



ANNUAL REPORT

ON THE ACTIVITIES OF BRNO UNIVERSITY OF TECHNOLOGY

IN **2018**

Annual Report on the Activities of Brno University of Technology in 2018

The Annual Report on the Activities of Brno University of Technology (BUT) for the year 2018 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 2018 issued by the Ministry of Education, Youth and Sports of the Czech Republic. The document is divided into a text and table part which has a fixed structure based on the framework curriculum. On the other hand, the introductory part remains entirely in the hands 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 major scientific and research activities carried out at Brno University of Technology.

The Annual Report was approved by the Academic Senate of BUT on 14th May 2019.

ISBN 978-80-214-5745-4

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 **VYSOKÉ UČENÍ
TECHNICKÉ
V BRNĚ**



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1

Introduction

1.1 Introductory words of the Rector



Dear Readers:

On the occasion of introducing the Annual Report for the year 2018 I am considering again the importance of this year and its impact on the Brno University of Technology.

I would like to mention the institutional accreditation in seven areas of education (electrical engineering, energy, chemistry, informatics, construction, economics, as well as common areas of engineering, technology and materials) that we as the first technically oriented university in the Czech Republic, have applied for this year. It is no longer a secret that we obtained the institutional accreditation in early 2019. It should be noted that this achievement can be credited to the BUT faculties, which received the institutional accreditation with significant help from the Rectorate. However, it should also be emphasized that obtaining institutional accreditation may in part lead to the shortening of partial accreditation periods, i.e. to higher flexibility, but in no case will it reduce the administrative load of the University.

Another long-term event, which was successfully completed in 2018, is the international evaluation of our school by the European University Association (EUA). The evaluation team provided us with a number of valuable perspectives on BUT so that we can learn how we appear to people in the European university area. We are currently implementing the recommendations, and you will be informed about the progress made in this area in the next Annual report.

Unfortunately, 2018 was not just a year of success. Among the failures that cannot only be attributed to BUT, are the M17+ methodologies and so-called university scaling which has been published. As for me, I am sorry to say that these assessments have not been so far based on objective, verified and transparent data.

As for M17+, I consider it a major mistake to attribute multiple publications with multiple authors from multiple institutions to all these institutions, as if the publication had been created at each of these. The absurdity of this approach can be evidenced by the existence of the authorial teams of 500 or more co-authors from different institutions with significant representation of Czech research organizations. Another mistake of M17+ is that the institutions are not compared in terms of performance per one employee but in absolute performances.

Enough has been written and said about so-called scaling. Those who could, and I am tempted to say, first and foremost those who prepared and negotiated this system, dissociated from it, including the entire Czech Rectors Conference. But the information has already been published and negative PR affects a number of schools, including BUT.

But enough of this issue. Let's now look at 2018 together with all its major events, achievements, dates and overviews. I wish you a lot of patience while reading this annual report.

A handwritten signature in blue ink, consisting of a large, sweeping loop followed by several vertical strokes.

prof. MSc Petr Štěpánek, PhD, dr. h. c.
Rector of BUT

1.2 Significant events at BUT in 2018

Actions and Events

In February 2018, **the second term of office** of Rector Petr Štěpánek began. The vice-rectors are: Miroslav Doupovec (study and student affairs), Lubomír Grmela (scientific and research development), Jiří Hirš (foreign affairs), Tomáš Hruška (information technology) and Mária Režňáková (academic affairs). Jan Kristek from the Institute of Urbanism was appointed Dean of the Faculty of Architecture. At the end of the year, the faculty senate of FFA appointed Filip Cenek – originally the head of the Cabinet of Audiovisual Technologies – the Dean of this faculty. His term will begin in February 2019.



▲ According to the decision of The International Astronomical Union, **Asteroid 6263 was named after the mathematician Miloslav Druckmüller** from the BUT Faculty of Mechanical Engineering. The asteroid was discovered by the astronomer Zdeňka Vávrová at the Kleť Observatory in August 6, 1980. Its name was announced in the Minor Planet Center newsletter on July 11, 2018. Professor Druckmüller and Petr Horálek were awarded for the film *The Revealed Layer of the Sun*. The Brno mathematician has become world famous for his unique algorithm for processing solar corona images during solar eclipses.

BUT is trying to motivate students and employees **to be environmentally friendly**. Since May 2018, the Faculty of Civil Engineering has been using a Filtrmac water dispenser, which has saved 38,570 PET bottles during the first few months, which equals approximately one ton of plastic waste. Activated carbon filtration removes unwanted tastes and odours from water and captures all particles larger than 0.5 microns. UV light eliminates all unwanted bacteria. The Halls of Residence and dining services of BUT are already negotiating the acquisition of other water dispensers and in 2018 began preparing a so-called ecological plan. BUT dining services have also stopped using classic plastic cups, the consumption of which has reached almost half a million a year.



▲ Two **Information Technology Development Medals** were awarded by Dean of the Faculty of Information Technology BUT Pavel Zemčík at Villa Tugendhat on October 17, 2018. He recognised two specialists – Pavel Baudis, the founder of Avast and Martin Grigar, the Chairman of the Board of Autocont. The Information Technology Development Medals were awarded for the first time this year. The medals with the motif of Brno and the faculty and IT elements were created in the workshop of medalist Petr Kazda following the design of sculptor Michal Vitanovský.

In May, the Faculty of Civil Engineering held the first run of the international **Student Scientific Expert Activity**, where Radek Hermann won 1st place in the Material Engineering section with his work 'Possibilities of Regulation of Hydration Heat Development in Concrete using a Plasticizing Additive'. He also won the student vote in the same category. The Student Scientific Expert Activity is attended by students of Civil Engineering faculties from both the Czech and Slovak republics.



▲ A two-day event called **CrashDay** was organized by the experts from the BUT Institute of Forensic Engineering. On the premises of the Jerex Company in Ostrovačice near Brno, close to the D1 motorway, experts could evaluate several crash tests, such as the crