual Implementation Plans (the original Long-term Plan and its Annual Updates have now been replaced by the Strategic Plan and its Annual Implementation Plan following an amendment to the Higher Education Act).

This strategic plan is prepared by the University management in cooperation with the representatives of individual faculties and other workplaces, including representatives of the students. BUT's strategic goal includes seven priority objectives: Quality Assurance and Strategic Management; Diversity and availability of educational activity; Internationalization; Relevance, graduates, marketing and collaboration with the application sphere; Quality and relevant research, development and innovation; Decision-making and development based on information and data; Effective management.

The identified priority goals are divided into specific goals using key indicators of their achievement or fulfillment. They are specified in the BUT Institutional Plan for the period 2016–2018. The syllabus and priority objectives of the BUT Strategic Plan represent the backbone structure of the strategic plans of the Faculties and University constituent parts. BUT provides a wide range of education offering study

programs ranging from technical to scientific, economics to arts. BUT is constantly expanding its portfolio to reflect the increasing demand of companies and potential employers of the graduates.

BUT has recently paid great attention to Industry 4.0, both in terms of providing service to industrial companies and in the area of research and education. BUT makes use of a working team established across the Faculties, which holds constant meetings, preparing comments on the statutes of the National Center of Industry, founded by BUT. In cooperation with the Czech Technical University, BUT prepares a joint doctoral study program involving participation of the faculties and research centers of the two largest Czech technical universities. This program will be primarily aimed at applicants coming directly from industry and the lectures will be delivered in English. The potential applicants can sign up after accreditation of this new program, which is supposed to occur at the end of 2018.

In addition to the above-mentioned, BUT managed to implement many of its partial goals. However, most of the mentioned goals are of a long-term character and therefore meeting them is an ongoing process.

resources and RIV points to gain more effective information about the academic community.

From January to August 2017, the AS discussed the drafts of all amended BUT internal regulations, which, after being approved by the AS, were continuously approved and registered by the Ministry of Education, Youth and Sports.

The AS also continuously commented and approved most of the amended internal regulations of the faculties and the BUT institutes. These new internal regulations contain significant changes in the areas of legislation, accreditation, financing, R&D, evaluation and preparation of OP RDE projects in the conditions of the universities.

The new AS internal regulations resulting from the amendment to the Act (division of the Electoral Code and the Rules of Procedure of the AS into two separate internal regulations) were preferentially discussed and approved.

The AS BUT Electoral Code, Rules of Procedure registered on May 16, 2017, timetable of elections to the BUT AS and timetable for appointing a candidate to Rector, including the announcement of these elections, were approved by the AS at its external session in Mikulov

The September session of the AS approved detailed organizational instructions for the elections of representatives of Faculties and other BUT parts to the AS BUT for 2017–2020. All topics were analyzed in detail before the AS meetings in its working committees.

**The Economic Committee of the AS of BUT** (hereinafter the EC) held 17 sessions, where it discussed the Budgetary and Management Budgeting Rules of BUT for 2017 and thereafter the BUT Budget for 2017. The EC cooperated with the bursar and Rector to attain detailed transparency of the financial flows, financing structure and budget of BUT in terms of resources.

**The Legislative Commission of the AS of BUT** (hereinafter LC) held 9 meetings at which it accepted recommendations for the AS, mainly the amendment of the internal regulations of the university, faculties and institutes. The recommendations for the submitted documents were mostly per rollam. LC continued its important cooperation with the Law Department of BUT.

**The Pedagogical Committee of the AS of BUT** convened 5 sessions, dealing mainly with the guidelines for admissions to BUT institutions (IFI, CEITEC BUT), and commenting on the amended BUT internal regulations concerning the field of study.

**The Committee for Creative Activities of the AS of BUT** (hereinafter CCA) convened 5 sessions. In cooperation with the vice-rector for development of scientific and research activities, it was concerned with specific research funding. The committee also discussed the BUT internal regulations concerning the activities of the BUT Scientific Council, the Internal Evaluation Board and the proposed internal regulations of the Faculties related to the Scientific Council of the Faculty (Rules of Procedure).

In 2017, the systematic support of AS activities in the area of finance and legislation was further intensified in order to contribute to the substantive discussion of related topics in the AS. The representatives of the BUT academic community on the Board of Higher Education electronically provided members of the AS with regular up-to-date reports from the committees.

In June 2017, there was a two-day seminar in Mikulov with the participation of LC members, regarding the currently submitted new versions of the amended BUT internal regulations, and the amended internal regulations of the Faculties responding to the amendment of the Higher Education Act, and on changes in the internal regulations of BUT. The AS concentrated on the announcement and preparation of the upcoming autumn elections to the BUT

AS and the election of the Rector, which was subsequently held during October and November 2017. The exit session also included a seminar on the Institutional Development Project, the program containing demanding topics extending the standard AS issues in line with the valid Higher Education Law. In addition to the AS members, the session was also attended by the Rector, Bursar and the Vice-Rectors of BUT, the Head of the BUT Department of Marketing and External Relations and representatives of the BUT Central Library, the Chairman of the Council of Universities, and the Chairmen of the Legislative Commission and Scientific Council of the Council of Universities. The seminar proved that these detailed discussions are very beneficial. The key outputs of the negotiations are adopted AS resolutions.

**The Student Chamber of BUT** (hereinafter SC) focused on the development of modern electronic communication tools and their use for the operational sharing of information with BUT students. In cooperation with IAESTE, the student chambers of individual faculties and other BUT student organizations, the SC created a traditional guide for first year BUT students. The SC continued the Intern Fund to support student projects and implemented a student survey of the best BUT teacher,

Voting took place from May 11 to June 30, 2017 and was evaluated from July to September. In October, the results were published in the BUT information system and in November BUT Academic Assembly awards were presented to the winners. In December, SC members, along with BUT students, participated in organization of the BUT Ball, which took place on 1 December 2017 at the Brno Exhibition Center, attended by more than 3,000 guests. Tickets for the BUT Ball were sold out in a record 11 hours, making it the fastest ticket sale in the modern history of the ball.

All the above-mentioned activities of AS are aimed at intensifying cooperation between BUT management and AS, both as a natural and traditional component of academic life and as a key element of active involvement of the academic community in University development, including the facilitation of communication between individual levels of the University management, the academic community and employees.



## 2

Basic information  
about the university

## 2.1 Full name of the university, commonly used abbreviations, location and its constituent parts

**Brno University of Technology**  
 BUT  
 Antonínská 548/1, 601 90 Brno  
 Czech Republic  
 www.vut.cz

### Faculties (ordered by year of origin)

**Faculty of Civil Engineering of BUT**  
 FCE  
 331/95 Veveří Street, 602 00 Brno  
 www.fce.vutbr.cz

**Faculty of Mechanical Engineering of BUT**  
 FCI  
 2896/2 Technická Street, 616 69 Brno  
 www.fme.vutbr.cz

**Faculty of Electrical Engineering and Communication of BUT**  
 FEEC  
 3058/10 Technická Street, 616 00 Brno  
 www.feec.vutbr.cz

**Faculty of Architecture of BUT**  
 FA  
 Poříčí 237/5 Street, 639 00 Brno  
 www.fa.vutbr.cz

**Faculty of Chemistry of BUT**  
 FCH  
 464/118 Purkyňova Street, 612 00 Brno  
 www.fch.vutbr.cz

**Faculty of Business and Management of BUT**  
 FBM  
 2906/4 Kolejní Street, 612 00 Brno  
 www.fbm.vutbr.cz

**Faculty of Fine Arts of BUT**  
 FFA  
 125/13/15 Rybářská Street, 603 00 Brno  
 www.ffa.vutbr.cz

**Faculty of Information Technology of BUT**  
 FIT  
 1/2 Božetěchova Street, 612 66 Brno  
 www.fit.vutbr.cz

### University Institutions

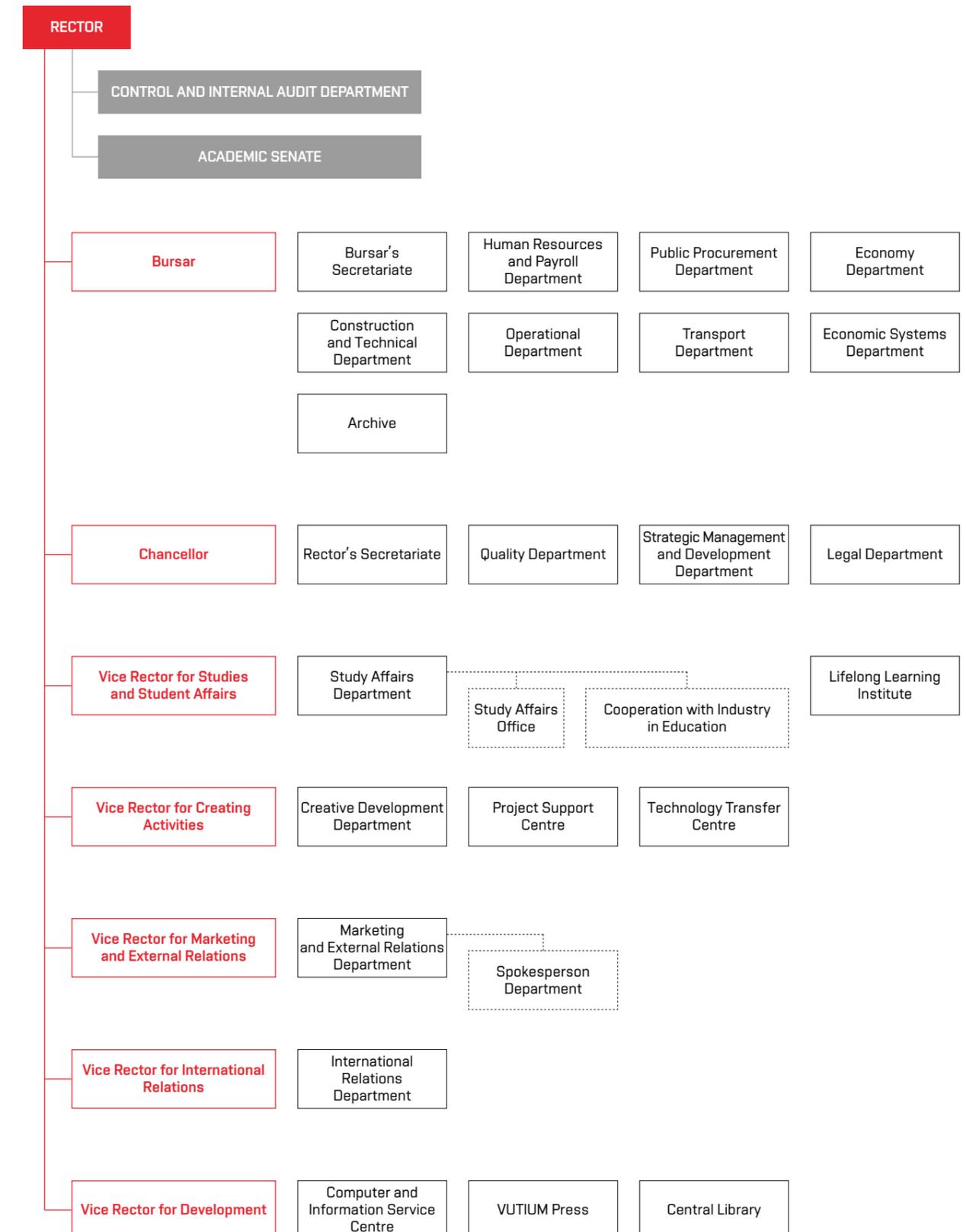
**Institute of Forensic Engineering of BUT**  
 IFE  
 464/118 Purkyňova Street, 612 00 Brno  
 www.usi.vutbr.cz

**Centre of Sports Activities of BUT**  
 CESA  
 2896/2 Technická Street, 616 69 Brno  
 www.cesa.vutbr.cz

**Central European Institute of Technology of BUT**  
 CEITEC BUT  
 3058/10 Technická Street, 616 00 Brno  
 www.ceitec.eu



## 2.2 Organizational chart of BUT



## 2.3 Members of Scientific Board, Management Board, Academic Senate, and Internal Rating Board

### Scientific Board of BUT

#### Chairman

- Prof. Dr MSc Petr Štěpánek, PhD, Dr.h.c.

#### Members

- Assoc. Prof. MSc Irena Armutidisová – till 31 January 2017
- Assoc. Prof. MSc Vojtěch Bartoš, PhD
- Prof. MSc Ladislav Buřita, PhD
- Prof. MSc Jarmila Dědková, PhD
- MSc Jaroslav Doležal, PhD, Dr.h.c.
- Prof. Dr Miroslav Doupovec, PhD, Dr.h.c.
- Prof. MSc Rostislav Drochytka, PhD, MBA
- MSc Miloš Filip
- Prof. Michal Gabriel
- Prof. MSc Lubomír Grmela, PhD
- Prof. MSc Martin Hartl, PhD
- Prof. Dr Radek Horáček, PhD
- Assoc. Prof. MFA Milan Houser
- Assoc. Prof. M.Arch. Jan Hrubý, PhD
- Prof. MSc Tomáš Hruška, PhD
- Prof. MSc Marcela Karmazínová, PhD
- Assoc. Prof. MSc Jaroslav Katolický, PhD
- MSc Jaroslav Klíma
- Prof. MSc Petr Konvalinka, PhD
- Prof. MSc Jan Kovanda, PhD
- Prof. Dr MSc Zdeněk Kůs
- M.Arch. Vlasta Loutocká
- Prof. MSc Miroslav Ludwig, PhD
- Dr MSc Ilona Müllerová
- Prof. Dr MSc Drahomír Novák
- MSc Eduard Palíšek, PhD, MBA
- Prof. MSc Miloslav Pekař, PhD
- Prof. Dr MSc Zbyněk Raida
- Prof. MSc Karel Rais, PhD, MBA, Dr.h.c.
- Prof. MSc Robert Redhammer, PhD
- Prof. MSc Petr Sába, PhD
- Assoc. Prof. MSc Stanislav Škapa, PhD
- Assoc. Prof. MSc Aleš Vémola, PhD
- Assoc. Prof. Stanislav Veselý
- Prof. Dr Peter Vojtáš
- Prof. MSc Ivo Vondrák, PhD
- Prof. MSc Radimír Vrba, PhD
- Prof. MSc Martin Weiter, PhD
- Prof. Dr MSc Pavel Zemčík

### Management Board of BUT

#### Chairperson

- MSc Michal Štefl

#### Members

- MSc Eva Bartoňová
- Valentin Girstl
- MSc Miroslav Hošek
- Dr Miroslava Kopicová
- MSc Petr Kostik
- Dr Martin Maisner, PhD
- Dr MSc Lukáš Evžen Martinec
- MSc Stanislav Moša
- MSc Jiří Nekovář
- MSc Martin Pecina, MBA
- MSc Petr Rafaj
- Prof. Dr Eduard Schmidt, PhD
- MSc Jan Světlík
- Prof. Dr Jiří Vorlíček, PhD

### Board for Internal Rating BUT

#### Chairman

- Prof. Dr MSc Petr Štěpánek, PhD, Dr.h.c.

#### Vice-Chairman

- Prof. MSc Tomáš Hruška, PhD

#### Members

- Prof. MSc Jiří Burša, PhD
- Prof. Dr Vladimír Čech, PhD
- Prof. Dr Miroslav Doupovec, PhD, Dr.h.c.
- Prof. MSc Rostislav Drochytka, PhD, MBA
- Prof. MSc Eva Gescheidtová, PhD
- Prof. MSc Lubomír Grmela, PhD
- Assoc. Prof. Dr MSc Petr Hanáček
- Prof. MSc Pavel Jura, PhD
- MSc Pavel Maxera
- Assoc. Prof. MSc Eva Münsterová, PhD
- Prof. MSc Mária Režňáková, PhD
- Assoc. Prof. MSc Stanislav Škapa, PhD
- Prof. Dr Milada Vávrová, PhD

### Academic Senate (AS) of BUT (until October 2017)

#### Chairperson

- Assoc. Prof. Dr MSc Petr Hanáček

#### Vice-chairpersons

- MSc Pavel Maxera
- Prof. Dr Milada Vávrová, PhD

#### Chamber of Academic Staff of AS of BUT

#### Chairperson of Chamber

- Prof. Dr Milada Vávrová, PhD

#### Members

- MSc Petr Beneš, PhD
- Assoc. Prof. M.Arch. Ivo Boháč, PhD
- MSc Albert Bradáč, PhD
- Prof. MSc Jiří Burša, PhD
- MFA Žaneta Drgová
- Prof. MSc Eva Gescheidtová, PhD
- Assoc. Prof. Dr MSc Petr Hanáček
- MFA Tomáš Hruška
- Assoc. Prof. MSc Jiří Kunovský, PhD
- MSc Helena Musilová
- MSc Tomáš Opravil, PhD
- Dr Pavel Popela, PhD
- Dr Milan Slezáček
- MSc Lenka Smolíková, PhD
- Assoc. Prof. MSc Miloslav Steinbauer, PhD
- Prof. Dr M.Arch. Vladimír Šlapeta
- Prof. MSc Jiří Vala, PhD

#### Chamber of Students of AS of BUT

#### Chairperson of Chamber

- MSc Pavel Maxera

#### Members

- BSc Jakub Czapek – from 7 March 2017
- MSc Petr Dvořák
- MSc et MSc Michaela Dvořáková
- BA Andreas Gajdošík
- MSc Radek Hranický
- MSc Daniel Janík
- MSc Tomáš Krejčí – until 20 May 2017
- MSc Anna Kruljacová – from 10 October 2017
- MSc Ladislav Pařízek

#### Legislative Committee

#### Chairperson

- MSc Helena Musilová

#### Members

- MSc Albert Bradáč, PhD
- Prof. MSc Eva Gescheidtová, PhD
- Dr Pavel Popela, PhD
- Prof. MSc Jiří Vala, PhD

#### Students

- MSc Michaela Dvořáková
- MSc Radek Hranický – from 4 April 2017
- MSc Pavel Maxera
- MSc Ladislav Pařízek

#### Economic Commission

#### Chairperson

- Dr Pavel Popela, PhD

#### Members

- MFA Tomáš Hruška
- Assoc. Prof. MSc Jiří Kunovský, PhD
- MSc Tomáš Opravil, PhD
- Dr Milan Slezáček
- MSc Lenka Smolíková, PhD
- Assoc. Prof. MSc Miloslav Steinbauer, PhD
- Prof. MSc Jiří Vala, PhD
- Prof. Dr Milada Vávrová, PhD

#### Students

- BSc Jakub Czapek – from 4 April 2017
- MSc Petr Dvořák
- MSc Daniel Janík

#### Pedagogical Commission

#### Chairperson

- Assoc. Prof. MSc Miloslav Steinbauer, PhD

#### Members

- MSc Petr Beneš, PhD
- MSc Albert Bradáč, PhD

#### Students

- Bc. Jakub Czapek – from 4 April 2017
- MSc Petr Dvořák
- MSc Daniel Janík
- Bc. Tomáš Krejčí – until 20 May 2017

#### Commission for Creative Activities

#### Chairperson

- Assoc. Prof. MSc Jiří Kunovský, PhD

#### Members

- Prof. MSc Jiří Burša, PhD
- MFA Žaneta Drgová
- Prof. MSc Eva Gescheidtová, PhD
- MSc Tomáš Opravil, PhD
- MSc Lenka Smolíková, PhD
- Prof. MSc Jiří Vala, PhD
- Prof. Dr Milada Vávrová, PhD

#### Students

- MSc et MSc Michaela Dvořáková
- BA Andreas Gajdošík
- MSc Radek Hranický – from 4 April 2017
- MSc Pavel Maxera

## Academic Senate (AS) of BUT (from November 2017)

### Chairperson

- Assoc. Prof. Dr MSc Petr Hanáček

### Vice-chairpersons

- MSc Pavel Maxera
- Prof. Dr Milada Vávrová, PhD

### Chamber of Academic Staff of AS of BUT

#### Chairperson of Chamber

- Prof. Dr Milada Vávrová, PhD

#### Members

- Assoc. Prof. MSc Tomáš Apeltauer, PhD
- MSc Petr Beneš, PhD
- MSc Albert Bradáč, PhD
- M.Arch. Nicol Galeová
- Prof. MSc Eva Gescheidtová, PhD
- Assoc. Prof. Dr MSc Petr Hanáček
- MFA Katarína Hládeková
- MFA Tomáš Hrůza
- Assoc. Prof. MSc Jiří Jaroš, PhD
- M.Arch. Jan Kristek, PhD
- MSc Helena Musilová
- MSc Tomáš Opravil, PhD
- Dr Pavel Popela, PhD
- Dr Milan Slezáček
- MSc Lenka Smolíková, PhD
- Assoc. Prof. MSc Miloslav Steinbauer, PhD
- Prof. MSc Josef Štětina, PhD

### Chamber of Students of AS of BUT

#### Chairperson of Chamber

- MSc Pavel Maxera

#### Members

- BSc Jakub Czapek
- MSc Radek Hranický
- MSc Daniel Janík
- Eliška Jarmerová
- MSc Tereza Konečná
- MSc Anna Kruljacová
- MFA Martina Růžičková
- Kristína Šintajová

### Legislative Committee

#### Chairperson

- MSc Helena Musilová

#### Members

- Prof. MSc Eva Gescheidtová, PhD
- MFA Katarína Hládeková
- M.Arch. Jan Kristek, PhD
- Assoc. Prof. MSc Miloslav Steinbauer, PhD

#### Students

- MSc Radek Hranický
- Eliška Jarmerová
- MSc Tereza Konečná
- MSc Anna Kruljacová
- MSc Pavel Maxera

### Economic Commission

#### Chairperson

- Dr Pavel Popela, PhD

#### Members

- MSc Petr Beneš, PhD
- MSc Albert Bradáč, PhD
- M.Arch. Nicol Galeová
- MFA Tomáš Hrůza
- Assoc. Prof. MSc Jiří Jaroš, PhD
- MSc Tomáš Opravil, PhD
- Dr Milan Slezáček
- MSc Lenka Smolíková, PhD
- prof. MSc Josef Štětina, PhD
- Assoc. Prof. MSc Miloslav Steinbauer, PhD
- Prof. Dr Milada Vávrová, PhD

#### Students

- BSc Jakub Czapek
- MSc Daniel Janík
- MSc Anna Kruljacová

### Pedagogical Commission

#### Chairperson

- Assoc. Prof. MSc Miloslav Steinbauer, PhD

#### Members

- MSc Petr Beneš, PhD
- Assoc. Prof. MSc Jiří Jaroš, PhD
- MSc Helena Musilová
- Prof. Dr Milada Vávrová, PhD

#### Students

- BSc Jakub Czapek
- MSc Daniel Janík
- Eliška Jarmerová
- MSc Tereza Konečná
- MFA Martina Růžičková
- Kristína Šintajová

### Commission for Creative Activities

#### Chairperson

- MSc Albert Bradáč, PhD

#### Members

- Assoc. Prof. MSc Tomáš Apeltauer, PhD
- Prof. MSc Eva Gescheidtová, PhD
- Assoc. Prof. MSc Jiří Jaroš, PhD
- M.Arch. Jan Kristek, PhD
- MSc Tomáš Opravil, PhD
- MSc Lenka Smolíková, PhD
- Prof. MSc Josef Štětina, PhD
- Prof. Dr Milada Vávrová, PhD

#### Students

- MSc Radek Hranický
- MSc Anna Kruljacová
- MSc Pavel Maxera

## 2.4 Representation of BUT among universities

### Czech Rectors Conference

- Prof. Dr MSc Petr Štěpánek, PhD, Dr.h.c.

### BUT representatives on the Board of Higher Education (BHU) (until October 2017)

#### Members of the BHU presidium

- Dr Pavel Popela, PhD

#### Members of the BHU assembly

- MSc Helena Hanušová, PhD
- MSc Ivana Jakubová
- MSc Radek Kočí, PhD
- Assoc. Prof. Dr M.Arch. Gabriel Kopáček
- Assoc. Prof. MSc Libor Matějka, PhD, MBA
- Assoc. Prof. MSc Bohumil Pacal, PhD
- Dr Pavel Popela, PhD
- MSc Jan Roupec, PhD
- Prof. Dr Milada Vávrová, PhD
- MSc Jan Zálešák, PhD

#### Members of the Student Chamber of the BHU

- MSc Pavel Maxera – delegate
- BSc Jiří Haratek

#### Member of the Assembly of the Academy of Sciences of the Czech Republic and member of the Supervisory Board of the ASCR (delegated by BHU)

- Prof. Dr Milada Vávrová, PhD

### BUT representatives on the Board of Higher Education (BHU) (from November 2017)

#### Members of the BHU presidium

- Dr Pavel Popela, PhD

#### Members of the BHU assembly

- M.Arch. Nicol Galeová
- MSc Ivana Jakubová
- Assoc. Prof. MFA Lenka Klodová, PhD
- MSc Radek Kočí, PhD
- Assoc. Prof. MSc Jana Korytářová, PhD
- MSc Pavel Mráček, PhD
- MSc Helena Musilová
- Dr Pavel Popela, PhD
- MSc Jan Roupec, PhD
- Prof. Dr Milada Vávrová, PhD

#### Members of the Student Chamber of the BHU

- MSc Anna Kruljacová – delegate
- Eliška Jarmerová – substitute

## 2.5 Mission, vision and strategic objectives of BUT

The BUT mission is based on the Higher Education Act No. 111/1998 Sb., Paragraph 1, defining BUT as a top center of education, independent knowledge and creative activities that enables, in accordance with democratic principles, access to higher education, acquisition of appropriate professional qualifications and preparation for research and other demanding professional activities, preserves and disseminates knowledge and implements scientific, research, development, innovation, artistic and other creative activities. BUT provides other forms of education and enables the acquisition, dissemination, deepening or renewal of knowledge and culture from different fields, and thus contributes to lifelong learning. It also plays an active role in public debate on social and ethical issues, promoting cultural diversity and mutual understanding, shaping civil society and preparing young people for life. BUT contributes to development at national and regional levels and cooperates with various levels of government and self-government, and in both corporate and cultural spheres. It develops international, especially European, cooperation, supports joint projects with similar institutions abroad, transfer of studies and diplomas, and the exchange of academic staff and students. And last but not least, BUT participates in the development of a society that is knowledgeable in the field of new technologies and innovations.

BUT is aware of its position and role in society and emphasizes the ethical behavior of its academic community and its employees. BUT derives the principles of its activity from academic freedom. This value is related to: institutional autonomy, political independence, freedom of thought, the right to present and defend opinions, participation in self-government and democracy.

An integral part of the BUT value system also includes academic responsibility based in particular on the following principles: expertise and objectivity, critical thinking, a sense of truth and justice, emphasis on economic benefits, sustainability, return, security and stability, emphasis on social benefits and applicability – emphasis on respecting the basic principles of rational management.

## 2.6 Changes in the internal regulations of Brno University of Technology in 2017

With regard to the amendment to the Higher Education Act No. 111/1998 Coll., it is the responsibility of each higher education institution to adapt its internal regulations to the current version of the law. In 2016, the management of BUT started to prepare new regulations. The first regulation prepared was the Statute of the Brno University

of Technology. This internal regulation was approved by the Academic Senate of BUT on 27 September 2016 and was registered by the Ministry of Education and Science in October 2016. The new internal regulations were registered during the course of 2017:

Regulation	Registration of the Ministry of Education
Disciplinary Code for BUT students	26 January 2017
BUT Lifelong Education Code	15 March 2017
BUT Scholarship Code	12 April 2017
BUT Payroll Code	9 May 2017
Electoral Code of the BUT Academic Senate	16 May 2017
Rules of Procedure of the BUT Academic Senate	16 May 2017
Rules of Procedure of BUT Internal Rating Board	16 May 2017
Rules of Procedure of the BUT Scientific Board	13 June 2017
Rules of BUT study programs	13 June 2017
Code of BUT habilitation procedure and procedure of professor appointment	13 June 2017
BUT Study and Examination Regulations	31 July 2017
Quality assurance system rules of educational, creative and related activities and internal quality evaluation of educational, creative and related activities of BUT	31 July 2017
Rules of the selection procedures for filling vacancies of academic, research and development staff, senior executives and other positions at BUT	3 October 2017

These new internal regulations completely replaced their original predecessors. The original internal regulation – the BUT Rules of Procedure – was abolished and became a new internal BUT standard, not a registered internal regulation.

In addition, the directives governing the granting of social and accommodation scholarship, and the directive on the adaptation, submission and publication of final papers were amended this year.

## 2.7 Providing information pursuant to § 18 of Act no. 106/1999 Coll. On Free Access to Information

In 2017, BUT received a total of 4 requests for information under the aforementioned Act. All information was provided, so no decision to reject the request or appeal against such a decision was issued.



### 3

Degree programs,  
organization of study and  
educational activities

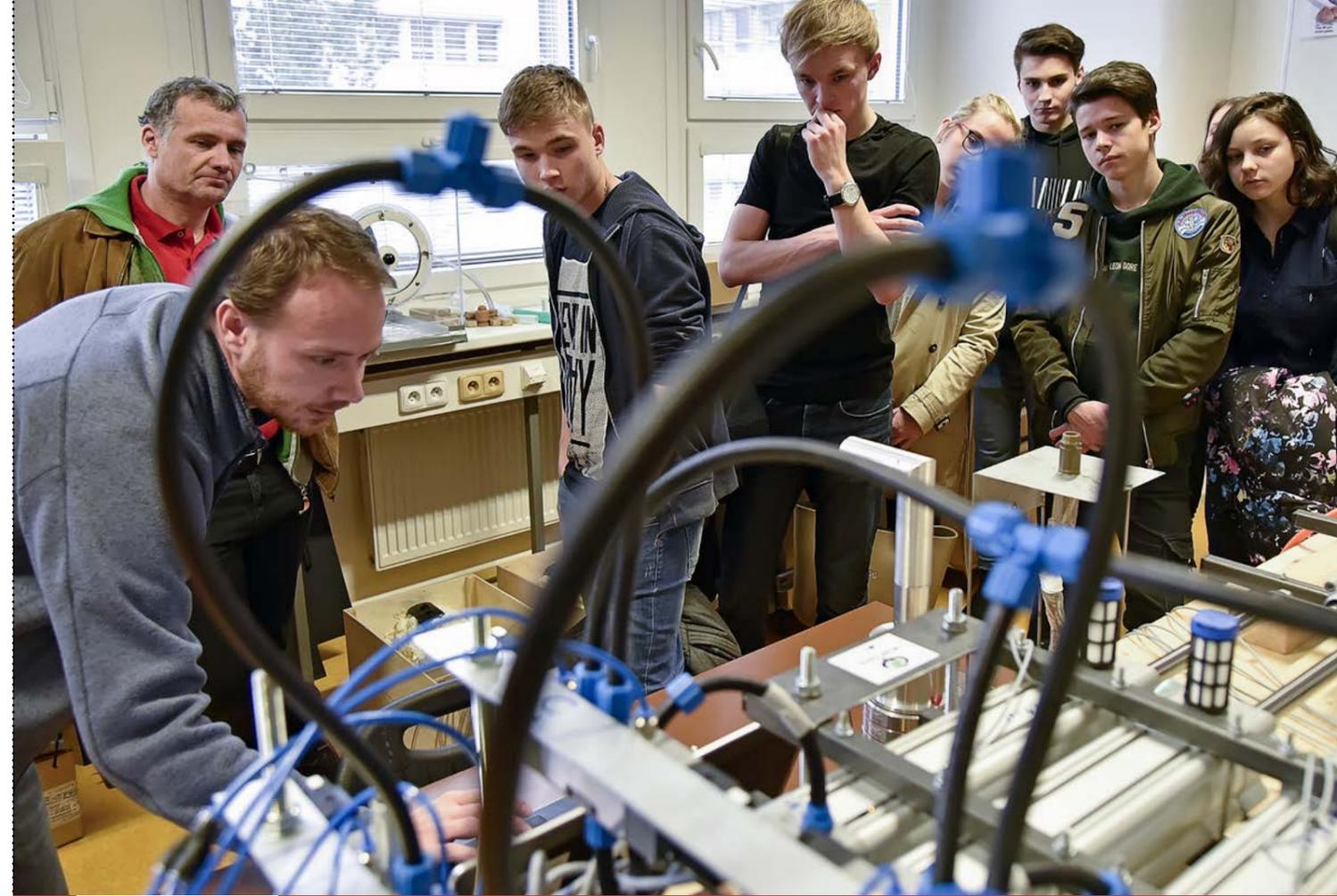
### 3.1 Number of accredited degree programs

BUT registered a total of 99 accredited study programs at the end of 2017. More information is in the annual report table (Table 2.1).

### 3.2 Other educational activities (outside the implementation of accredited study programs)

BUT supports training of its employees. In 2017, there were 182 courses on 91 different topics organized by the Institute of Lifelong Learning. These courses were attended by 1,490 BUT employees. The Institute of Lifelong Learning also organized courses in the Czech language, managerial competencies, courses aimed at completing the qualification

of teachers of technical subjects and courses on international aviation law. The Lifelong Learning program of BUT also offers courses focused on particular professions and interests, as well as a program of the University of the Third Age. More information is in the Annual Report tables (Tables 2.6 and 2.7).



## 4

## Students

## 4.1 Measures to reduce academic failure

All the necessary information about BUT study is available at [www.vutbr.cz](http://www.vutbr.cz). There is also a separate web portal at [www.navut.cz](http://www.navut.cz) where one can find all the information about the BUT admission procedures.

BUT offers preparatory courses in mathematics, physics and other subjects. Successful graduates of these courses can significantly increase their chances of admission. In the first year of study, new students can enroll in Selected Chapters in Mathematics or Selected Chapters in Physics, etc. These optional subjects help balance the different knowledge levels of students from different secondary schools and complete their high school curricula.

BUT tries to identify the causes of academic failure, offering assistance, for example in the form of consultations at the Alfons Advisory Center. Students have the possibility of individual consultations with experts and, if necessary, the Center's employees are providing individual study plans. Alfons also offers students a wide range of opportunities to cope with their specific needs, whether medical or psychological. For example, EEG Biofeedback gives students the possibility to improve their concentration and ability to concentrate.

An overview of study failure is given in Table 3.3.

## 4.2 Measures applied to limit the extension of studies

BUT tries to motivate students to successfully complete their studies on time. The University is obliged by law to collect fees associated with the above-standard length of study. This financial instrument also motivates students to complete their studies in the time limit specified by law. The amount of fees increases gradually, depending on the length by which the student has exceeded his or her standard course of study. The fee is relatively low in the first year; however, it gradually increases and represents a significant

amount of money in the third year. In this way the fee becomes a major financial instrument motivating students to complete their studies.

We can also mention the optional and preparatory courses that help improve the entry level of student knowledge. However, BUT academic staff primarily seek to motivate students to complete their studies within the standard duration of study, without any unnecessary prolongation.

## 4.3 BUT and specific scholarship programs

BUT students can receive a scholarship for excellent study results or grade mark average; social scholarships and extraordinary scholarships for students handicapped by insufficient socio-economic backgrounds. The Student Chamber of the Academic Senate of BUT offers active students the opportunity to obtain funding for their project from

an internal grant agency. Submitting a project and defending it in front of a commission can result in a monetary contribution of up to ten thousand CZK from University resources for selected student projects. Table 3.4 provides a more detailed overview of the amounts of the scholarships provided.

## 4.4 Advisory services for students provided at BUT

The Institute of Lifelong Learning of BUT (hereinafter ILL) has been focusing on career, psychological and legal counseling, and on students with specific study needs, as well as on collaboration with companies and other organizations; counseling services may partly overlap. Feedback shows that students are satisfied with the services. Demand for services usually exceeds the amount available. In 2017, ILL employees again participated in the organization of the JobChallenge fair, held at the Brno Exhibition Center, in which 130 exhibitors presented in 15 disciplines. The fair was visited by approximately 2.5 thousand Brno students, of which more than 700 were from BUT

**Psychological counseling:** ILL offers the opportunity of personal development, either in a group or individually, to manage difficult life situations, relationship and study

problems, and to adapt to difficulties. In 2017, it provided 269 psychological consultations.

**Career counseling:** ILL employees are involved in creating a professional/personal profile, career counseling (mock interview, CV consultation, career decision making) and coaching. There were 95 consultations provided in 2017.

**Soft skills development:** Group activities aimed at the development of soft skills (e.g. stress management, assertiveness, presentation skills, personal effectiveness, team work, etc.) are complemented with preparation for a job interview (e.g. how to write a CV, how to succeed in a job interview, Assessment Center) or preparation for the start of a business. These services prepare fresh graduates for entry to the labor market and increase their employability. A total of 47 group courses were conducted this year.

## 4.5 Identification and support of students with specific needs

All BUT applicants have the possibility to submit an electronic application form reflecting their specific needs (hereinafter referred to as SN). An electronic application allows applicants to choose the SN specification and the type of required documentation. Based on a valid electronic application, these candidates will be identified and contacted by the staff of the Alfons Advisory Center who will invite them for a personal meeting. Based on the assessment of the functional impact of the impediment to study, the Center will create a proposal to adapt the admission procedure for each candidate individually.

The Alfons Center is based on the ever-increasing awareness of the academic community of the services offered. Students reach these services individually or through their teachers or other BUT staff. It remains entirely up to the student if he or she will use Alfons Center services or not. The agenda is managed with the use of IS Apollo, using specifically designed modules. Most of the agenda was converted to an electronic version in 2017, only SN students' documents remain archived in the paper version – students turn them in personally at registration.

Applicants and students with specific needs (e.g. specific learning disability, impaired health, mental illness, chronic and somatic diseases) are provided with support based on the Ministry of Education standards for this area. The Institute's services offer the possibility of adapting the admission procedure and organizing the studies using supportive measures. In 2017, individual courses aimed at the development of self-presentation skills were

organized. These courses were attended by 11 students. The Legal Minimum course was completed, as well as the Time Management course, both in the summer and winter semesters, with a total of 17 participants. In the winter semester, there were also 40 hours of individual mathematics and computer geometry lessons.

In 2017, 154 BUT students with special needs benefitted from a total of 858 hours of the above-mentioned services. The services include individual lessons of English and Czech, mathematics, physics, strength of materials, statics, interpretation to Czech sign language, simultaneous transcription, content writing, articulation interpreting, help with spatial orientation and individual counseling to adapt the studies. Students with health disabilities (e.g. attention disorders, mood disorders, anxiety, sleep disorders) are offered nervous system training using the EEG Biofeedback method, which is a modern method of mental performance training that uses a specific electroencephalograph. EEG Biofeedback is provided by two certified therapists. In 2017, there were 291 individual one-hour Biofeedback sessions.

Students with a social disadvantage made use of free social-legal counseling called S-Compass (more in 4.7). The service is offered in the form of e-mails. There were 13 students who communicated social issue questions and 24 legal consultations with 12 students. The counseling center can be contacted by all BUT students or applicants for study at BUT who have specific needs, and also by fresh BUT grads and academic and nonacademic BUT staff. More at [www.alfons.vutbr.cz/en](http://www.alfons.vutbr.cz/en) or [www.lli.vutbr.cz/english](http://www.lli.vutbr.cz/english).

## 4.6 Support of exceptionally gifted students and BUT applicants

Exceptionally gifted students have the opportunity to participate in projects of individual institutes. They have the opportunity to join student clubs as well as teams that participate in international competitions and also support and train teamwork. The globally successful BUT Brno Racing Team operates at the Faculty of Mechanical Engineering, representing a new race car in the Formula Student competition each year. Students from different faculties can also join Pneomobil Racing Team Brno, where they jointly prepare a race car that runs only on compressed air. BUT Chicken Wings team at FME focuses on building aircraft models. The Faculty also supports educational lectures at the Science & Technology Club and the Photo Club, bringing together photographers.

Gifted students are mainly approached by the individual faculties where they are studying. These faculties or BUT constituent parts can reward them with the aforementioned benefits or scholarships. They also have the opportunity

to nominate students for the Rector's Prize or for various external competitions (e.g. Josef Hlávka Award for Gifted Students, Werner von Siemens Prize).

These talented students can get faculty support for participation at foreign professional conferences, where they are further educated and expand their portfolio of professional knowledge. PhD students can get funding through their participation in specific research.

Brno University of Technology also offers talented students the attractive TOP 500 program, which is intended for the best 500 graduates who register at BUT. However, the scholarship is intended only for graduates of Czech state high schools, not for Slovak students. Bonuses are awarded to the students who choose mathematics and the English language in the compulsory part of the "Maturita Exam". Also preferred are those who choose a more demanding version of the Mathematics + exam.

## 4.7 Support and identification of socio-economically challenged students

A segment of the students coming from socio-economically challenged backgrounds are ashamed of their position in society, so the identification of these disadvantaged students is very difficult. However, if students ask for help or a scholarship, the staff of the Alfons Counseling Center can offer help through S-Compass. The students get advice on which BUT scholarships to apply for (accommodation, social, study results, extraordinary, etc.), whether they receive the right kind of support (the child's legitimacy for parental support), benefits (child allowance, housing allowance) and financial support coming from certain foundations.

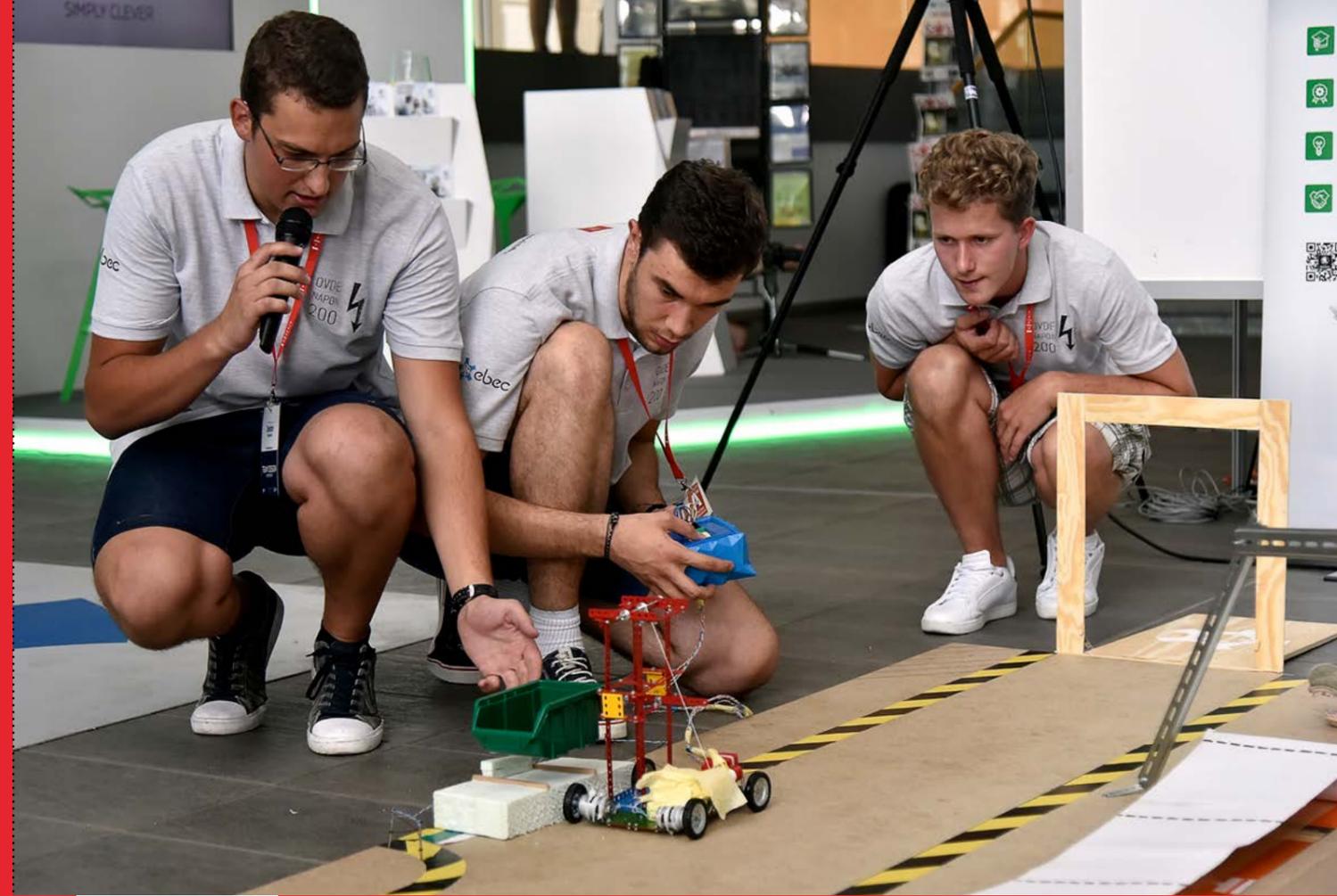
Consultants and lawyers will also instruct them how to contract work (work agreements, trade certificates, employment agreements, etc.) and help them on other legal issues that affect students (lease agreements, sales contracts, labor code, how to choose the appropriate legal form of business, etc.). The students can visit the Center personally or by e-mail at [s-kompas@lfi.vutbr.cz](mailto:s-kompas@lfi.vutbr.cz).

## 4.8 Support of parenting students

FEEC BUT runs the children's group Edisonka for the children of BUT employees and students. Edisonka is housed at 12 Technická Street in the FEEC building. However, it can be temporarily utilized by the staff or students of all BUT faculties. Edisonka is not a regular nursery school, but a babysitting mini-school. Edisonka has been operating since September 2013 and provides irregular short-term babysitting from 8 am to 8 pm after electronic registration. For more information visit <http://skolka.agentura-provas.cz/>.

BUT also allows student-parents to apply for interruption of their studies, as parenthood is considered to be a legitimate reason to comply with this request. If a student participates in various scientific projects, it is possible to reduce his or her workload for a limited time. Another option is to agree on flexible working hours or an individual study plan.

BUT tries to create suitable conditions for students on maternity leave (the period immediately before and after childbirth) and seeks to find an individual approach to the students who attend full time studies while on maternity leave. In addition, some ladies' toilets are gradually being equipped with changing counters.



5

Graduates

## 5.1 Cooperation and contact of BUT with its graduates

BUT communicates with graduates to create links and contacts, to gain information about their further professional life, and to continue to receive the feedback needed to evaluate their employability in the labor market. Questionnaire surveys, in particular one for employers, are regularly carried out. This way BUT gains direct feedback on knowledge in the monitored areas, monitors the requirements on completed education, professional experience during study, professional certification, as well as the perceived lack of graduates in particular fields. Contact with graduates is facilitated via the Internet portal [www.vutbr.cz/absolventi](http://www.vutbr.cz/absolventi). This portal

includes updated information on successful graduates, further education opportunities at BUT, results of regular graduate surveys, a database of graduates and final theses, as well as job offers and cultural and sporting opportunities at BUT. The graduates are also regularly informed about the most important events at the University in the electronic newsletter VUTARIUM, which provides an overview of the most important events, and invitations to selected events that are open to the public and may also be attended by unregistered graduates.

## 5.2 BUT graduate employability surveys, measurement for increase in employability, surveys of graduate employability and a follow-up reflection of the content of study programs

In 2017 BUT continued the adopted system of graduate biannual monitoring. At the end of the year, a survey was carried out among graduates of the post-graduate master's study programs from 2015 to 2016. It showed that the situation on the labor market (the overall unemployment rate at a record low level and continuing high demand for technically educated professionals) works strongly for BUT graduates: 62% of them have a job promise before graduating. Starting salaries and salaries up-to-date at the time of the interview increased by 11% and 18%, when compared with the years 2013 and 2014 respectively. The level of wages is related to a very high level of satisfaction with current employment (93%). Graduates are in no way afraid to change

jobs (82% think it would be easy to land a new one). They also do not acknowledge the possibility that they could be without a job, albeit for a short time. The average time for which current graduates were registered at the Labor Office was only 1.1 month: however, more than two-thirds of them have no experience with unemployment, either just after the completion of their study or later. At the same time, in November 2017, we launched a survey among the students of the previous year's follow-up Master's degree programs, containing several questions on employability. Data were collected through to the end of the winter semester, so the results will be known in 2018.

## 5.3 Cooperation with prospective employers of BUT

One of the important links of BUT with the application sphere is that between trade fairs and the upcoming BUT Career Center. During 2017 employers could meet BUT students at iKariera Fairs – the largest job fairs in Brno, organized by the student organization IAESTE at the FBM. This job fair is intended for students of all BUT faculties. PerFEKT Job Fair is organized at FECC. The event presents companies from the field of electronics and IT that are interested in employing FECC students and graduates. FME BUT organizes the Day of Firms where companies look for graduates of the FME study programs.

At the end of the year, BUT was involved in the organization of JobChallenge, in cooperation with Masaryk University in Brno and Mendel University of Brno.

BUT considers job fairs very important as participating companies can address students and discuss their requirements and job offerings. Students have the opportunity to make contacts with their future employers

In 2017, the BUT Career Center concept was launched, aiming at connecting students and the application sphere through job offers, internships and the internship portal. The Career Center is a part of a comprehensive partnership program and will be launched in 2018.

The partnership program also includes building and expanding a network of corporate partners through informal meetings of the University management and representatives of these companies. The first step was the Business Club event, which was part of the BUT University Ball, held in early December 2017. The event was attended by representatives of important industrial partners and University managers who exchanged contacts and experiences, and discussed possibilities of cooperation. Representatives of commercial companies and partner institutions can engage in teaching, supervising diploma theses, or attend some of the BUT events. This cooperation takes place at the level of individual Faculties, or Institutes. Another collaborative option is represented by partnership in research. BUT laboratories, research centers and top science teams help companies innovate their business, test their products, or bring academic knowledge to life. An important part of the University's services is also the lease of premises, accommodation and sports facilities that are in BUT's ownership.



6

Interest in studies

## 6.1 Characterization of entrance exams

BUT entrance examinations are organized by individual BUT Faculties in the core high school subjects (mathematics, physics). Some Faculties also reflect the examinations of the private company Scio (National Comparative Exam); applicants to artistic and architectural fields must also pass a specific aptitude test. Based on the admission guidelines, most of the Faculties can waive the entrance examination under precisely defined conditions. Some of them reflect the results of the "maturita (high school leaving) exam" or the study average at high school. In 2017, the Faculty of Information Technology switched to Scio National Comparative Exams. The exam fee is covered by the fee for

the BUT application form. For example, FEEC BUT organizes the Mercury PerFEKT Challenge for high school teams, in which students have to design Mercury kits and program them to be autonomous. Winners of this competition can then be admitted with a waiver of the entrance exam. In the Business Point competition at the Faculty of Business and Management, the high school students address a case study assigned by a commercial company and present marketing strategies for specific products. The best ones can be admitted to the faculty without taking an entrance exam. High school competitions are also offered by other BUT faculties. More in the chapter Cooperation with Secondary Schools.

## 6.2 Cooperation of BUT with secondary schools

BUT applicants can enter the special web site [www.navut.cz](http://www.navut.cz), which provides detailed information about specializations and the admission procedure. On December 29, 2017 the site was transferred to appear under the BUT tab, because BUT has a radically redesigned the site. BUT analyzed individual target groups, including secondary school students, to tailor its website to the applicants.

BUT has traditionally been involved in secondary education, where experts supervise the projects of secondary school students, allow them to work in the laboratories and premises of the University, and provide them with professional mentoring. BUT also organizes meetings with the directors of selected secondary schools; the last meeting of this character took place in March 2017. BUT mainly addresses the directors of the schools supplying successful winners of the TOP 500 scholarship program. BUT also monitors which secondary schools most of the applicants come from and offers these schools closer cooperation.

Each BUT Faculty organizes at least one Open Day; most of them offer several dates, posted not only on the web but also on social networks. At the Gaudeamus Fair in Brno, the educational counselors receive a package of University-related information materials intended for their secondary school students. In 2017, BUT even advertised the possibilities of studying in thematic supplements to Slovak daily newspapers.

Every year, BUT participates in the May Celebration – the student festival, which takes place in May at the Brno Exhibition Center and is attended by thousands of students from secondary schools and universities. In 2017, a student from BUT once again became the king of the Brno May Celebration and was given the symbolic key to the Moravian metropolis. Interested students can also visit the Night of Scientists, a promotional event that shows the general public practical examples of the activities of individual faculties.

The Rector's Office organizes the Road Show, whose aim is to inform high school students about study opportunities at BUT. Individual faculties also address relevant secondary schools according to their specializations; this can be illustrated by the Faculty of Civil Engineering, whose presentations at secondary schools are focused on construction.

Every year, secondary school teams compete in the popular Mercury PerFEKT Challenge. The Faculty of Mechanical Engineering regularly organizes the Internet Mathematics Olympiad for secondary school teams. Other competitions of this type are also organized by other BUT faculties. The Faculty of Business and Management organizes the two-day Business Point competition and the Faculty of Civil Engineering organizes Juniorstav. The Bridge Builder Contest – another very popular competition for high school students, is also hosted by the Faculty of Civil Engineering.



# 7

## Employees

## 7.1 Employment Code for academic staff and motivational revenue tools for employees based on achieved results

BUT does not have an elaborated employment code for academic staff; nevertheless, once a year the performances of individual employees are evaluated, determining the variable component of wages for the next period. Both the quality and quantity of work performance are assessed; any

career breaks due to parenthood or long-term illness do not affect the outcome of this assessment. Parenting employees can apply for shorter workloads. Employees have the opportunity to get extra bonuses for undertaking exceptional one-off assignments.

## 7.2 Development of pedagogical skills of academic staff

The Institute of Lifelong Learning provides teachers with a comprehensive pedagogical education to complete their specialization, which is usually technically-oriented. The study program includes three main areas: pedagogical-didactic, psycho-social and pedagogical-managerial. Each of these areas contains several thematic blocks of study.

The ILL, for example, offers Complementary Pedagogical Study for educators (PhD students), courses focusing on the upcoming GDPR impacts in everyday work, and also the opportunity to build a personality profile, through which employees learn in which areas they excel and what work style suits them best.

## 7.3 Gender equality

BUT does not possess an elaborate gender equality plan; however, the principles of the gender equality of both sexes are reflected when evaluating employees or distributing benefits. Parental leave is used not only by women, but also by men. After returning from parental leave, they are allowed, if conditions permit, to regain their original positions. Employees are allowed to work part-time for reasons related to childcare. In exceptional circumstances employees are allowed to work from home for a limited period of time.

All BUT academic and non-academic employees respect the BUT Code of Conduct which states, among other things, that "A member of the BUT academic community and every BUT employee maintains a high standard of observing moral and ethical principles when performing their activities both at the BUT premises and outside. They are honest and act in accordance with good morals. A member of the BUT academic community and every BUT employee opposes all manifestations of abuse of position and other forms of bossing as well as sexual coercion or harassment. They do not create amoral pressure on other BUT workers or students; do not tolerate superior or degrading treatment. A member of the BUT academic and non-academic community opposes to all forms of discrimination based on any racial, ideological, medical, political, religious or other grounds."

In 2017, BUT started the "I Belong Here" Recruitment Campaign, aimed at attracting more women to study technical disciplines, thus indirectly increasing the number of women among future BUT employees. Videos and contacts to selected female BUT students who act as ambassadors are accessible at [www.technickyvzato.cz](http://www.technickyvzato.cz). Female students interested in studying at BUT can easily contact an actual female student from a given faculty and find out what it is like to study as a woman, for example, at the Faculty of Mechanical Engineering. The "I Belong Here" campaign attracted the attention of both the public and the professional jury at the International Conference of PR and Marketing staff of European Universities in Mannheim, Germany, where it won the EUPRIO Award 2017 and became the best marketing achievement of a European University in that year. The following discussions have shown that the issue of the lack of women in the field of technology resonates across Europe. The lack of female students also indirectly causes the subsequent shortage of female academic staff in the technical sector. The campaign was based on the international study "Engineering topics attractive to female researchers", which was undertaken in cooperation with the SIX Research Center at FEEC BUT and other participants including TU Wien.

BUT tries to harmonize the family and professional life of its employees and therefore offers not only the above-mentioned possibilities, but also, for example, the opportunity to use the Edisonka mini-school, which operates

on the premises of FEEC, but serves all BUT students. More about Edisonka can be found in Chapter 4.8. These possibilities partially apply to parenting employees of BUT, e.g. PhD students with part time workloads at BUT.

## 7.4 Problems of sexual and gender-based harassment

There were no cases of sexual and gender-based harassment at BUT in 2017. There were no complaints about harassment among the employees and no indications of such conduct. Thus, no case of sexual or gender-based

harassment of students in connection with instructions was recorded. Gender Equality is embedded in the BUT Code of Ethics mentioned above. Possible offenses would probably be addressed by the BUT Ethics Commission.



# 8

## Internationalization

## 8.1 Support of participation of students in foreign mobility programs

The BUT strategy of internationalization is in line with the Strategic Plan of the Ministry of Education, Youth and Sports for 2016–2020. The priorities for 2017 were determined by updating the Strategic Plan for 2017 and a long-term strategy in the area of international relations.

Using its web pages, Facebook, and the Newsletter magazine, BUT actively supports and motivates students to complete internships or practical internships abroad. The Department of Foreign Relations organizes promotional events such as International Mobility Day and Mov'n Europe to inform students about educational programs such as Erasmus +, ACTION, AIA, CEEPUS etc. Students who have experience with residence abroad play an important role in such events, sharing their foreign experience with other students who are considering traveling abroad.

BUT also organizes photo competitions for the students who participated in international mobility programs. This competition contributes to promoting foreign mobility for students in a friendly and popular way, showing that such mobility can be beneficial not only for their study, but can also bring new contacts and opportunities in both their professional and personal lives.

In 2017, BUT participated in the Brno International Student project in cooperation with Brno City Hall and their Smart City Brno program. The aim of the project is to gain feedback from Czech and foreign students on how to improve the services and environment of the City of Brno. An important effect of this activity is the interaction between Czech and foreign students and the mutual sharing of their experience which motivates Czech students to go abroad. The project also includes Masaryk University, Mendel University and the University of Veterinary and Pharmaceutical Sciences.

The Foreign Relations Department cooperates closely with the international student organizations International Students Club (ISC), BEST (Board of European Students of Technology) and IAESTE (International Association of the Exchange of Students for Technical Experience). Thanks to the financial support of IAESTE, the number of outgoing BUT students exceeds the number of outgoing students of other Czech universities.

BUT strives to recognize all, or at least the vast majority of, credits earned abroad so that the foreign residence does not create an obstacle to the completion of studies in the standard time. The Rector's Directive is used for these purposes.

The participation of BUT students in foreign mobility programs is also supported through sources other than Erasmus +, namely other mobility programs such as ACTION, AIA, Norwegian Funds and CEEPUS. The mobilities are also covered by institutional development projects supporting the foreign mobility of BUT students and academic staff. These projects also support the international cooperation of BUT and are widely used by both the students and academic staff.

The Foreign Relations Department is also actively working to simplify the administrative procedure for outgoing students and employees by switching gradually to the electronic form of the agenda, which is supposed to reduce significantly the administrative costs to both the student or educator and the institution.

BUT also aims to attract self-paying foreign students from around the world. In order to achieve this goal, BUT regularly participates in professional foreign educational fairs held world-wide, where it starts cooperations with foreign universities. For this reason, BUT is involved in the activity called "Study in the Czech Republic", which promotes BUT study programs delivered in English abroad. This activity is supervised by the House of Foreign Cooperation. BUT also uses the services of the South Moravian Center for International Mobility, which is a long-time partner of Brno universities. One of the other forms of cooperation with the Center is the participation of BUT in SoMoPro projects, with the aim of bringing top foreign scientists to Brno universities

BUT is strengthening its active membership in international organizations aimed at developing closer and specific cooperation between universities and educational or research institutions, especially at the European level; these institutions include the European Association of Universities, the European Association for International Education (EAIE), and the CESAER Association of Advanced European Engineering Education and Research (CESAER).

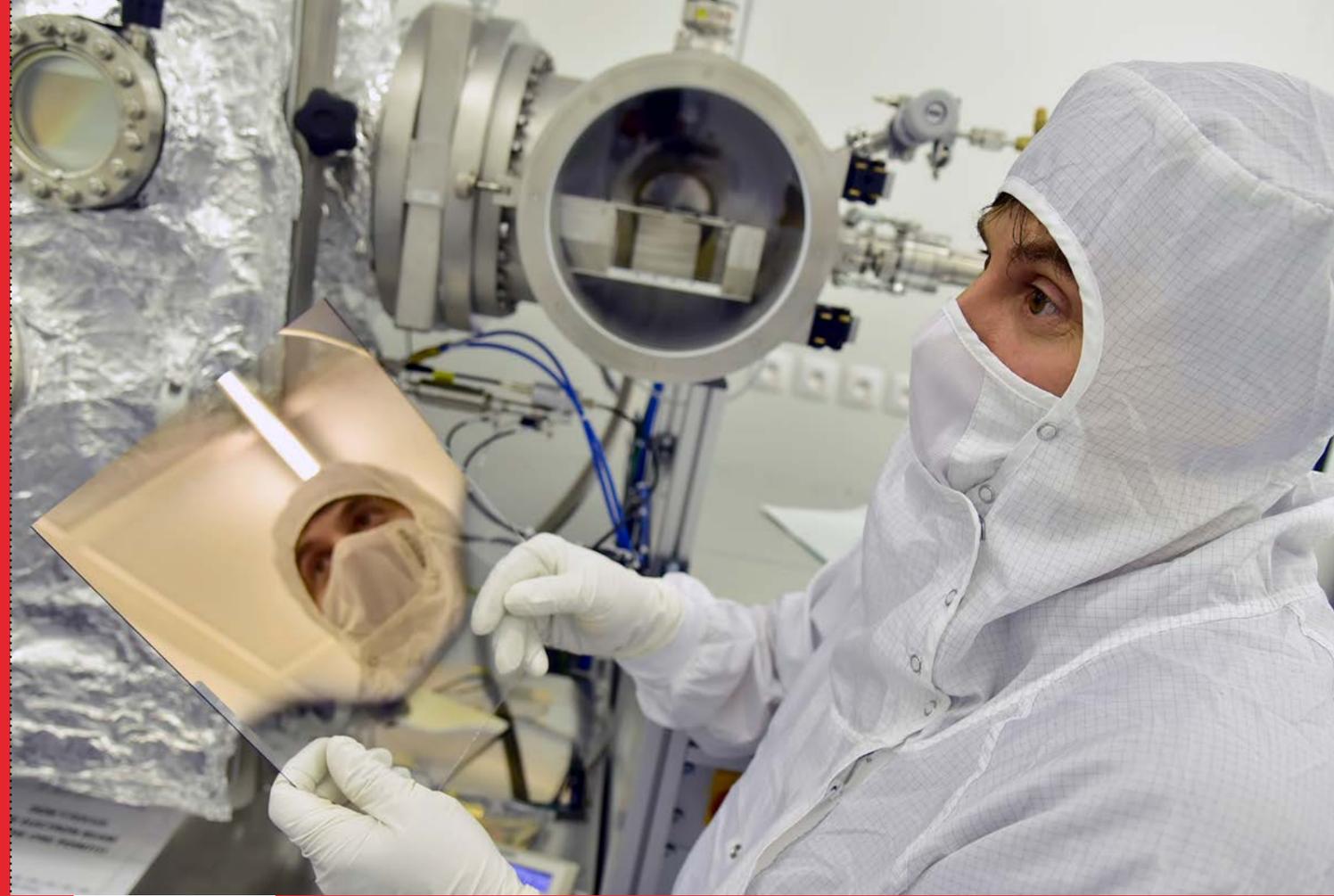
BUT also actively focuses on establishing and promoting contacts with universities in Asia that have a high educational and research potential and rank high in international ratings. In 2017, for example, three new cooperation agreements with Chinese universities were concluded.

## 8.2 Integration of foreign members of the academic community

The integration of foreign members of the academic community into the life of the university is one of BUT's priorities in this and following periods. Given that BUT offers considerable scientific and research potential, concentrated in its research centers, the interest of foreign academic and scientific staff is growing. BUT is striving to integrate foreign staff into the life of its academic community. An example is Welcome Services, which are becoming more and more necessary. In 2017 the existing Welcome Services were analyzed across the faculties, which resulted in realizing the necessity of centralizing Welcome Services within BUT. This service will be provided by the Department of Foreign Relations.

At the end of 2017, preparatory steps were taken to implement the centralized Welcome Services. Cooperation with the South Moravian Center for the Integration of Foreigners, whose services are also used, was established.

Care of family members and the creation of a suitable work environment are also integral parts of Welcome Services. BUT provides translation into English of some modules in the information system, making them accessible for foreign staff. BUT will actively continue to improve the quality of Welcome Services to secure smooth integration of the foreign members of the academic community



9

Research, development,  
artistic and other creative  
activities

Brno University of Technology constantly ranks among the leading universities in the Czech Republic with regard to the quality of its creative activities. BUT pays regular attention to the evaluation of creative and related activities in accordance with the amended Higher Education Act and in accordance with the Internal Evaluation Statute of BUT. The process of assuring the quality of scientific and research activities is addressed by the Rector's departments: the Department of Creative Development and the Technology Transfer Department. The departments of the Technology Transfer at BUT faculties are also integral part of the evaluation process. These departments supervise results of the research, apply research projects, manage collaborative research with industrial companies and direct cooperation with the industrial sphere in the form of contractual research. Vice-deans, heads of institutes, directors and other managers of research centers are responsible for creative activities, specific research grants, applied research and cooperation with the industrial sphere. The BUT vision is to become a major technical university with a respected and advanced creative program that demonstrates internationally recognized results and participates in international cooperation in key areas of technology and sciences. Implementation of this vision was worked on intensively in 2017. BUT has become a respectable partner of important European research centers, intensified its relations with the Academy of Sciences of the Czech Republic and demonstrated a balanced proportion of basic, applied and contractual research with high innovation potential. Research, development, artistic and other creative activities are carried out at faculties and University departments through individual institutes, research laboratories and, in particular, research centers equipped with a very modern infrastructure shared by researchers from all constituent parts. In line with the new Higher Education Act, the evaluation of scientific research reflects, among other things, quality. The quality of creative activities reflects the evaluation of research derived from the results of the national evaluation (so called RIV points) which is directly linked to institutional funding. BUT uses the methodology of the national evaluation at both university and faculty levels. This mechanism is modified to include other parts of the creative activity, suppressed at national level, to facilitate further evaluation of individual institutes, scientific teams and laboratories. These corrections are the results of evaluation rules compiled annually at faculty and constituent levels. The key factors (e.g. number of patents, number of publications in a given category, etc.) are assessed quantitatively as an individual item is not important in comparison with others. If a single item demonstrates other properties deserving a more detailed description (a multiple patent, a very often quoted publication), then it is evaluated as an excellent result of creative activity. Another type of assessment is what is termed qualitative assessment, preferably a dichotomous one – met or not met. This assessment applies to strategic documents of the University constituent parts or the University as a whole, and to other documents related to the development of the University or its constituents.

The constituent parts of the university evaluate and describe their excellence and the resulting quality from the viewpoint of the University, region, Republic or in an international context. CEITEC BUT – the excellent research center – makes a concentrated effort to build internationally respected scientific teams and create attractive research programs.

CEITEC BUT applies a two-step system of science evaluation: internal for CEITEC BUT and external, which is valid through all parts of CEITEC (i.e. including MU and other 4 CEITEC partners). The internal evaluation of the groups is based on an internal point system that evaluates: publishing activity, successful foreign projects (not projects from the Czech Republic) and proven innovation activities – i.e. the number of licenses sold (not the number of patents).

This simplified metric was adjusted to make clear and measurable the scientific and research success of the groups, and is expected to be used for motivational purposes and for potential redistribution of institutional support under the 17+ methodology, where assigning specific results to individual groups (so called RIV points) will no longer be possible. Within the international "peer review", the research groups are then evaluated at regular annual intervals by the ISAB independent international scientific board.

BUT is steadily increasing its creative activities and international prestige. Reflecting the transnational nature of scientific knowledge, international cooperation is a crucial aspect of scientific work and its support was also a priority in 2017. The research was oriented mainly on successfully establishing international cooperation. There were 14 consortia dealing with the H2020 projects in 2016. The research teams from BUT are involved in international projects through EEA, Eurostars, Contact, COST, EUREKA, Interreg, the regional SoMoPro challenge and Brno PhD Talent for PhD students and young scientists.

BUT periodically evaluates performance in science and research (S & R) based on the obtained RIV points and excellent publications indexed in the Web of Science and SCOPUS databases. Analyses carried out according to the Board for Research, Development and Innovations (BRDI) provide the University management with the status of BUT research presented in annual evaluations, allow comparisons with other public higher education institutions in the Czech Republic, examine the structure of reported results compared to other universities with a similar focus, and identify any annual changes in S&R within BUT. Another separate segment of creative activities is the RAO – Registry of Art Outputs. It gives the basic source of information about the results for the needs of science and research, but it is aimed at artistic disciplines taught at Czech public universities. The Ministry does not distribute any institutional support at present.

The RAO application was developed to support the process of registration and evaluation of outputs from creative

artistic activities at the national level. The application allows insertion and editing of records of artistic outputs, supporting the process of certifying these outputs and communication between process participants, including the associated records. Its final version will calculate the points for individual outputs and their export for the purpose of handing over the MEYS.

RAO facilitates registering inserting and editing the outputs from the creative artistic activities in the system, a process which has also been fully utilized in the year 2017. The verification stage has been completed with the help of the Faculty of Arts and the Faculty of Architecture of BUT. BUT considers RAO as an effective means of enhancing quality and supporting new creative artistic activities, especially those of academic staff involved in the creation and development of the cultural environment of our society. It is one of the official instruments of the Ministry of Education, Youth and Sports for the quality assessment of universities, their teachers, students and PhD students.

At present, the faculties concentrating on design use RAO as one of the basic parameters of the evaluation of quality of creative activities. In order to enter and evaluate the results inserted in the Register of Art Outputs, a binding regulation has been issued at BUT. This regulation is supposed to contribute to a higher quality of this type of artistic activity.

BUT staff have adapted quickly to the changing conditions of financing research activities through external grant agencies, national and international providers of research projects and institutional support. Historically, faculties and University constituent parts have successfully participated in major research and development projects, both in the position of recipient and in the position of collaborating research organizations. Key activities are focused on the development of advanced materials and technologies using nanotechnologies, information technologies and processes related to the processing and transfer of large volumes of data, their security, the development of inspection and mobile robotics, modeling and simulation of dynamic systems on real objects and operational equipment, and testing unconventional procedures.

BUT researchers have succeeded in the development of "smart systems" for the detection and prediction of the state and condition of progressive building structures and materials, the instrumentation for industrially useful procedures and calculations, the development of industrial communication networks, smart sensor networks and process automation. In all their activities, the scientists strive to comply with environmental rules and the possibility of their rapid implementation in real life.

A whole range of measures and incentives has been adopted to improve the quality of S & R results. BUT continues to stimulate publishing in impacted journals, according to the adopted Motivation system for quality improvement and performance of S & R results, with the primary purpose of

increasing the competitiveness of BUT, both nationally and internationally. BUT also publishes and evaluates the TOP10 of the most productive authors annually. TOP10 is a BUT competition to find the most productive employees in terms of research and development results. The results of the BUT employees with workloads higher than 0.5 are evaluated separately, in the publishing and technological category. There is a motivational target bonus for meeting the quality criteria, increasing the potential of academic staff, and creating the conditions for a gradual reduction of the age for appointing associate professors and professors.

Internationalization of research is also evaluated according to the quality of bilateral cooperation, project cooperation and contracted foreign research. In 2017, foreign resources won a total of 31 projects within H2020 calls. Obtaining two prestigious ERC grants awarded by the European Research Council in 2017 was an extraordinary achievement. Grants were awarded to scientists from the CEITEC Research Center: Petr Neugebauer in the field of electron spectroscopy and Vojtěch Adam for more effective treatment of cancer. Both projects will start on January 2018 and last for 5 years. The rate of successful applicants for an ERC grant is less than 8 percent in the Czech Republic. The CEITEC BUT team also succeeded in the prestigious category of basic research projects Future Emerging Technology (FET).

In this category, with 2 to 3 percent success, the team not only managed to come first out of 28 submitted projects, but will also become the first ever Czech coordinator. With 2.89 millionEUR in funding, the team will focus on a unique enhancement of electron paramagnetic resonance. CEITEC has also been successful in Teaming calls and will prepare a business plan for two other successful projects, RECAIP and B4F, so that its activities can continue for several years.

The following information is for the H2020 according to the Research&Innovation Participant Portal. Up to 2017, CEITEC BUT was dealing with 11 projects totaling 4,209,770 €. The Faculty of Information Technology was dealing with 10 projects amounting to 2,652,282 €. The Faculty of Electrical Engineering and Communication has registered 6 projects to the amount of 667,474 €.

The Faculty of Mechanical Engineering addressed 3 projects to the amount of 405,598 €, the Faculty of Civil Engineering 2 projects amounting to 336,235 €. One project with a budget of 315,000 € is addressed by the Faculty of Chemistry. Altogether, BUT has been dealing with 33 projects to the total amount of over 8.5 million EUR.

## 9.1 Linking creative and educational activities

The evaluation of the scientific and educational activities at the level of doctoral, Master's or Bachelor's studies is necessity and also part of the basic concept of BUT.

Growth in the quality of scientific research, development, innovations and artistic creative activities linked with teaching content will enable prospective graduates to land adequate positions in the international labor market in all areas of technical education. BUT students are regularly involved in BUT research and creative activities through the selection of topics of PhD, diploma and Bachelor's theses, which follow the basic and experimental development, applied and contractual research addressed at BUT's individual constituent parts. The assigned topics are directly related to scientific research projects, contractual research, curriculum projects, Bachelor's and diploma theses and doctoral dissertations. Some assignments are directly oriented to address practical requirements. At the same time, students are included in the research teams and work alongside academic staff.

## 9.2 Engaging bachelor's and master's students in creative activities

The projects announced and managed by the Student Grant Agency play the fundamental role in development of PhD students. BUT specific research involves students through their diploma theses which are assigned by the industrial companies. The students also participate in the partial projects listed in the BUT Chance project from the TA CR GAMA and ZÉTA calls. For example, at the Faculty of Civil Engineering, involvement of students of follow-up Master's degree programs in creative activities is supported in the form of practical internships. At the Faculty of Mechanical Engineering, specifically in the specialization of Physical Engineering, it is mandatory for each student of a Master's degree program to complete a foreign internship. The link between educational and creative activities has been strengthened by engaging students of Master's and doctoral study programs in research projects.

Specific research represents the most significant part of the students' creative work and is considered very sophisticated and beneficial. Students, according to the approved rules, are involved in three types of projects. Support is provided through grant competition and published rules. BUT supports interdisciplinary inter-faculty projects, which are based on the involvement of PhD students from different BUT constituent parts, who address a partial scientific issue that faculties have long been cooperating on. The general objective pursued by BUT specific research is to strengthen student R & D creative activities and to intensify the involvement of students in the team research cooperation.

The motivation for BUT students to engage in quality research is the modern infrastructure built within the OP R & DI. These modern devices, measuring apparatuses and instruments, are used by students in all types of work. Many students achieve excellent results. An incentive system is open every year for students – the BUT TOP10 Excellence competition is designed for the most productive students in terms of research and development results. In this competition, the results of the students of the full-time doctoral study programs are evaluated in the publishing and technology category.

Finding the most suitable forms of student involvement in research activities is systematically addressed at all BUT faculties and departments. Active participation in research and development, within the framework of scientific and application projects, in each year of study is a necessary prerequisite for successful completion of the doctoral study program in both full-time and combined forms.

At least once a year each faculty organizes a competition conference in which students present and advocate the results of their projects. In addition to internal academic staff, the jury includes representatives from collaborating companies such as Honeywell, ABB, ON Semiconductor, Prefa, Evektor, TOS, Siemens, Zetor, RedHat, IBM and others. The output from the students' specific research in 2017 is as follows: 95 papers were published in impact factor magazines (IF), 195 articles in magazines without IF, 1 in conference proceedings, 852 articles published in proceedings, 11 chapters in professional books, 5 professional books, 17 abstracts, 7 presentations, 2 lectures, 27 software products, 4 patents, 1 functional sample and 89 other technical and technological outputs.

BUT students were successful in the Werner von Siemens 2017 Prize competition, which focuses mainly on technical and scientific fields. In the best doctoral thesis category, Lukáš Kekely gained 3<sup>rd</sup> place with Software-Controlled Network Traffic Monitoring. More is mentioned in the opening part of the annual report, which lists successes and awards in this calendar year. The number and quality of projects increases at BUT every year. In 2017 there were 181 faculty and 14 inter-faculty projects, with a total grant of 86,865,587 CZK.

## 9.3 Targeted funds for research, development and innovation gained in 2017

In 2017, BUT participated in 269 projects from national providers, 31 H2020 projects, and 92 contracted research projects. The total amount of funds received in 2017 from public sources, and national and foreign sources: current: 2,613,988 thousand CZK; capital: 52,029 thousand CZK; a total of 2,666,017 thousand CZK. Of which, for the activities related to education: ordinary means: 1,439,871 thousand CZK; capital: 46,609 thousand CZK; totally 1,486,480 thousand CZK. R & D activities: common means: 1,174,117

thousand CZK; capital: 5,420 thousand CZK; a total of 1,179,537 thousand CZK. The total amount transferred to the co-researcher outside BUT is: 169,802 thousand CZK. BUT also received, within the framework of the projects in which it features as the co-researcher or other researcher, the amount of 332,658 thousand CZK within ordinary means, of which 331,569 CZK is for R & D activities (322,557 thousand CZK within the scope of domestic targeted grants) and the amount of 941 thousand CZK in the form of capital funds.

## 9.4 Support of doctoral students and employees in post-doctoral positions

Support of the students in doctoral study programs is an important concept allowing individual development of doctoral candidates and younger academic staff. BUT increasingly expects every Ph.D student to spend at least six continuous months at a cooperating foreign workplace.

Foreign internship graduates are more successful in winning research projects, especially from the GA CR and, in 2017, also from TA CR. BUT also support traineeships in industrial companies to promote professional growth and contract research. Post-doctoral students were supported by Institutional Plans from the Excellent Young Scientist I and II projects, which help create conditions for sustainability.

An important tool is creating conditions and contacts for the students' work on research projects within top international teams, and increasing their mobility. BUT hosts several foreign young scientists who have received funds from SoMoPro projects and create new scientific and research

specializations in cooperation with PhD students and young scientists from BUT.

Gifted PhD students succeeded at the prestigious Brno PhD Talent competition organized annually by JCMM in cooperation with the Statutory City of Brno. The competition is aimed at supporting talented students and employees in the field of science in the South Moravian Region.

Significant support is represented by the projects from the Student grant competition, funded from specific research funds. The excellence research and regional research centers create new positions whose filling depends on the scientific results of PhD graduates. The conditions for their involvement in advanced research are determined by significant national and international grants, and cooperation with the institutes of the Academy of Sciences of the Czech Republic and foreign partners. In 2017, the number of H2020 projects considerably increased, creating positions, especially for post-doctoral candidates.

## 9.5 Share of application sphere in the creation and implementation of degree programs

Cooperation with the application sphere is carried out in the form of excursions, student internships and professional lectures delivered by external experts during regular courses. In some faculties and departments, newly-developed study programs consult with the representatives of industrial companies in which the graduates are finding jobs. Experts

from the application sphere supervise or consult on the assignments of Bachelor and Master theses. Feedback for the companies is represented by the gained knowledge of university education, and for students by the ability to apply their knowledge and outcomes in the defense of theses and at student scientific conferences.

## 9.6 Cooperation with industry on the development and transfer of innovations and their commercialization

These activities are managed by the Technology Transfer Department (TTD). Primary activities of the Department include care of the intellectual property created by University staff, and its maximum use in the application sphere.

A unique structure of support for DTT executives which significantly improved and accelerated the process of invention protection was created. A team of business managers, who are decentralized and subordinated to faculty deans or constituent parts directors, focuses its activities on finding opportunities for the application of protected R & D results in the industrial area.

DTT works as a contact point for industry. It is very difficult for a company that has never come into contact with a university to get oriented with its complex organizational structure. DTT is a place where a company can get both general information about the possibilities of cooperation and the framework conditions, and contact with a scientific team that specializes in the given field, and is able to solve whatever problem the company is troubled by.

In 2017, DTT addressed dozens of industrial demands and negotiated a number of collaborations. Thanks to the implemented "Chance" project, the DTT team was partially reorganized and supplemented by a team of Business

Development managers who are directly subordinated to DTT managers at the faculties and departments. This team cooperates with the application sphere and ensures direct contact between scientists and companies.

In 2017 a project was also launched to create a new, more user friendly web for those interested in collaborating. In the Cooperation section, the new University website allows easy and direct approach to specific contacts – both to managers of DTT and Business Development managers and to the specific outputs and offers of individual faculties.

DTT also provides scientific teams with support in the form of economic contracts for industrial partners, in which BUT staff address analyses and expert studies, technology process optimizations, software customization etc. BUT succeeded in obtaining 4 OP PIK Knowledge Transfer Partnerships projects, through which it participates in the implementation of innovation directly in the cooperating company.

This year there was no new spin-off company at BUT, but the procedure concerning several newly emerging companies with no BUT property participation has already started. In total, 3 spin-off companies with no BUT property participation are registered at BUT. There are none with BUT property participation.

## 9.7 Support of horizontal (i.e. intersectoral) mobility of students and academics

In the area of horizontal mobility of students and academic staff, BUT seeks to link the academic environment with the business sphere by creating conditions for the application of innovative research and development results.

BUT cooperates especially with the Association of Innovative Entrepreneurship, which organizes lectures and seminars for staff and students with the support of the Technology Transfer Department. The aim is to ensure that the research, development and innovation potential of BUT is commercially mature in the form of new products, and gains the opportunity to enter the domestic or a foreign market. The events are attended by BUT academics focusing on this issue. BUT is a full member of the Transfera society and co-organizes professional seminars with it.

BUT actively develops cross-border cooperation projects and bilateral mobility projects for young academics and students. A significant contribution in this area is also made by the South Moravian Innovation Center, which is located close to the Technology Park and therefore in the proximity of several BUT faculties. The BUT students and staff are offered a wide range of workshops and lectures in the field of innovative entrepreneurship. The Center offers backing for emerging start-ups, which are often started by BUT students and graduates.



# 10

## Quality assurance and evaluation of activities

## 10.1 Significant events related to quality assurance and evaluation of implemented activities in 2017

In 2017, the BUT Quality Department participated in the "Building the Quality System of the University and Its Constituents" project, which runs from 2016 to 2018. This project supports the implementation of the amendment to the Higher Education Act in the quality management of BUT. BUT also participated in the central development project "Strategic cooperation of universities for quality management of technical education according to the needs of society and the knowledge of economy." Brno University of Technology became the main coordinator of the project. In total there are 8 universities (BUT, TUO, TUL, UWB, TBU, CTU, UPa, UJEP) participating. The aim was to create a well-functioning network of technically-oriented universities (TU) for long-term cooperation in the field of quality management of technical education, and to support the sharing of capacities and experience in adjusting quality systems, in cooperation with employers and in relation to the shared use of international experience.

The priority areas of cooperation included: quality assurance and evaluation, educational activities, quality management of creative activity in terms of the application of outputs to education, quality management of the third role of universities, sharing of professional capacities and experience in quality assurance and promotion, and the popularization of technical education in line with labor market needs.

The staff of the Quality Department also participated in national events this year, namely: College – Quality in the Higher Education Environment (Center of Excellence at the CSU, Prague), 18<sup>th</sup> year of the Quality Evaluation of Higher Education Institutions (Telč), Meeting of teachers dealing with quality management (TUO) and Conference QUALITY 2017.

The BUT Department of Quality also participated in the preparation of the external evaluation of BUT within the EUA/IEP. In cooperation with BUT and faculty management, the staff of the Department of Quality helped create, comment on, and oppose BUT internal regulations and internal standards in the area of quality. DQ participated in the establishment of the BUT Internal Evaluation Board and its work.

Other tasks of the Quality Department include the organization of seminars and workshops in which to transfer experience in the field of education and its internationalization at BUT, in terms of study programs and the experience of academic staff and students, with expected increase in the Double Degree and Joint Degree programs. For example, at the beginning of the year Emil Helienek from Nottingham Trent University lectured the members of the Student Chamber of the BUT Academic Senate on the quality of British universities.

In 2017, the second surveillance audit of the quality management system, according to new international standard ISO 9001: 2016 Quality Management Systems – Requirements, was successfully carried out at BUT.

The first surveillance audit, in accordance with the second certification cycle, was successfully carried out at the Faculty of Business and Management.

This also took place analogously at the Faculty of Electrical Engineering and Communication Technologies, but within the first certification cycle. Management of the Faculty of Mechanical Engineering suspended the external evaluation of the quality of its management system.

Reports from these external audits contained no disagreements or comments, only recommendations for the further improvement of operations. In 2017 the previously mentioned BUT organizational units (with the exception of FME) hold independently verified trust in their quality assurance system issued by an accredited certification body.

At the Faculty of Information Technology, a top-level process analysis was carried out, including the definition of processes that should be mapped at the operational level of management using flowcharts.

**The Rector's Office and other BUT constituent parts** – The second surveillance audit by an independent and accredited certification body was carried out in this part. The audit did not find any systemic disagreement or provide any comments. It only emphasized the strong points and recommended improving the quality of the management system. The audit was carried out on the 28<sup>th</sup> and 29<sup>th</sup> November 2017. Process analyses were carried out to improve the level of methodological and service support of BUT activities. The output was the so-called contextual diagrams (domains) of individual process areas. The domains were created for all the process areas of the Rector's Office in connection with the key processes of educational and creative activities that are performed at faculties.

**Faculty of Business and Management** – Within the second certification cycle, the first surveillance audit was carried out by an independent and accredited certification body. The audit did not find any systemic disagreement or provide any comments; the audit emphasized the strong points and recommended improving the quality of the management system. This second surveillance audit was carried out on the 18<sup>th</sup> and 19<sup>th</sup> October 2017. The external audit was mainly focused on the fulfillment of the main processes of the Faculty, namely on educational and creative activities.

**Faculty of Electrical Engineering and Communication** – The first surveillance audit was conducted by an independent and accredited certification body which was selected in the context of the call for tenders. The audit did not find any systemic disagreement or provide any comments. It only emphasized the strong points and recommended improving the quality of the management system. The audit was carried out on the 20<sup>th</sup> October 2017.

**Faculty of Information Technology** – There were continuing discussions with Faculty management on getting the quality of the management system assessed according to the international standard and thus declare confidence in the quality management system. A top-level process analysis process was carried out, including defining processes that could be mapped at the operational level using flowcharts. The individual outputs were validated and approved by the faculty management.

**Faculty of Chemistry** – The first certification audit (according to the latest version of the 2016 Standard) was carried out by the independent and accredited certification body selected in the context of the call for tenders. The audit did not find any systemic disagreement or provide any comments. It only emphasized the strong points and recommended improving the quality of the management system. The audit was carried out from December 6<sup>th</sup>–8<sup>th</sup> 2017. The quality manual was issued, the processes mapped and analyzed, management documentation and activities in relation to the BUT IS reviewed, and internal discussions on the quality of the management system were defined. Now, to ensure proper functioning, the Faculty of Chemistry, like other certified faculties, can independently prove its quality assurance system in accordance with international standardized requirements.



11

BUT national and international excellence

## 11.1 International and important national research, development and creative activities, integration of research infrastructure into international networks, and involvement in professional or artistic networks

BUT is a member of many important institutions, scientific and artistic networks, organizations and associations. Below are some selected international organizations in which BUT participates:

Academy of International Business, Academy of Materials and Manufacturing Engineering, Advisory Group for Aeronautics in FP6 (Brussels), Association of European Schools of Planning, Air Infiltration and Ventilation Center, American Ceramic Society, American Vacuum Society, American Society for Materials, Berkeley Initiative in Soft Computing, Conference of European Schools of Advanced Engineering Education and Research, Center of Excellence Women and Science, International Council for Building, Cisco Networking Academy, Danube Rectors Conference, International Documentation and Conservation Modern Movement, European Association for Architectural Education, European Association for International Education, European Council for Small Business, European Institute for Advanced Studies in Management, The European Business Academy, Electrochemical Society, European League of Institutes of the Arts, European Platform of Women Scientists, European Quality Association for Recycling, European Society for Engineering and Medicine, European Universities Public Relations and Information Officers, European Association for Accident Research and Analysis, European Association of Language Testing and Assessment, European Biometrics Forum, European Society for Artificial Organs, European Structural Integrity Society, European University Association, Federation for Structural Concrete, Global Business and Technology Association, Gesellschaft für Informatik, Heat Transfer Education Committee, International Association for Bridge and Structural Engineering, International Association for Shell and Spatial Structures, International Council of the Aeronautical Science, International Energy Agency, Institute of Electrical and Electronics Engineers, International Federation for the Promotion of Mechanism and Machine Science, International Institute of Forecasters, International Project Management Association, International Union of Vacuum Sciences, Technologies and Applications, Federation of European Heating and Air-Conditioning Association, Society for Intercultural Training, Education and Research, Society of Computational Economic, Society for Material Research, The International Society of Difference Equations, Transformation in Business and Economics, International Wissenschaftlich-Technische Arbeitsgemeinschaft für Bauwerkserhaltung und Deenmalpflege and many others.

In addition, employees of the Brno University of Technology are actively involved in a wide range of professional associations, organizations and associations:

Association of Libraries of the Czech Republic, Association of Designers of Moravia in the Union of Fine Artists of the Czech Republic, Association of Mechanical Engineers, Association of Experts and Appraisers of the Czech Republic, Centre for Research on Information Systems (CSSI), Czech Education and Scientific NETwork (CESNET), Czech and Slovak Society for Soil Mechanics and Geotechnical Engineering, Czech Concrete Society, Czech Physical Society, Czech Chamber of Authorized Engineers and Technicians in Construction, Czech Logistics Association, Czech Marketing Association, Czech Welding Society, Czech Society for Chemistry, Czech Society for Quality, Czech Society for Cybernetics and Informatics, Czech Society for Mechanics, Czech Society for Non-Destructive Testing, Czech welding Society, Czech Vacuum Society, Czech Society for New Materials and Technologies, Czech-Moravian Electrical and Electronic Association, Czech National Committee for Hydrology, Czech Standards Institute, Czech Association of Civil Engineers, Czech Association of Scientific and Technical Societies, European Biometrics Forum, Institute of Electrical and Electronics Engineers, International Society for Optics and Photonics, International Society of Electrochemistry, International Solar Energy Society, International Union of Radio Science, International Union of Testing and Research Laboratories for Materials and Structures, Union of Czech Mathematicians and Physicists, Moravian Association of Women Entrepreneurs, National Association of Experts and Institutions Involved in the Transfer of Knowledge and Technology, Association for Railways, Association for Concrete Structures, Association of Accountants and Tax Advisors, Society for Ethics in Economics, Association for Project Management, Society of Radio-electronic Engineering, Society for Environmental Technology, Association of Czech Booksellers and Publishers, Technical Committee of the International Standardization Organization, Technological Platform Energy Security, The European Confederation of Language Centers in Higher Education etc.

## 11.2 National and international awards in 2017

As stated in the previous chapters, BUT received a number of awards in 2017: the BUT recruitment campaign focused on women won the EUPRIO Award 2017 as the best marketing achievement of any European University, the University Magazine Events won 2<sup>nd</sup> place in the Golden Semester Competition, and the Faculty of Mechanical Engineering boasts the title of School Recommended by Employers.

A number of experts and scientists from the Brno University of Technology gained awards this year: among them were the Prize of the President of the Czech Academy of Sciences, the Josef Hlávka Prize, and the Academy of Engineering Awards. An extensive list of the awards is in the introductory part of the Annual Report, in the Important Events at BUT section.

## 11.3 International assessment of BUT and its constituent parts, including foreign accreditation

The focus of each institutional evaluation is the quality management of the entire institution and its ability to cope with changes. Institutional assessment is based on the various objectives, goals and plan of the university, and evaluates whether the way to achieve these goals, as proposed by the institution, corresponds to the given purpose.

BUT has long been successful in education, research, development, and creative and economic activities. BUT therefore decided to undertake the EUA/IEP evaluation because the University management is aware of the need for an independent outside view of the results achieved and the goals set.

The IEP (Institutional Evaluation Program) is an external quality marker, supporting institutions in the ongoing development of their strategic management and internal quality assessment, in order to improve their activities and results.

Independent evaluation by international experts and their external view of the University will, as in the past, be a relevant starting point for the BUT management to systematically improve its activities and long-term development strategies, and to prepare the BUT Strategic Plan for 2020–2024.

Another important reason for BUT's self-evaluation is the ambition to obtain institutional accreditation (according to the amendment to the Higher Education Act, the findings of the European University Association can be beneficial).

Another reason for the evaluation is the plan to harmonize BUT with the international environment, especially with European universities, so that the strategic position of BUT can gradually be identified.

In 2017, a self-evaluating team was created to provide a representative think platform that provides a most objective view of the University and its processes. The staffing of the self-evaluating team was discussed by the University management and approved by the Rector. IEP focuses on the institution as a whole (it does not evaluate individual programs) and covers the following areas: management and decision making, quality, teaching and learning, creative activity, relationship to society, and internationalization.

This year, BUT's self-evaluating team was preparing a self-assessment report, which will be presented to EUA/IEP evaluators at the beginning of 2018. BUT experienced the same evaluation process in 2005 and the subsequent re-evaluation in 2011.



**12**

Third role of the University

## 12.1 Transfer of knowledge into the application sphere

For a long time, BUT has been trying to access the unified protection of intellectual property, giving priority to licensing. Co-ownership of the results with a third party is addressed individually on the basis of contracts. Contractual arrangement focuses mainly on property rights, sharing the costs of legal protection and the distribution of revenues from the exploitation of results. The University protects its produced results on the basis of an internal assessment of commercial potential. Protection abroad is exerted mostly by the European Patent Office or the mechanisms of the Patent Cooperation Treaty. The transfer of knowledge into practice is addressed by the Department of Technology Transfer,

more about its work is given in chapter 9.6, on cooperation with the commercial sphere.

Specific examples of the transfer of university knowledge into real life in 2017 include a new way of distributing wires in the stator and rotor windings of three-phase alternating machines, which was developed by the scientists from the Faculty of Electrical Engineering and Communication Technology. Their unique solution is beneficial in the form of reduction of additional magnetic losses in the machine iron and reduces the torque pulse at one revolution in the engine.

## 12.2 Activities in the region, cooperation with regional governments and major institutions

BUT is a permanent member of the Steering Committee of Regional Integration Strategy for development of Brno Metropolitan Area for the implementation of ITI. Integrated Territorial Investments (ITI) is a new territorial tool of the European Commission. In the Czech Republic, it serves to address selected metropolitan issues requiring an integrated approach. This means both the concentration of activities and the concentration of resources in the co-ordination of the partners in the area, so that the resulting effect of the supported interventions is as large as possible.

BUT is actively involved in the creation of the Brno 2050 Strategy, created by the City of Brno to systematically continue its development. The City of Brno, along with other Brno universities, research centers, companies, non-profit organizations and especially active individuals, presents Brno as a unique urban ecosystem that participates in the preparation of the long-term strategy. The resulting strategy will not only be a of the office, but of the city itself.

BUT is represented in the Regional Innovation Strategy (RIS) Steering Committee, which is also a working group for the RIS Regional Permanent Conference for the South Moravian Region. The Regional Innovation Strategy of the South Moravian Region 2014–2020 (RIS JMK) is a key strategic document of the South Moravian Region and the Statutory City of Brno for the implementation of a policy to support competitiveness, based in particular on innovations and maximizing the economic benefits of public investments in research and education.

BUT and its employees participate in addressing current problems of the city and the region; their opinions lend weight in the discussion about the position of the railway station in Brno, the preservation of cultural heritage, and improvement of the lives of the people in the region.

BUT focuses its cooperation on strengthening the interdisciplinary cooperation of scientific teams and international collaborators, in areas that are defined by RIS as top-level ones. It is important for BUT to develop cooperation in the field of material research, and cooperation with companies focusing on electron microscopy, digitization and robotics, ICT technology, advanced building materials and structures, optoelectronics, advanced engineering and modern chemistry.

Most BUT faculties (except FFA and FBM), as well as the Institute of Forensic Engineering, are registered by the Ministry of Justice as expert institutes in the sense of Act No. 36/1967 Coll., On Experts and Interpreters, and process objective expert opinions in important cases, for example in geodesy, construction, real estate valuation, etc.

BUT participates significantly in the activities of the Regional Chamber of Commerce and cooperates with the Brno branch of CzechInvest.

BUT possesses an institutionalized lifelong learning system (Lifelong Learning Institute) providing the public and the application sphere (industry, enterprises, institutions) with

the possibility of vocational training. Through a significantly revised Career Counseling Concept (Career Center) the University launched more effective communication with corporate partners (employers) in 2017. This communication not only serves as a support for BUT graduates, but also represents a partnership program, especially with industry.

The South Moravian region is one where a significant part of industry uses advanced technologies and materials and where the industrial companies are developed. Collaboration with leading industrial partners such as Thermofisher Scientific, Tescan, Honeywell, IBM, RedHat, Evektor, VW,

Skanska and others is based on applied research projects supported mainly by TA CR in the form of contract research projects and by students' work.

BUT cooperates with the institutes of the Academy of Sciences of the Czech Republic mainly at the levels of basic research and doctoral studies. Experts from the institutes of the Academy of Sciences of the Czech Republic supervise theses and improve the education of doctoral students in the areas where the institutes employ world-recognized experts and use quality technical background.

## 12.3 Characteristics of BUT activities beyond the region

In 2017, CEITEC BUT obtained two ERC grants and succeeded in an international consortium with the FET OPEN (Future and Emerging Technologies) project. BUT state-of-the-art scientific centers help the University in its activities outreaching the region, and deepen the international importance of this, the oldest Brno university. Thanks to the above-mentioned ERC Grants, Vojtěch Adam and his team will focus on the research on a protein called metallothionein, which can help prevent resistance in cancer treatment.

Petr Neugebauer, the former BUT graduate, returned to CEITEC BUT with a grant from the ERC which will develop

a revolutionary method of paramagnetic resonance with application potential in the fields of physics, chemistry and medicine. More information about the BUT scientific centers is in the introductory part of the annual report, in the chapter "Important BUT projects".

Through grants, BUT also participates in international scientific research and projects as well as international contract research. One of BUT's objectives is to offer attractive jobs for foreign scientists, through the employment of modern technological and instrumentation equipment and the expansion of doctoral Joint Degree programs.

# TABLE PART

OF BUT ANNUAL ACTIVITY  
REPORT FOR 2017

Tab. 2.1: Accredited degree programs (numbers)

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
		<b>Faculty of Civil Engineering</b>								
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	4	2	0	0	4	1	2	2	15
<b>Faculty total</b>	<b>X</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>15</b>
<b>Faculty of Mechanical Engineering</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	2	1	0	0	4	1	5	5	18
<b>Faculty total</b>	<b>X</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>18</b>
<b>Faculty of Electrical Engineering and Communication</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	5	2	0	0	3	1	2	2	15
<b>Faculty total</b>	<b>X</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>15</b>
<b>Faculty of Architecture</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	1	0	0	0	1	0	1	1	4
<b>Faculty total</b>	<b>X</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>
<b>Faculty of Chemistry</b>										
Groups of accredited study programs	CREF									
Sciences and disciplines	11-18	2	2	0	0	5	4	3	3	19
Technical sciences and disciplines	21-39	0	0	0	0	0	0	2	2	4
<b>Faculty total</b>	<b>X</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>23</b>
<b>Faculty of Business and Management</b>										
Groups of accredited study programs	CREF									
Economics	62,65	3	2	0	0	2	1	1	1	10
<b>Faculty total</b>	<b>X</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>10</b>
<b>Faculty of Fine Arts</b>										
Groups of accredited study programs	CREF									
Disciplines on culture and arts	81,82	1	0	0	0	1	0	1	1	4
<b>Faculty total</b>	<b>X</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>
<b>Faculty of Information Technology</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	1	0	0	0	1	0	1	1	4
<b>Faculty total</b>	<b>X</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>
<b>Institute of Forensic Engineering</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	2	0	1	1	4
<b>Part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>
<b>CEITEC BUT</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	0	0	1	1	2
<b>Part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>BUT TOTAL</b>	<b>X</b>	<b>19</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>8</b>	<b>20</b>	<b>20</b>	<b>99</b>

Tab. 2.2: Degree programs in a foreign language (numbers)

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
		<b>Faculty of Civil Engineering</b>								
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	1	0	0	0	1	0	1	1	4
<b>Faculty total</b>	<b>X</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>
<b>Faculty of Mechanical Engineering</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	2	0	0	0	3	0	4	3	12
<b>Faculty total</b>	<b>X</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>12</b>
<b>Faculty of Electrical Engineering and Communication</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	1	0	0	0	2	0	1	1	5
<b>Faculty total</b>	<b>X</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>5</b>
<b>Faculty of Architecture</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	1	0	0	0	1
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Faculty of Chemistry</b>										
Groups of accredited study programs	CREF									
Sciences and disciplines	11-18	0	0	0	0	0	0	2	2	4
Technical sciences and disciplines	21-39	0	0	0	0	0	0	2	2	4
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>8</b>
<b>Faculty of Business and Management</b>										
Groups of accredited study programs	CREF									
Economics	62,65	1	0	0	0	1	0	1	1	4
<b>Faculty total</b>	<b>X</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>
<b>Faculty of Fine Arts</b>										
Groups of accredited study programs	CREF									
Disciplines on culture and arts	81,82	0	0	0	0	0	0	0	0	0
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Faculty of Information Technology</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	0	0	1	1	2
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>Institute of Forensic Engineering</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	0	0	0	0	0
<b>Part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CEITEC BUT</b>										
Groups of accredited study programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	0	0	1	0	1
<b>Part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>BUT TOTAL</b>	<b>X</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>13</b>	<b>11</b>	<b>37</b>

**Tab. 2.3: Joint/Double/Multiple Degree programs implemented with a foreign university**

<b>BUT</b>	<b>Faculty of Mechanical Engineering</b>
<b>Name of program</b>	<b>Manufacturing technology</b>
Partner organization	Technische Universität Chemnitz (DE)
Affiliated organization	
Start of program implementation	
Kind of program	double degree
Length of study (semesters)	6
Type of program	Bachelor's
Description of organization of studies, including admission and completion of the study	1 academic year of study in Czech and 1 academic year of study in German.
How are diploma and diploma supplement issued?	The graduates are awarded the title of Czech and foreign university after completion of the bachelor's degree. Diploma and Diploma Supplement are presented at the graduation ceremony or in person.
How are student exchanges implemented?	The student exchange is implemented within Erasmus+ for 1 academic year
Number of active studies on 31 December 2017	5
BUT	Industrial Engineering
<b>Name of program</b>	<b>Art et Métiers ParisTech (Cluny, FR)</b>
Affiliated organization	
Start of program implementation	
Kind of program	double degree
Affiliated organization	4
Type of program	Continuing Master's
Description of organization of studies, including admission and completion of the study	1 academic year of study in Czech and 1 academic year in French; the prerequisite of the admission to the specialization Industrial Engineering is completion of the final year of bachelor's study at a French university.
How are diploma and diploma supplement issued?	The graduates are awarded the title of Czech and foreign university after completion of the bachelor's degree. Diploma and Diploma Supplement are passed on at the graduation ceremony or in person.
How are student exchanges implemented?	The student exchange is implemented within Erasmus+ for 1 academic year
Number of active studies on 31 December 2017	3
<b>Name of program</b>	<b>Production systems</b>
Partner organization	Technische Universität Chemnitz (DE)
Affiliated organization	
Start of the program implementation	
Kind of program	double degree
Length of study (semesters)	4 semesters
Type of program	Continuing Master's
Description of organization of studies, including admission and completion of the study	1 academic year of study in Czech and 1 academic year in German
How are diploma and diploma supplement issued?	The graduates are awarded the title of Czech and a foreign university after completion of the bachelor's degree. Diploma and Diploma Supplement are passed on at the graduation ceremony or in person.
How are student exchanges implemented?	The student exchange is implemented within Erasmus+ for 1 academic year
Number of active studies on 31 December 2017	11

<b>BUT</b>	<b>Faculty of Electrical Engineering and Communication</b>
<b>Name of program</b>	<b>Telecommunications</b>
Partner organization	TU Wien
Affiliated organizations	
Start of program implementation	Academic year 2016/2017
Kind of program	joint degree
Length of study (semesters)	4
Type of program	Continuing Master's
Description of organization of studies, including admission and completion of the study	Agreement on a Joint Master Degree Program in Telecommunications
How are diploma and diploma supplement issued?	Issuing standard diplomas at both universities
How are student exchanges implemented?	Agreement on a Joint Master Degree Program in Telecommunications
Number of active studies on 31 December 2017	0

<b>BUT</b>	<b>Faculty of Business and Management (FBM)</b>
<b>Name of program</b>	<b>Economics and Management – European Business and Finance</b>
Partner organization	Nottingham Trent University (GB), University of Economics in Katowice (PL)
Affiliated organization	
Start of program implementation	From academic year 2008/2009
Kind of program	joint degree
Length of study	4
Type of program	Continuing Master's
Description of organization of studies, including admission and completion of the study	The prerequisite of the admission to the specialization is successful completion of Bachelor's study in a related field. The dean decides on admission on the basis of the motivation letter, a CV and proof of the English examination (all in English). The course of study: first, second and fourth semesters at FBM, third semester at Nottingham Trent University (GB).
How are diploma and diploma supplement issued?	After passing the final examination at FBM BUT, the successful graduates will receive 1 <sup>st</sup> diploma with the title Master of Science (MSc) signed by Nottingham Trent University and a diploma with the title of engineer (MSc) – after completing all subjects of the study field, 2 <sup>nd</sup> diploma with the title of engineer (abbreviated as MSc) – after completing all subjects of the study field and passing the state final examination at the Faculty of Business Administration
How are student exchanges implemented?	In the third semester, the students complete a mandatory internship at Nottingham Trent University in the UK.
Number of active studies on 31 December 2017	26

BUT	CEITEC BUT
<b>Name of program</b>	<b>Advanced materials and nano-sciences</b>
Partner organization	Novosibirsk State Technical University
Affiliated organization	
Start of program implementation	25 <sup>th</sup> October 2015
Kind of program	double degree
Length of study (semesters)	8
Type of program	doctoral
Description of organization of studies, including admission and completion of the study	e-registration, admission, enrolment, PhD evaluation 8 semesters of study, state doctoral exam
How are diploma and diploma supplement issued?	Issuing standard diploma
How are student exchanges implemented?	There are no exchanges; a particular student is 8 months in Brno and 4 months in Russia.
Number of active studies on 31 December 2017	1

<b>Name of program</b>	<b>Advanced materials and nanosciences</b>
Partner organization	University of Jyväskylä
Affiliated organizations	
Start of program implementation	1 September 2014
Kind of program	double degree
Length of study (semesters)	8
Type of program	doctoral
Description of organization of studies, including admission and completion of the study	e-registration, admission, enrolment, PhD evaluation 8 semesters of study, PhD exam
How are diploma and diploma supplement issued?	Issuing standard diploma
How are student exchanges implemented?	There are no exchanges; a particular student is 6 months in Brno and 6 months in Finland.
Number of active studies on 31 December 2017	0 – the contract expired on 31 August 2016; (the student completed his studies)

### Summary information on table 2.3

BUT	Bachelor's Study	Master's Study	Continuing Master's Study	Doctoral Study	Total
Number of study programs	1		4	1	6
Number of students in these programs	5		40	1	46

**Tab. 2.4: Accredited degree programs implemented jointly with another university or institution located in CR**

BUT	Faculty of Electrical Engineering and Communication
<b>Name of study program 1</b>	<b>Biomedical Technology and Bioinformatics</b>
Group CREF	B3930
Partner university	Faculty of Medicine, Masaryk University (FM MU)
Start of program implementation	2007/2008
Length of study (semesters)	6
Type of program	Bachelor's
Description of organization of studies, including admission and completion of the study	3-year BSc study at MU implemented at FEEC of BUT and the FM MU with the use of the specialized departments of the University Hospital Brno. The condition for admission is completion of high or secondary vocational education and meeting the conditions in the Regulations of Admission in the degree program BTBIO-A. The mode of completion – defense of the thesis, final state examination.
Number of active studies on 31 December 2017	206

<b>Name of study program 2</b>	<b>Biomedical Engineering and Bioinformatics</b>
Group CREF	N3952
Partner university	Faculty of Medicine, Masaryk University (FM MU)
Start of program implementation	2010/2011
Length of study (semesters)	4
Type of program	Continuing Master's
Description of organization of studies, including admission and completion of the study	2-year full time MSc study at MU implemented at FEEC of BUT and the FM MU with the use of the specialized departments of the University Hospital Brno. The condition for admission is completion of high or secondary vocational education and meeting the conditions in the Regulations of Admission in the degree program BTBIO-A. The mode of completion – defense of the thesis, final state examination.
Number of active studies on 31 December 2017	55

<b>Name of study program</b>	<b>Audio engineering</b>
Group CREF	B3961
Partner university	Music Faculty of Janáček Academy of Performing Arts in Brno (MF JAMU)
Start of program implementation	2013/2014
Length of study (semesters)	6
Type of program	Bachelor's
Description of organization of studies, including admission and completion of the study	3-year bachelor's study at FEEC of BUT and (MF JAMU). The prerequisite for admission is completion of high or secondary vocational education and meeting conditions specified in the Regulations for Admission in the degree program AUDIO-J. The mode of completion – defense of the bachelors thesis, final state examination.
Number of active studies on 31 December 2017	122

<b>Name of study program</b>	<b>Audio engineering</b>
Group CREF	B3961
Partner university	Music Faculty of Janáček Academy of Performing Arts in Brno (MF JAMU)
Start of program implementation	2016/2017
Length of study (semesters)	4
Type of program	Continuing Master's

Description of organization of studies, including admission and completion of the study	A regular two-year follow-up Master daily study at the premises of FEEC BUT and MF JAMU. The prerequisite of admission is a Bachelor's degree and meeting the conditions of the Rules for the Admission Procedure for Studying the AUDIO-P Program. Completion: defense of diploma thesis, state final examination.
Number of active studies on 31 December 2017	52

Name of study program	Information security
Group CREF	B3966
Partner university	Faculty of Law, Masaryk University (FL MU)
Start of program implementation	2015/2016
Length of study (semesters)	6
Type of program	Bachelor's
Description of organization of studies, including admission and completion of the study	3-year bachelor's study at FEEC of BUT and (FL MU). The prerequisite for admission is completion of high or secondary vocational education and meeting conditions specified in the Regulations for Admission in the degree program IBEP-T. The mode of completion- defense of the bachelor's thesis, final state examination.
Number of active studies on 31 December 2017	176

BUT	Central European Institute of Technology of BUT
<b>Name of program</b>	<b>Advanced materials and nano-sciences</b>
Group CREF	Technical sciences and disciplines 21–39
Partner university	Masaryk University
Start of program implementation	1 September 2013
Length of study (semesters)	8
Type of program	doctoral
Description of organization of studies, including admission and completion of the study	e-registration, admission, enrolment, PhD evaluation 8 semesters of study, final doctoral exam
Number of active studies on 31 Dec.2017	75

#### Summary information on table 2.4

BUT	Bachelor's Study	Master's Study	Continuing Master's Study	Doctoral Study	Total
Number of degree programs	3		2	1	6
Number of students in these programs	504	0	107	75	686

#### Tab. 2.5: Accredited degree programs implemented jointly with a community college

There are no such degree programs at BUT.

Tab. 2.6: Lifelong Learning (LLL) Courses at the University (Number of Courses)

BUT	CREF	Professional-oriented courses			Interest courses			U3A	Total
		to 15 hours	from 16 to 100 hours	more than 100 hours	to 15 hours	from 16 to 100 hours	more than 100 hours		
<b>Groups of accredited degree programs</b>									
natural sciences	11–18							1	1
technical sciences	21–39	7	8					53	68
agricultural-forestry and vet. sciences	41, 43								0
medical, doctor and pharm. sciences	51–53							4	4
social sciences and services	61, 67, 71–73			13				9	22
economics	62, 65							2	2
law, legal and public law activities	68							1	1
pedagogy, teaching and social care	74, 75			1					1
courses in the field of psychology	77								0
disciplines on culture and arts	81, 82							9	9
<b>TOTAL</b>		<b>7</b>	<b>8</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>79</b>	<b>108</b>

Tab. 2.7: Lifelong Learning (LLL) Courses at the University (Number of Courses)

BUT	CREF	Professional-oriented courses			Interest courses			U3A	Total	Thereof the number of participants was admitted to accredited study programs under Section 60 of the Higher Education Act
		to 15 hours	from 16 to 100 hours	more than 100 hours	to 15 hours	from 16 to 100 hours	more than 100 hours			
<b>Groups of accredited degree programs</b>										
natural sciences	11–18							16	16	
technical sciences	21–39	91	73					889	1,053	
agricultural-forestry and vet. sciences	41, 43									
medical, doctor and pharm. sciences	51–53							177	177	
social sciences and services	61, 67, 71–73			201				815	1,016	
economics	62, 65							26	26	
law, legal and public law activities	68							126	126	
pedagogy, teaching and social care	74, 75			25					25	
courses in the field of psychology	77									
disciplines on culture and arts	81, 82							947	947	
<b>TOTAL</b>		<b>91</b>	<b>73</b>	<b>226</b>				<b>2,996</b>	<b>3,386</b>	

Tab. 3.1: Students in accredited degree programs (numbers)

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
<b>Faculty of Civil Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	2,593	167	0	0	1,302	120	138	218	4,538
<b>Faculty total</b>	<b>X</b>	<b>2,593</b>	<b>167</b>	<b>0</b>	<b>0</b>	<b>1,302</b>	<b>120</b>	<b>138</b>	<b>218</b>	<b>4,538</b>
Thereof number of women	X	925	52	0	0	481	37	42	75	1612
Thereof number of foreigners	X	492	17	0	0	189	17	17	17	749
<b>Faculty of Mechanical Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	2,435	126	0	0	1,172	89	169	137	4,128
<b>Faculty total</b>	<b>X</b>	<b>2,435</b>	<b>126</b>	<b>0</b>	<b>0</b>	<b>1,172</b>	<b>89</b>	<b>169</b>	<b>137</b>	<b>4,128</b>
Thereof number of women	X	323	14	0	0	156	8	23	17	541
Thereof number of foreigners	X	425	9	0	0	237	6	35	15	727
<b>Faculty of Electrical Engineering and Communication</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	1,787	144	0	0	779	158	156	166	3,190
<b>Faculty total</b>	<b>X</b>	<b>1,787</b>	<b>144</b>	<b>0</b>	<b>0</b>	<b>779</b>	<b>158</b>	<b>156</b>	<b>166</b>	<b>3,190</b>
Thereof number of women	X	245	15	0	0	99	10	23	25	417
Thereof number of foreigners	X	515	20	0	0	183	35	28	23	804
<b>Faculty of Architecture</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	320	0	0	0	165	0	26	20	531
<b>Faculty total</b>	<b>X</b>	<b>320</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>165</b>	<b>0</b>	<b>26</b>	<b>20</b>	<b>531</b>
Thereof number of women	X	203	0	0	0	94	0	16	8	321
Thereof number of foreigners	X	92	0	0	0	53	0	2	3	150
<b>Faculty of Chemistry</b>										
Groups of accredited degree programs	CREF									
Sciences and disciplines	11-18	637	32	0	0	268	36	74	30	1,077
Technical sciences and disciplines	21-39	0	0	0	0	0	0	25	22	47
<b>Faculty total</b>	<b>X</b>	<b>637</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>268</b>	<b>36</b>	<b>99</b>	<b>52</b>	<b>1,124</b>
Thereof number of women	X	422	13	0	0	185	27	49	32	728
Thereof number of foreigners	X	188	2	0	0	88	7	14	4	303
<b>Faculty of Business and Management</b>										
Groups of accredited degree programs	CREF									
Economics	62, 65	1,537	68	0	0	682	363	35	24	2,709
<b>Faculty total</b>	<b>X</b>	<b>1,537</b>	<b>68</b>	<b>0</b>	<b>0</b>	<b>682</b>	<b>363</b>	<b>35</b>	<b>24</b>	<b>2,709</b>
Thereof number of women	X	704	24	0	0	350	202	19	14	1313
Thereof number of foreigners	X	303	8	0	0	133	24	10	4	482
<b>Faculty of Fine Arts</b>										
Groups of accredited degree programs	CREF									
Disciplines on culture and arts	81, 82	166	0	0	0	72	0	17	9	264
<b>Faculty total</b>	<b>X</b>	<b>166</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>72</b>	<b>0</b>	<b>17</b>	<b>9</b>	<b>264</b>
Thereof number of women	X	103	0	0	0	42	0	11	6	162
Thereof number of foreigners	X	36	0	0	0	20	0	5	1	62

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
<b>Faculty of Information Technology</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	1,598	0	0	0	540	0	108	60	2,306
<b>Faculty total</b>	<b>X</b>	<b>1,598</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>540</b>	<b>0</b>	<b>108</b>	<b>60</b>	<b>2,306</b>
Thereof number of women	X	147	0	0	0	40	0	17	3	207
Thereof number of foreigners	X	631	0	0	0	193	0	31	10	865
<b>Institute of Forensic Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	312	0	11	48	371
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>312</b>	<b>0</b>	<b>11</b>	<b>48</b>	<b>371</b>
Thereof number of women	X	0	0	0	0	148	0	8	15	171
Thereof number of foreigners	X	0	0	0	0	27	0	0	4	31
<b>CEITEC BUT</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	0	0	66	13	79
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>66</b>	<b>13</b>	<b>79</b>
Thereof number of women	X	0	0	0	0	0	0	21	4	25
Thereof number of foreigners	X	0	0	0	0	0	0	29	4	33
<b>BUT TOTAL</b>	<b>X</b>	<b>11,073</b>	<b>537</b>	<b>0</b>	<b>0</b>	<b>5,292</b>	<b>766</b>	<b>825</b>	<b>747</b>	<b>19,240</b>
Thereof number of women	X	3,072	118	0	0	1,595	284	229	199	5,497
Thereof number of foreigners	X	2,682	56	0	0	1,123	89	171	85	4,206

Tab. 3.2: Paying Students (numbers)

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
<b>Faculty of Civil Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	2	0	0	0	0	0	0	0	2
<b>Faculty total</b>	<b>X</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>Faculty of Mechanical Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	4	0	0	0	1	0	4	1	10
<b>Faculty total</b>	<b>X</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>10</b>
<b>Faculty of Electrical Engineering and Communication</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	0	0	2	0	2
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
<b>Faculty of Architecture</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Faculty of Chemistry</b>										
Groups of accredited degree programs	CREF									
Sciences and disciplines	11–18	0	0	0	0	0	0	0	1	1
Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Faculty of Business and Management</b>										
Groups of accredited degree programs	CREF									
Economics	62, 65	0	0	0	0	0	0	0	0	0
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Faculty of Fine Arts</b>										
Groups of accredited degree programs	CREF									
Disciplines on culture and arts	81, 82	0	0	0	0	0	0	0	0	0
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Faculty of Information Technology</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	0	0	1	0	1
<b>Faculty total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>Institute of Forensic Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CEITEC BUT</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>BUT TOTAL</b>	<b>X</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>16</b>

Tab. 3.3: Unsuccessful students in first year of the studies (in %)

BUT	Bachelor's Study			Master's Study			Continuing Master's Study			Doctoral Study			Total
	F	C/D	Total	F	C/D	Total	F	C/D	Total	F	C/D	Total	
Faculty of Civil Engineering	34.03	75.21	39.68				6.69	46.43	9.80	29.79	0.00	23.73	26.22
Faculty of Mechanical Engineering	30.03	58.14	32.02				10.09	34.88	11.87	10.00	25.00	12.90	24.96
Faculty of Electrical Engineering and Communication	40.48	76.40	43.83				19.32	43.88	23.79	28.57	45.45	32.94	36.42
Faculty of Architecture	28.43		28.43				15.58		15.58	16.67	25.00	18.75	22.56
Faculty of Chemistry	50.50	81.25	53.81				5.52	61.90	12.65	27.03	0.00	26.32	41.69
Faculty of Business and Management	37.95	0.00	37.69				19.19	20.36	19.63	56.25	50.00	53.85	30.10
Faculty of Fine Arts	14.58		14.58				14.63		14.63	0.00	0.00	0.00	13.54
Faculty of Information Technology	27.35		27.35				22.18		22.18	25.00	50.00	30.00	25.94
Institute of Forensic Engineering							37.61		37.61	8.33	0.00	6.90	34.01
CEITEC BUT										0.00	0.00	0.00	0.00
<b>BUT TOTAL</b>	<b>35.11</b>	<b>71.06</b>	<b>37.63</b>				<b>15.27</b>	<b>32.35</b>	<b>17.61</b>	<b>23.69</b>	<b>30.67</b>	<b>25.14</b>	<b>29.59</b>

Tab. 3.4: Scholarships for students according to the purpose of the scholarship (numbers of individuals)

BUT Purpose of the scholarship	Number of students	Average scholarship
For excellent study results according to § 91 par. Article 2 a)	1,323	8,084.57
For excellent scientific, research, development, artistic or other creative results according to § 91 par. Article 2 b)	3,066	9,448.34
For research, development and innovation activities pursuant to a special legal regulation, § 91 par. Article 2 c)	1,192	34,429.83
In cases of a difficult social situation of a student according to § 91 par. Article 2 d)	21	4,761.90
In cases of a difficult social situation of a student according to § 91 par. Article 3	129	17,352.71
In cases worthy of special consideration according to § 91 par. Article 2 e)		
Thereof accomodation scholarship	13,261	4,934.09
To support study abroad according to § 91 par. Article 4 a)	1,235	30,064.41
To support studies in the Czech Republic pursuant to Section § 91 par. Article 4 b)	34	101,985.29
Students of doctoral degree programs pursuant to Section § 91 par. Article 4 c)	1,138	64,060.73
Other scholarships	0	0.00
<b>TOTAL</b>	<b>8,138</b>	<b>24,151</b>

Tab. 4.1: Students in accredited degree programs (numbers of completed studies)

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
		<b>Faculty of Civil Engineering</b>								
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	606	16	0	0	595	21	0	37	1,275
<b>Faculty total</b>	<b>X</b>	<b>606</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>595</b>	<b>21</b>	<b>0</b>	<b>37</b>	<b>1,275</b>
Thereof number of women	X	222	10	0	0	198	1	0	9	440
Thereof number of foreigners	X	67	1	0	0	59	1	0	4	132
<b>Faculty of Mechanical Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	583	21	0	0	441	40	2	34	1,121
<b>Faculty total</b>	<b>X</b>	<b>583</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>441</b>	<b>40</b>	<b>2</b>	<b>34</b>	<b>1,121</b>
Thereof number of women	X	85	4	0	0	46	4	0	7	146
Thereof number of foreigners	X	79	2	0	0	64	3	0	7	155
<b>Faculty of Electrical Engineering and Communication</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	349	24	0	0	329	46	3	35	786
<b>Faculty total</b>	<b>X</b>	<b>349</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>329</b>	<b>46</b>	<b>3</b>	<b>35</b>	<b>786</b>
Thereof number of women	X	56	1	0	0	39	1	0	3	100
Thereof number of foreigners	X	76	3	0	0	64	2	1	4	150
<b>Faculty of Architecture</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	82	0	0	0	87	0	0	5	174
<b>Faculty total</b>	<b>X</b>	<b>82</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>87</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>174</b>
Thereof number of women	X	58	0	0	0	52	0	0	3	113
Thereof number of foreigners	X	16	0	0	0	19	0	0	0	35
<b>Faculty of Chemistry</b>										
Groups of accredited degree programs	CREF									
Sciences and disciplines	11–18	118	6	0	0	140	9	1	5	279
Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	4	4
<b>Faculty total</b>	<b>X</b>	<b>118</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>140</b>	<b>9</b>	<b>1</b>	<b>9</b>	<b>283</b>
Thereof number of women	X	81	5	0	0	105	9	0	3	203
Thereof number of foreigners	X	40	1	0	0	22	0	0	0	63
<b>Faculty of Business and Management</b>										
Groups of accredited degree programs	CREF									
Economics	62, 65	420	4	0	0	309	161	0	4	898
<b>Faculty total</b>	<b>X</b>	<b>420</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>309</b>	<b>161</b>	<b>0</b>	<b>4</b>	<b>898</b>
Thereof number of women	X	222	2	0	0	145	93	0	2	464
Thereof number of foreigners	X	62	0	0	0	42	20	0	1	125
<b>Faculty of Fine Arts</b>										
Groups of accredited degree programs	CREF									
Disciplines on culture and arts	81, 82	32	0	0	0	29	0	1	1	63
<b>Faculty total</b>	<b>X</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>63</b>
Thereof number of women	X	17	0	0	0	20	0	1	1	39
Thereof number of foreigners	X	6	0	0	0	6	0	0	0	12

BUT	CREF	Bachelor's Study		Master's Study		Continuing Master's Study		Doctoral Study		Total
		F	C/D	F	C/D	F	C/D	F	C/D	
		<b>Faculty of Information Technology</b>								
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	315	0	0	0	153	0	0	20	488
<b>Faculty total</b>	<b>X</b>	<b>315</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>153</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>488</b>
Thereof number of women	X	23	0	0	0	10	0	0	2	35
Thereof number of foreigners	X	115	0	0	0	37	0	0	3	155
<b>Institute of Forensic Engineering</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	132	0	0	7	139
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>132</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>139</b>
Thereof number of women	X	0	0	0	0	60	0	0	3	63
Thereof number of foreigners	X	0	0	0	0	13	0	0	0	13
<b>CEITEC BUT</b>										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Thereof number of women	X	0	0	0	0	0	0	0	0	0
Thereof number of foreigners	X	0	0	0	0	0	0	0	0	0
<b>BUT TOTAL</b>	<b>X</b>	<b>2,505</b>	<b>71</b>	<b>0</b>	<b>0</b>	<b>2,215</b>	<b>277</b>	<b>7</b>	<b>152</b>	<b>5,227</b>
Thereof number of women	X	764	22	0	0	675	108	1	33	1603
Thereof number of foreigners	X	461	7	0	0	326	26	1	19	840

Tab. 5.1: Interest in studies at BUT

BUT	Bachelor's Study				Master's Study				Continuing Master's Study				Doctoral Study			
	No. of applications (persons)	No. of admitted	No. of registered for study	No. of applications (persons)	No. of admitted	No. of registered for study	No. of applications (persons)	No. of admitted	No. of registered for study	No. of applications (persons)	No. of admitted	No. of registered for study	No. of applications (persons)	No. of admitted	No. of registered for study	
<b>CREF</b>																
<b>Groups of accredited degree programs</b>																
<b>Faculty of Civil Engineering</b>																
Technical sciences and disciplines																
	21-39	1,873	2,076	1,774	935	0	0	0	854	944	717	642	75	80	64	10
<b>Faculty total</b>	<b>X</b>	<b>1,873</b>	<b>2,076</b>	<b>1,774</b>	<b>935</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>854</b>	<b>944</b>	<b>717</b>	<b>642</b>	<b>75</b>	<b>80</b>	<b>64</b>	<b>10</b>
<b>Faculty of Mechanical Engineering</b>																
Technical sciences and disciplines																
	21-39	1,803	1,984	1,932	1,047	0	0	0	880	1,189	1,035	650	81	84	78	61
<b>Faculty total</b>	<b>X</b>	<b>1,803</b>	<b>1,984</b>	<b>1,932</b>	<b>1,047</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>880</b>	<b>1,189</b>	<b>1,035</b>	<b>650</b>	<b>81</b>	<b>84</b>	<b>78</b>	<b>61</b>
<b>Faculty of Electrical Engineering and Communication</b>																
Technical sciences and disciplines																
	21-39	1,511	1,706	1,123	893	0	0	0	605	671	620	488	69	71	51	47
<b>Faculty total</b>	<b>X</b>	<b>1,511</b>	<b>1,706</b>	<b>1,123</b>	<b>893</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>605</b>	<b>671</b>	<b>620</b>	<b>488</b>	<b>69</b>	<b>71</b>	<b>51</b>	<b>47</b>
<b>Faculty of Architecture</b>																
Technical sciences and disciplines																
	21-39	387	388	356	114	0	0	0	144	146	113	98	15	15	14	13
<b>Faculty total</b>	<b>X</b>	<b>387</b>	<b>388</b>	<b>356</b>	<b>114</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>144</b>	<b>146</b>	<b>113</b>	<b>98</b>	<b>15</b>	<b>15</b>	<b>14</b>	<b>13</b>
<b>Faculty of Chemistry</b>																
Technical sciences and disciplines																
	21-39	944	1,012	710	381	0	0	0	227	240	173	157	40	40	39	38
	11-18	0	0	0	0	0	0	0	0	0	0	0	11	11	11	11
<b>Faculty total</b>	<b>X</b>	<b>944</b>	<b>1,012</b>	<b>710</b>	<b>381</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>227</b>	<b>240</b>	<b>173</b>	<b>157</b>	<b>51</b>	<b>51</b>	<b>50</b>	<b>49</b>
<b>Faculty of Business and Management</b>																
Economics																
	62-65	1,978	2,278	1,501	709	0	0	0	1,083	1,378	858	565	31	33	21	20
<b>Faculty total</b>	<b>X</b>	<b>1,978</b>	<b>2,278</b>	<b>1,501</b>	<b>709</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,083</b>	<b>1,378</b>	<b>858</b>	<b>565</b>	<b>31</b>	<b>33</b>	<b>21</b>	<b>20</b>
<b>Faculty of Fine Arts</b>																
Disciplines on culture and arts																
	81-82	296	302	66	59	0	0	0	58	59	39	36	15	15	7	7
<b>Faculty total</b>	<b>X</b>	<b>296</b>	<b>302</b>	<b>66</b>	<b>59</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>58</b>	<b>59</b>	<b>39</b>	<b>36</b>	<b>15</b>	<b>15</b>	<b>7</b>	<b>7</b>
<b>Faculty of Information Technology</b>																
Technical sciences and disciplines																
	21-39	1,417	1,417	862	651	0	0	0	338	354	307	255	42	44	36	32
<b>Faculty total</b>	<b>X</b>	<b>1,417</b>	<b>1,417</b>	<b>862</b>	<b>651</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>338</b>	<b>354</b>	<b>307</b>	<b>255</b>	<b>42</b>	<b>44</b>	<b>36</b>	<b>32</b>
<b>Institute of Forensic Engineering</b>																
Technical sciences and disciplines																
	21-39	0	0	0	0	0	0	0	309	336	230	176	10	10	9	8
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>309</b>	<b>336</b>	<b>230</b>	<b>176</b>	<b>10</b>	<b>10</b>	<b>9</b>	<b>8</b>
<b>CEITEC BUT</b>																
Technical sciences and disciplines																
	21-39	0	0	0	0	0	0	0	0	0	0	0	25	25	21	14
<b>Constituent part total</b>	<b>X</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>25</b>	<b>21</b>	<b>14</b>
<b>BUT TOTAL</b>	<b>X</b>	<b>10,209</b>	<b>11,163</b>	<b>8,324</b>	<b>4,789</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,498</b>	<b>5,317</b>	<b>4,092</b>	<b>3,067</b>	<b>414</b>	<b>428</b>	<b>351</b>	<b>261</b>

Tab. 6.1: Academics and researchers (average FTE numbers)

BUT	Total number of academic Staff	Profess.	Assoc. Profess.	Asst. Profess.	Asst.	Academic staff		Scientific (non-academic.) staff	Other employees	Total number of employees
						Lects.	Scientific, research and development staff involved in the teaching activities			
<b>Faculty of Civil Engineering</b>	312.743	31.022	59.573	164.555	57.593	0	0	53.951	204.124	570.818
Number of women at FCE	71.732	1.868	4.487	38.435	26.942	0	0	3.657	99.533	174.922
<b>Faculty of Mechanical Engineering</b>	255.567	36.176	75.737	119.314	17.437	2.245	4.658	61.538	213.961	531.066
Number of women at FME	23.718	0.176	0.677	16.72	5.646	0.499	0	1.96	62.497	88.175
<b>Faculty of Electrical Engineering and Communication</b>	187.034	27.286	59.054	84.584	14.69	1.42	0	35.378	196.593	419.005
Number of women at FECC	13.45	0.627	3.072	6.205	3.006	0.54	0	1.176	17.044	31.67
<b>Faculty of Architecture</b>	38.198	5.037	14.357	12.543	6.261	0	0	1.45	29.79	69.438
Number of women at FA	7.792	2	1.716	3.576	0.5	0	0	0.2	16.612	24.604
<b>Faculty of Chemistry</b>	49.803	9.871	12.758	26.174	0	1	0	35.294	105.38	190.477
Number of women at FCH	9.924	1.119	0.734	7.652	0	0.419	0	3.792	48.489	62.205
<b>Faculty of Business and Management</b>	67.402	8.99	17.544	36.972	3.896	0	0	2.609	39.761	109.772
Number of women at FBM	19.485	3	3.753	10.519	2.213	0	0	0.81	24.874	45.169
<b>Faculty of Fine Arts</b>	32.697	4	7.596	6.61	14.491	0	0	0	20.705	53.402
Number of women at FFA	5.491	0	0.753	1.73	3.008	0	0	0	10.614	16.105
<b>Faculty of Information Technology</b>	56.75	8.655	19.703	27.17	1.222	0	0	12.982	123.137	192.869
Number of women at FIT	1.05	0	0.5	0.55	0	0	0	0.859	44.053	45.962
<b>Institute of Forensic Engineering</b>	10.262	1.391	3.575	5.296	0	0	0	0	19.722	29.984
Number of women at IFE	0.712	0	0	0.712	0	0	0	0	7.992	8.704
<b>Center of Sport Activities</b>	12.625	0.7	2.1	3.178	6.4	0.247	0	0	19.101	31.726
Number of women at CESA	5.308	0	1	2.096	2.2	0.012	0	0	9.098	14.406
<b>CEITEC BUT</b>	8.511	0.4	0	6.2	0	0	1.911	106.421	132.191	247.123
Number of women at CEITEC	0.4	0	0	0.4	0	0	0	11.465	30.521	42.386
<b>Other workplaces</b>	3.953	0	0.866	1	0	2.087	0	0	442.869	446.822
Number of women at other workplaces	2.743	0	0.866	0	0	1.877	0	0	239.057	241.8
<b>TOTAL</b>	<b>1,035.545</b>	<b>133.528</b>	<b>272.863</b>	<b>493.596</b>	<b>121.99</b>	<b>6.999</b>	<b>6.569</b>	<b>309.623</b>	<b>1,547.334</b>	<b>2,892.502</b>
Total number of women	161.805	8.79	17.558	88.595	43.515	3.347	0	23.919	610.384	796.108

Tab. 6.2: Age structure of academic and research staff (numbers of individuals)

BUT	Academic staff												Scientific staff	Total	Thereof women	
	Professors		Associate Professors		Assistant Professors		Assistants		Lecturers		Scientific, research and development staff involved in educational activities					
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women				
Under 29 years	0	0	0	0	4	1	17	4	0	0	0	0	84	20	105	25
30–39 years	2	0	51	2	279	44	83	30	1	1	1	0	193	40	610	117
40–49 years	11	1	108	8	140	41	33	17	2	2	1	0	49	9	344	78
50–59 years	39	5	49	12	51	28	17	12	1	0	1	0	13	1	171	58
60–69 years	57	5	66	7	64	28	3	1	0	0	1	0	16	0	207	41
over 70 years	45	4	45	4	12	4	2	1	0	0	1	0	13	0	118	13
<b>TOTAL</b>	<b>154</b>	<b>15</b>	<b>319</b>	<b>33</b>	<b>550</b>	<b>146</b>	<b>155</b>	<b>65</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>368</b>	<b>70</b>	<b>1,555</b>	<b>332</b>

Tab. 6.3: Numbers of academic staff by the range of workloads and the highest qualification achieved (numbers of individuals)

BUT	Academic Staff										Scientific staff	Total	Thereof women
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others						
Range of workloads	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	
Up to 0.3	3	0	3	1	11	1	7	0	29	6	53	8	
0.31–0.5	2	0	11	1	22	5	8	3	12	1	55	10	
0.51–0.7	4	0	3	0	6	2	4	1	11	5	28	8	
0.71–1.0	27	4	55	7	128	41	68	39	17	3	295	94	
More than 1											0	0	
<b>TOTAL</b>	<b>36</b>	<b>4</b>	<b>72</b>	<b>9</b>	<b>167</b>	<b>49</b>	<b>87</b>	<b>43</b>	<b>69</b>	<b>15</b>	<b>431</b>	<b>120</b>	

BUT	Academic Staff										Scientific staff	Total	Thereof women
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others						
Range of workloads	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	
Up to 0.3	3	0	12	0	12	1	8	2	12	2	47	5	
0.31–0.5	10	1	6	0	16	2	1	0	16	1	49	4	
0.51–0.7	8	0	13	0	10	2	3	2	9	0	43	4	
0.71–1.0	23	0	65	2	95	19	18	7	32	2	233	30	
More than 1											0	0	
<b>TOTAL</b>	<b>44</b>	<b>1</b>	<b>96</b>	<b>2</b>	<b>133</b>	<b>24</b>	<b>30</b>	<b>11</b>	<b>69</b>	<b>5</b>	<b>372</b>	<b>43</b>	

BUT	Academic Staff										Scientific staff	Total	Thereof women
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others						
Range of workloads	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	
Up to 0.3	1	0	3	0	6	0	2	1	10	0	22	1	
0.31–0.5	5	0	4	0	3	1	0	0	5	0	17	1	
0.51–0.7	3	0	12	1	10	2	2	2	9	0	36	5	
0.71–1.0	21	2	45	8	71	12	16	12	20	3	173	37	
More than 1											0	0	
<b>TOTAL</b>	<b>30</b>	<b>2</b>	<b>64</b>	<b>9</b>	<b>90</b>	<b>15</b>	<b>20</b>	<b>15</b>	<b>44</b>	<b>3</b>	<b>248</b>	<b>44</b>	

BUT	Academic Staff										Scientific staff	Total	Thereof women
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others						
Range of workloads	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	
Up to 0.3	0	0	0	0	0	0	1	0	1	1	2	1	
0.31–0.5	1	0	2	0	2	0	7	1	0	0	12	1	
0.51–0.7	0	0	1	1	0	0	1	0	0	0	2	1	
0.71–1.0	4	2	12	1	9	3	6	1	0	0	31	7	
More than 1											0	0	
<b>TOTAL</b>	<b>5</b>	<b>2</b>	<b>15</b>	<b>2</b>	<b>11</b>	<b>3</b>	<b>15</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>47</b>	<b>10</b>	

BUT	Academic Staff										Scientific staff	Total	Thereof women
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others						
Range of workloads	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	
Up to 0.3	1	0	0	0	0	0	0	0	5	0	6	0	
0.31–0.5	0	0	2	1	1	1	0	0	9	5	12	7	
0.51–0.7	1	0	4	1	2	1	0	0	3	1	10	3	
0.71–1.0	9	3	9	0	22	13	2	2	25	6	67	24	
More than 1											0	0	
<b>TOTAL</b>	<b>11</b>	<b>3</b>	<b>15</b>	<b>2</b>	<b>25</b>	<b>15</b>	<b>2</b>	<b>2</b>	<b>42</b>	<b>12</b>	<b>95</b>	<b>34</b>	

BUT	Academic Staff										Scientific staff	Total	Thereof women
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others						
Range of workloads	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	
Up to 0.3	0	0	1	0	2	0	0	0	3	1	6	1	
0.31–0.5	1	0	0	0	0	1	1	0	0	0	2	1	
0.51–0.7	1	0	0	0	0	0	3	0	1	1	5	1	
0.71–1.0	8	3	18	5	35	11	3	3	0	0	64	22	
More than 1											0	0	
<b>TOTAL</b>	<b>10</b>	<b>3</b>	<b>19</b>	<b>5</b>	<b>37</b>	<b>12</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>77</b>	<b>25</b>	

BUT	Academic Staff										Total	Thereof women
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women		
<b>Faculty of Fine Arts</b>												
Range of workloads	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women	Total	Women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Up to 0.3	0	0	1	0	1	0	0	0	0	0	2	0
0.31-0.5	0	0	0	0	2	1	10	5	0	0	12	6
0.51-0.7	0	0	0	0	1	1	2	0	0	0	3	1
0.71-1.0	4	0	7	1	4	0	10	2	0	0	25	3
More than 1											0	0
<b>TOTAL</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>8</b>	<b>2</b>	<b>22</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>42</b>	<b>10</b>

#### Faculty of Information Technology

Range of workloads	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women	Total	Women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Up to 0.3	0	0	2	0	3	1	0	0	6	1	11	2
0.31-0.5	1	0	0	0	3	2	0	0	2	0	6	2
0.51-0.7	0	0	2	0	3	0	0	0	1	0	6	0
0.71-1.0	9	0	18	1	20	0	2	0	9	1	58	2
More than 1											0	0
<b>TOTAL</b>	<b>10</b>	<b>0</b>	<b>22</b>	<b>1</b>	<b>29</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>18</b>	<b>2</b>	<b>81</b>	<b>6</b>

#### Institute of Forensic Engineering

Range of workloads	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women	Total	Women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Up to 0.3	0	0	0	0	1	0	0	0	0	0	1	0
0.31-0.5	2	0	0	0	0	0	0	0	0	0	2	0
0.51-0.7	0	0	1	0	1	0	0	0	0	0	2	0
0.71-1.0	0	0	3	0	4	1	0	0	0	0	7	1
More than 1											0	0
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>1</b>

#### Centre of Sports Activities

Range of workloads	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women	Total	Women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Up to 0.3	0	0	1	0	0	0	1	1	0	0	2	1
0.31-0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.7	1	0	0	0	0	0	0	0	0	0	1	0
0.71-1.0	0	0	2	1	3	2	7	3	0	0	12	6
More than 1											0	0
<b>TOTAL</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>8</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>7</b>

BUT	Academic Staff										Total	Thereof women	
	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women			
<b>CEITEC BUT</b>													
Range of workloads	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women	Total	Women	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	
Up to 0.3	0	0	0	0	0	0	0	0	0	21	5	21	5
0.31-0.5	0	0	0	0	0	0	0	0	0	21	6	21	6
0.51-0.7	1	0	0	0	4	1	0	0	0	23	5	28	6
0.71-1.0	0	0	0	0	7	0	0	0	0	56	14	63	14
More than 1											0	0	
<b>TOTAL</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>121</b>	<b>30</b>	<b>133</b>	<b>31</b>

#### Other workplaces

Range of workloads	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women	Total	Women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Up to 0.3	0	0	0	0	0	0	0	0	0	0	0	0
0.31-0.5	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.7	0	0	1	1	0	0	0	0	0	0	1	1
0.71-1.0	0	0	0	0	0	0	1	0	0	0	1	0
More than 1											0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>

#### BUT TOTAL

Range of workloads	Profes.		Assoc. Profes.		D.Sc., Ph.D., Th.D.		Others		Total	Women	Total	Women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Up to 0.3	8	0	23	1	34	3	19	4	87	16	171	24
0.31-0.5	23	1	25	2	51	13	30	9	65	13	194	38
0.51-0.7	18	0	37	4	39	9	11	5	57	12	162	30
0.71-1.0	105	14	234	26	396	102	134	69	159	29	1028	240
More than 1											0	0
<b>BUT TOTAL</b>	<b>154</b>	<b>15</b>	<b>319</b>	<b>33</b>	<b>520</b>	<b>127</b>	<b>194</b>	<b>87</b>	<b>368</b>	<b>70</b>	<b>1555</b>	<b>332</b>

Tab. 6.4: Executives (numbers of individuals)

BUT	Rector / Dean	Vice-Rector / Vice-Dean	Academic Senate	Scientific / Art / Academic Council	Quaestor / Secretary	Board of Directors	Director of the Institute. university agricultural or forestry farm	Head of department / institute / research workplace	Executives TOTAL
<b>Rectorate</b>	<b>1</b>	<b>4</b>	<b>18</b>	<b>39</b>	<b>1</b>	<b>15</b>		<b>26</b>	<b>104</b>
Thereof women	0	1	6	4	0	2		10	<b>23</b>
<b>Faculty of Civil Engineering</b>	<b>1</b>	<b>5</b>	<b>25</b>	<b>27</b>	<b>1</b>			<b>27</b>	<b>86</b>
Thereof women	0	1	4	5	0			5	<b>15</b>
<b>Faculty of Mechanical Engineering</b>	<b>1</b>	<b>4</b>	<b>24</b>	<b>20</b>	<b>1</b>			<b>15</b>	<b>65</b>
Thereof women	0	0	1	0	0			2	<b>3</b>
<b>Faculty of Electrical Engineering and Communication</b>	<b>1</b>	<b>4</b>	<b>12</b>	<b>20</b>	<b>1</b>			<b>14</b>	<b>52</b>
Thereof women	1	0	3	2	0			1	<b>7</b>
<b>Faculty of Architecture</b>	<b>1</b>	<b>3</b>	<b>8</b>	<b>6</b>	<b>1</b>			<b>13</b>	<b>32</b>
Thereof women	0	0	2	1	0			3	<b>6</b>
<b>Faculty of Chemistry</b>	<b>1</b>	<b>4</b>	<b>11</b>	<b>16</b>	<b>1</b>			<b>9</b>	<b>42</b>
Thereof women	0	1	3	3	0			2	<b>9</b>
<b>Faculty of Business and Management</b>	<b>1</b>	<b>4</b>	<b>27</b>	<b>12</b>				<b>4</b>	<b>48</b>
Thereof women	0	3	4	7				1	<b>15</b>
<b>Faculty of Fine Arts</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>9</b>	<b>1</b>			<b>23</b>	<b>44</b>
Thereof women	0	1	2	1	0			2	<b>6</b>
<b>Faculty of Information Technology</b>	<b>1</b>	<b>4</b>	<b>8</b>	<b>15</b>	<b>1</b>			<b>12</b>	<b>41</b>
Thereof women	0	0	0	0	0			4	<b>4</b>
<b>Institute of Forensic Engineering</b>							<b>1</b>	<b>23</b>	<b>24</b>
Thereof women							0	5	<b>5</b>
<b>Centre of Sports Activities</b>							<b>1</b>	<b>12</b>	<b>13</b>
Thereof women							1	5	<b>6</b>
<b>CEITEC BUT</b>							<b>1</b>	<b>17</b>	<b>18</b>
Thereof women							0	1	<b>1</b>
<b>Faculty total</b>	<b>8</b>	<b>31</b>	<b>122</b>	<b>125</b>	<b>7</b>		<b>3</b>	<b>169</b>	<b>465</b>
Thereof women	1	6	19	19	0		1	31	<b>77</b>
<b>Other workplaces</b>							<b>5</b>	<b>13</b>	<b>18</b>
Thereof women							2	4	<b>6</b>
<b>BUT TOTAL</b>	<b>9</b>	<b>35</b>	<b>140</b>	<b>164</b>	<b>8</b>	<b>15</b>	<b>8</b>	<b>208</b>	<b>587</b>
Thereof women	1	7	25	23	0	2	3	45	<b>106</b>

Tab. 6.5: Academic and scientific staff with foreign citizenship (average recalculated numbers)

BUT	Academic staff	Scientific staff
<b>Faculty of Civil Engineering</b>	5.282	5.156
Of which: Germany	0	0
Poland	0	0.167
Austria	0	0.27
Slovakia	3.667	4.419
Other EU countries	1	0
Other countries outside EU	0.615	0.3
Whereof women (regardless citizenship)	0.528	0.227
<b>Faculty of Mechanical Engineering</b>	4.216	8.879
Of which: Germany	0	0
Poland	0	0
Austria	0.15	0
Slovakia	2.066	2.585
Other EU countries	0	1.857
Other countries outside EU	2	4.437
Whereof women (regardless citizenship)	3	2.095
<b>Faculty of Electrical Engineering and Communication</b>	5.939	7.654
Of which: Germany	0	0.488
Poland	0	1
Austria	0	0.5
Slovakia	3.475	3.716
Other EU countries	0	0
Other countries outside EU	2.464	1.95
Whereof women (regardless citizenship)	2.252	1.95
<b>Faculty of Architecture</b>	0	0
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	0	0
Other EU countries	0	0
Other countries outside EU	0	0
Whereof women (regardless citizenship)	0	0
<b>Faculty of Chemistry</b>	2	2.661
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	2	2.161
Other EU countries	0	0.5
Other countries outside EU	0	0
Whereof women (regardless citizenship)	0	1.102

BUT	Academic staff	Scientific staff
<b>Faculty of Business and Management</b>	3.749	0.199
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	3	0.048
Other EU countries	0	0
Other countries outside EU	0.749	0.151
Whereof women (regardless citizenship)	2	0
<b>Faculty of Fine Arts</b>	3.999	0
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	2.499	0
Other EU countries	1	0
Other countries outside EU	0.5	0
Whereof women (regardless citizenship)	1	0
<b>Faculty of Information Technology</b>	1.374	2.555
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	1.374	0.229
Other EU countries	0	2
Other countries outside EU	0	0.326
Whereof women (regardless citizenship)	0	1.021
<b>Institute of Forensic Engineering</b>	0	0
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	0	0
Other EU countries	0	0
Other countries outside EU	0	0
Whereof women (regardless citizenship)	0	0
<b>Centre of Sports Activities</b>	0	0
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	0	0
Other EU countries	0	0
Other countries outside EU	0	0
Whereof women (regardless citizenship)	0	0
<b>CEITEC BUT</b>	1	12.714
Of which: Germany	0	0
Poland	0	0
Austria	0	0.2
Slovakia	0	1.895
Other EU countries	0	0.7
Other countries outside EU	1	9.919
Whereof women (regardless citizenship)	0	2.95

BUT	Academic staff	Scientific staff
<b>Other workplaces</b>	0	0
Of which: Germany	0	0
Poland	0	0
Austria	0	0
Slovakia	0	0
Other EU countries	0	0
Other countries outside EU	0	0
Whereof women (regardless citizenship)	0	0
<b>BUT TOTAL</b>	<b>27.559</b>	<b>39.818</b>
Of which: Germany	0	0.488
Poland	0	1.167
Austria	0.15	0.97
Slovakia	18.056	15.053
Other EU countries	2	5.057
Other countries outside EU	7.328	17.083
Whereof women (regardless citizenship)	9.78	9.345

Tab. 6.6: Newly Appointed Assoc. Professors and Professors (numbers)

BUT	Number			Average age of the newly appointed
	Total	At the university Thereof the basic staff of the university	Basic staff appointed at another university	
<b>Faculty of Civil Engineering</b>				
Professors appointed in 2017	1	1	0	60
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	7	7		47
thereof women	2	2	0	49
<b>Faculty of Mechanical Engineering</b>				
Professors appointed in 2017	1	1	0	49
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	8	8	0	40
thereof women	1	1	0	37
<b>Faculty of Electrical Engineering and Communication</b>				
Professors appointed in 2017	1	1	0	56
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	4	4	0	36
thereof women	0	0	0	0
<b>Faculty of Architecture</b>				
Professors appointed in 2017	0	0	0	0
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	1	1	0	43
thereof women	0	0	0	0

BUT	Number			Average age of the newly appointed
	At the university		Basic staff appointed at another university	
	Total	Thereof the basic staff of the university		
<b>Faculty of Chemistry</b>				
Professors appointed in 2017	2	2	0	56
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	2	2	0	44
thereof women	1	1	0	48
<b>Faculty of Business and Management</b>				
Professors appointed in 2017	0	0	0	0
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	3	0	0	37
thereof women	0	0	0	0
<b>Faculty of Fine Arts</b>				
Professors appointed in 2017	0	0	0	0
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	1	1	0	42
thereof women	0	0	0	0
<b>Faculty of Information Technology</b>				
Professors appointed in 2017	1	1	0	39
thereof women	0	0	0	0
Assoc. Professors appointed in 2017	2	2	0	36
thereof women	0	0	0	0
<b>TOTAL no. of Professors</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>43</b>
thereof women	0	0	0	0
<b>TOTAL no. of Assoc. Professors</b>	<b>28</b>	<b>28</b>	<b>0</b>	<b>41</b>
thereof women	4	4	0	45

Tab. 7.1: BUT involvement in internal cooperation programs (regardless of the source of funding)

BUT	H2020 / 7. Framework Program EC		Others	Total
	Total	Thereof Marie-Curie Actions		
No. of projects	30	8	57	<b>87</b>
No. of outgoing students			762	<b>762</b>
No. of incoming students			552	<b>552</b>
No. of outgoing academics and researchers			137	<b>137</b>
No. of incoming academics and researchers			6	<b>6</b>
Subsidies in thousand CZK	66,544	13,731	82,646	<b>149,190</b>

Tab. 7.2: Mobility of students and academic staff by country

BUT	No. of outgoing students		No. of incoming students	No. of outgoing academics	No. of incoming academics	No. of other outgoing staff	No. of other incoming staff	Total for the country
	Total	Thereof graduate internships						
<b>Country</b>								
Afghan Islamic Republic			2					2
Algerian Democratic and People's Republic			1					1
Armenian Republic			1					1
Australia	1							1
Belgium	9		3	5		5		22
Bosnia and Herzegovina			3	4	5			12
Brazil			1					1
Bulgaria			16	5		3	2	26
Montenegro			1					1
China	3		6					9
Tchaj-wan	11		2					13
Denmark	23							23
Egypt			3					3
Estonia	11		16			1		28
Finland	66		15	6		7		94
France	18		52	4		5		79
Georgia	1							1
Croatia	3		10	1				14
India	1		15					16
Ireland	13		2					15
Iceland	6		1	3		2		12
Italy	22		18	7		3		50
Japan	1							1
South Korea			5					5
Lithuania	9		26	5		4		44
Latvia	3		12	7		2		24
Liechtenstein	1							1
Hungary	9		2	2				13
Maldives			9					9
Malta	8		5	1		12		26
Marocco			2					2
Netherlands	21			1				22
Norway	48		1	1		1		51
Poland	16		11			14	2	43
Portugal	38		43	7		6		94
Austria	171			11		11	1	194
Romania	1			2				3
Russia	9		15					24
Greece	7		61	2		2		72
Slovakia	10		3	17		11		41
Slovenia	35		15	4		5		59

BUT	No. of outgoing students		No. of incoming students	No. of outgoing academics	No. of incoming academics	No. of other outgoing staff	No. of other incoming staff	Total for the country
	Total	Thereof graduate internships						
Country								
United Kingdom of Great Britain and Northern Ireland	32		3	7		17		59
USA	6							6
Mexico	3		10					13
Germany	61		8	18		10		97
Izrael	12		3		1			16
Spain	51		71	15		20	1	158
Sri Lankan Democratic Socialist Republic	1							1
Sweden	9							9
Switzerland	11		2				1	14
Turkey			74	2			1	77
Ukraina			3					3
Vietnam	1							1
<b>TOTAL</b>	<b>762</b>	<b>0</b>	<b>552</b>	<b>137</b>	<b>6</b>	<b>141</b>	<b>8</b>	<b>1,606</b>

Note: The data mentioned do not reflect the source of mobility funding. In electronic form, Table 7.2 is given with a complete list of all the world states. In the printed version of the annual report, there are only those countries mentioned for which BUT registered some form of foreign mobility in 2017.

Tab. 7.3: Mobility of graduates (share of completed studies)

BUT	Bachelor's Study	Master's Study	Continuing Master's Study	Doctoral Study	Total
<b>Faculty of Civil Engineering</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	4.34%		9.74%	13.51%	<b>9.2%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				13.51%	<b>13.5%</b>
<b>Faculty of Mechanical Engineering</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	0.99%		18.09%	33.33%	<b>17.5%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				33.33%	<b>33.3%</b>
<b>Faculty of Electrical Engineering and Communication</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	1.07%		10.40%	21.05%	<b>10.8%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				21.05%	<b>21.1%</b>
<b>Faculty of Architecture</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	21.95%		55.17%	20.00%	<b>32.4%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				20.0%	<b>20.0%</b>

BUT	Bachelor's Study	Master's Study	Continuing Master's Study	Doctoral Study	Total
<b>Faculty of Chemistry</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	0.81%		15.44%	30.00%	<b>15.4%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				30.00%	<b>30.0%</b>
<b>Faculty of Business and Management</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	2.83%		9.15%	75.00%	<b>29.0%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				75.00%	<b>75.0%</b>
<b>Faculty of Fine Arts</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	40.63%		20.69%	50.00%	<b>37.1%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				50.00%	<b>50.0%</b>
<b>Faculty of Information Technology</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	5.71%		18.30%	20.00%	<b>14.7%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				20.00%	<b>20.0%</b>
<b>Institute of Forensic Engineering</b>					
Share of graduates who spent at least 14 days abroad during their studies [%]	0.00%		2.27%	28.57%	<b>10.3%</b>
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]				28.57%	<b>28.6%</b>

Tab. 8.1: Conferences (co)organized by BUT

BUT	With more than 60 participants	International conference
Faculty of Civil Engineering	8	3
Faculty of Mechanical Engineering	6	10
Faculty of Electrical Engineering and Communication	7	5
Faculty of Architecture	0	2
Faculty of Chemistry	1	1
Faculty of Business and Management	2	2
Faculty of Fine Arts	1	1
Faculty of Information Technology	5	4
Institute of Forensic Engineering	2	2
CEITEC BUT	0	2
<b>TOTAL</b>	<b>32</b>	<b>32</b>

**Tab. 8.2: Application sphere experts participating in teaching in accredited study programs (numbers)**

BUT	Persons having a job contract with BUT or its constituent part			Persons not having a job contract with BUT or its constituent part		
	Number of teaching persons	Number of persons supervising the final thesis	Number of persons participating in practical training	Number of teaching persons	Number of persons supervising the final thesis	Number of persons participating in practical training
<b>Faculty of Civil Engineering</b>						
whereof women						
<b>Faculty of Mechanical Engineering</b>	22			14	224	84
whereof women	2			1	29	17
<b>Faculty of Electrical Engineering and Communication</b>	3	2	2	3	30	20
whereof women	0	0	0	0	0	0
<b>Faculty of Architecture</b>				5		
whereof women				2		
<b>Faculty of Chemistry</b>	5	1	1	8	14	22
whereof women	0	1	1	4	3	16
<b>Faculty of Business and Management</b>				2		9
whereof women				0		3
<b>Faculty of Fine Arts</b>	6	1		15		
whereof women	3	1		5		
<b>Faculty of Information Technology</b>				8	41	
whereof women				1	5	
<b>Institute of Forensic Engineering</b>	14	4				
whereof women	4	2				
<b>CEITEC BUT</b>						
whereof women						
<b>TOTAL</b>	<b>50</b>	<b>8</b>	<b>3</b>	<b>55</b>	<b>309</b>	<b>135</b>
whereof women	9	4	1	13	37	36

**Tab. 8.3: Numbers of specializations for which the curricula include the mandatory completion of a professional internship of at least 1 month (numbers)**

BUT	Numbers of specializations	Numbers of students in these specializations
Faculty of Civil Engineering	3	405
Faculty of Electrical Engineering and Communication	7	1,548
Faculty of Business and Management	2	554
<b>TOTAL</b>	<b>12</b>	<b>2,507</b>

**Tab. 8.4: Transfer of knowledge and research results into application sphere**

BUT	In CR	Abroad	Total number	Total income
Number of new spin-offs/start-ups			0	
Patent applications	11	8	19	
Patents granted	18	7	25	
Registered utility patterns	19	0	19	
Licensing contracts valid as of December 31	17	21	38	
Newly contracted licenses	4	7	11	278,097 CZK
Contractual research, consultancy			600	124,547,799 CZK
Paid educational courses for employees from the application sphere			105	8,443,678 CZK

**Summary Information to tab. 8.4**

	Total number	Total income	Average income per a contract
New license contracts agreements, contract research, counseling and paid education courses for employees of application sphere.	716	133,269,574 CZK	186,131 CZK

**Tab. 12.1: Housing and food**

BUT	Number
Total bed capacity of university dormitories	6,390
Number of beds in rented facilities	0
Number of applications / reservations for accommodation to Dec. 31, 2017	6,927
Number of approved applications / reservations for accommodation to Dec. 31, 2017	6,390
Number of bed-days in 2017	1,599,229
Number of main meals served to students in 2017	824,304
Number of main meals served to employees in 2017	107,100
Number of main meals served to other boarders 2017	139,226

**Tab. 12.2: BUT Libraries**

BUT	Number
Annual acquisitions per 1 year	5,941
Of which an acquisition in physical units	5,875
Of which an increase in e-books in a permanent purchase	66
Total library fund	240,826
Of which physical units	240,143
Of which e-books in a permanent purchase	683
Number of subscribed journals	
physically	574
electronically (esteemed)	200
both forms	18

Tab. 12.3: Institutional Development Plan of BUT in 2017

BUT	Provided funds (contribution) in thousand CZK		Achievement of targets/indicators	
	Capital	Conventional	Initial state	Target state
<b>Institutional Development Plan</b>				
<b>Priority Goal 1: Quality Assurance and Strategic Management</b>				
1.1 Preparing the concept of employee care		1,200	Absence of systemic activity in human resource development	Functioning and modernized Department for Personnel Management and Development; staff assessment and academic staff assessment; finding new minimum self-evaluation criteria; preparing to apply for an international HR Award
1.2 Preparation of the EUA reevaluation and implementation of recommendations from the last evaluation		1,200	Evaluation of EUA from 2010	A new complete EUA/IEP assessment was launched in 2016. In 2017. A self-assessment group was established across the BUT. a contract with EUA / IEP was made. a videoconference specifying a self-assessment process occurred. and at the end of 2017 a large self-evaluation report was submitted.
1.3 Strengthening the role of strategic approaches through the development of the Strategic Management and Development Department in connection with Ipn projects		1,300	Starting strategic BUT management within Ipn projects; Revision and defining hierarchy of internal regulations and standards	Analyses of the current state and defining BUT priorities; Analysis of internal regulations and standards. discussions over the strategic areas for the EUA / IEP international evaluation; definition of the main strategic objectives; preparation of the for the Implementation of the Strategic Plan for 2018
1.4 Building the quality system of BUT and its constituent parts in 2016–2018		2,500	Improving quality in all areas / directions of BUT activities especially in relation to quality of management, education and cooperation in national and international terms	Implementation of new legislation; further development of the internal quality management system and its adaptation to international recommendations and national requirements. certification of BUT quality management systems
1.5 Support of Platforms of Technical Schools and their development. cooperation with the application sphere and practice – support of technical education		800	Platform does not exist (CTU Statement and BUT signed)	Seminar focusing on Industry 4.0. Preparation of a new AJ doctoral study program; Strategic cooperation of universities with predominantly technical orientation; close cooperation agreed expert groups created; Coordination of the quality oriented CRP 2017 with regard to common indicators of technical universities.

BUT	Provided funds (contribution) in thousand CZK		Achievement of targets/indicators	
	Capital	Conventional	Initial state	Target state
<b>Institutional Development Plan</b>				
1.6 Analysis and building of the Rector's Office as an effective and helpful service to faculties and constituent parts		1,000	There is no integrated or consolidated overview of economic and decision-making data on economic planning and budget management at the level of individual HSs; Existing FC methodology is inadequate; Organization of processes at the central level of university management; Adaptation of internal organizational standards	Developed data structures documenting BUT management structure; Newly prepared adapted FC methodology and its certification; Documentation and commenced organizational changes in economic activities at the Rector's Office; Documentation and organizational changes related to the performance of inspection activities at the Rector's Office; Approved documentation of the overall organizational analysis of the Rector's Office as a process and organizational optimization plan for the Rector's Office; Proposals and explanatory reports of optimization and adaptation of existing internal standards BUT incl. the draft of new ones submitted for discussion to BUT (namely: BUT Rules of Organization. Rules of Organization of Rector's Office. BUT Rules of Business)
1.7 Strategically oriented project management incl. TT		450	Was not implemented	Creating a respected user-friendly and economically efficient department providing professional services in the field of preparation. implementation and sustainability of projects on all BUT constituent parts; seminars and consultations on the protection of intellectual property; defining processes related to the growth of contracted research and commercializing results from collaborative and oriented research.
1.8 Support of BUT self-government and autonomy		750	Support of AS BUT activities	Support of timely implementation of amendments to the BUT internal regulations resulting from the approved amendment to Act No. 111/1998 Coll. and preparation of an amendment to the BUT internal regulations concerning the BUT AS activities; A seminar for AS BUT members and guests focusing on main topics, analysis of the BUT IS in connection with the improvement of preparation and discussion of new accreditations. BUT budget, allocation of specific research resources and RIV points – information needs of the BUT academic community
1.9 Development of risk management at BUT		1,000	Was not implemented	Gradual process mapping + risk identification; Developing a new internal control system directive; The first evaluation of the defined risk management. Proposal of SW support for addressing risk management methodology

BUT	Provided funds (contribution) in thousand CZK		Achievement of targets/indicators	
	Capital	Conventional	Initial state	Target state
<b>Institutional Development Plan</b>				
<b>Priority Goal 2: Diversity and Availability of Educational Activities</b>				
2.1 BUT cooperation with primary, secondary and higher vocational schools		1,000	5 competitions for secondary school students	17 competitions for secondary school students, 52 projects for current BUT students leading to the acquisition of new applicants, 153 BUT students were supported by special scholarships
2.2 Support for first-year students		3,200	Number of students enrolled in the 1 <sup>st</sup> year of the Bachelor's degree program; the initial value in 2015 is 500 students	The target value for 2017 is 500 students; the best 500 first year students were supported
2.3 Support for talented students		1,700	Starting value in 2015: about 150 students supported by scholarships	
2.4 Developing cooperation with the application sphere in education		1,800	Degree programs do not always include practical forms of instruction (academically vs. practically oriented degree programs)	In 2016 there were more than 56 students supported by scholarships; at least 25 student projects focused on teamwork; more than 32 students involved in professional competitions and conferences at national and international level. Internships in companies. Practical training; The involvement of experts in teaching; An increase in the theses, whose themes are inspired by application sphere; Thematically oriented conferences and discussion forums of BUT management and faculties with representatives of the application sphere
2.5 Support of Joint Master Degree programs at BUT and an increase in the number of study programs delivered in foreign languages		2,200	Several DD degree programs at the FMI/FBM in cooperation with foreign universities	Developing existing and creating new international study disciplines; Increasing the number of postgraduate students involved in international programs
2.6 Support of Lifelong Learning Institute activities for the academic community		1,800	Number of participants: 1,100, number of courses: 90	Situation in 2017: number of participants: 1,490, number of courses: 182
2.7 Support of U3A development		800	In 2015, the recalculated U3A BUT performance was 48,968 student hours	Increase in 2016: 8.07%; 2,713 students in total
2.8 Support of handicapped BUT applicants		1,000	Initial status in 2015: 850 users of services, 300 users of individual consulting services, 550 users of services within group activities	1,019 users of services; 418 individual consultations; 601 group activities
<b>Priority Goal 3: Internationalization</b>				
3.1 Support of international cooperation		4,000	Initial values for 2015: 19 bilateral contracts, 28 sub-contracts and general international contracts	102 bilateral contracts, 45 sub-contracts and general international contracts
3.2 Support of international mobility of BUT academic staff		2,000	35 outgoing persons / 16 incoming persons	73 outgoing persons / 28 incoming persons
3.3 Support of international mobility of BUT students		5,000	400 student-months	350.5 student-months

BUT	Provided funds (contribution) in thousand CZK		Achievement of targets/indicators	
	Capital	Conventional	Initial state	Target state
<b>Institutional Development Plan</b>				
<b>Priority Goal 4: Relevance, graduates, marketing and collaboration with the application sphere</b>				
4.1 Support of the activities of the Department of Marketing and External Relations		1,000	Performance indicators – number of cooperating companies, BUT graduate database	25 new partnerships with major companies and sponsorships; 31,000 presently registered graduate addresses
4.2 Support of marketing and presentation of BUT in the Czech Republic and abroad		2,000	Active participation in 2 domestic and 4 foreign trade fairs; The number of study applications through an online campaign	Participation in 2 domestic and 5 foreign trade fairs; 7,189 applications submitted via an online campaign
<b>Priority Goal 5: Quality and relevant research, development and innovation</b>				
5.1 Promoting excellence of publishing activities at BUT		15,300	373 publications in WoS / Journal Citation Reports v Q1, Q2, Q3 a Q4	Increase to 530 publications – in the WoS / Journal Citation Reports in Q1, Q2, Q3 and Q4
<b>Priority Goal 6: Decision-making and development based on information and data</b>				
6.1 Libraries – services		1,200	Initial values in 2015: 0 Development of marketing strategy, 0 upgraded or newly created teaching and promotional materials, 400 Facebook page Central Library in Brno fans, 0 research and user testing, 0 e-learning courses with mentoring teachers, 0 prepared and realized seminars with mentoring teachers, 5 promotions (seminars, trainings), 0 participations in the professional conferences, 35,000 digital documents stored, 100,000 repository entries, 0 citation analyses performed	Values for 2017: 1 Developing Marketing Strategy, 15 innovated or newly created teaching and promotional materials, 719 fans of the Facebook page Central Library in Brno, 4 research and user testing, 6 e-learning courses with mentoring teachers, 6 prepared and implemented seminars with the participation of mentored teachers, 21 promotional events (seminars, trainings), 6 participations in professional conferences, 52,825 saved digital documents, 154,950 accesses to repository, 55 citation analyses performed
6.2 Development of the educational computer network and the main data center	1,000	1,500	A. Initial capacity of BUT connection to 2x10 Gbps internet B. Initial number of types of electronic approval processes at BUT = 2 (travel orders, internal grant agency) C. Initial Number of Room Records Systems = 3 (GTF, Central Database and SAP) D. Initial number of translated interfaces that allow work in English: 1 (StudIS)	A. The BUT connection to the Internet is 40 Gbps B. New Electronic Authorization Processes C. New system of passporting completed D. Completion of the translation of the BUT IS interface into English
<b>Internal competition</b>				
Internal competition		10,592	In 2015, 97 projects were supported	In 2017 F/S was supported by internal competitions in the following areas: 1. Supporting the pedagogical activities of academic staff and profiling and innovation of study programs at the level of subjects/courses; 2. Creative work of students aimed to innovation of educational activities.
<b>TOTAL</b>	<b>1,000</b>	<b>66,292</b>		



**13**

Conclusion

The previous pages showed the course of the development of BUT in 2018 and on. In the coming year of 2018, BUT is facing demanding challenges including the development of internationalization, institutional accreditation of certain areas of education, the implementation of the quality management system in all areas of activities according to the amendment to the Higher Education Act, and a number of other steps which are included in the program of re-elected Rector – Petr Štěpánek, who will extend his current term from 2018. This course includes, without a doubt, the development of so-called corporate culture and coping with a bureaucracy that is growing mainly due to the external environment. The end of the R & D sustainability monitoring period is approaching; we expect a discussion concerning its future. In 2018, the EUA (European University Association) evaluation will also be finalized, offering a significant and independent foreign view of our University.

Current keywords include Industry 4.0, Society 4.0, etc. In this respect a number of BUT faculties have started a joint activity devoted to Industry 4.0. The so-called testbed is also being prepared with the aim of giving these abstract concepts a tangible form and showing our industrial partners that cooperation with BUT will pay off and bring competitive advantages.

Finally, a few sentences directly from the Rector of BUT Petr Štěpánek: "In order to meet future challenges, all BUT employees, i.e. students, teachers, scientists and other staff will need to cooperate. It is therefore necessary to discuss issues, propose solutions and look for the most optimal ones. It will not always be easy. Let's start with each other, in our working or research teams, institutions and faculties. Provide feedback and accept it as a contribution to improvement. We want to meet at least the same demands that we put on others. Seek consensus and consistency. This is the only way to assert the legitimate interests of the BUT Faculties and technical universities in general – both in the Czech Republic and throughout the world. Finally, allow me to wish not only the BUT students and employees, but also all others, a lot of health and energy to handle challenges and overcome obstacles, not only those which are created in our everyday lives by our surroundings, but also those which we sometimes and perhaps unnecessarily create ourselves."



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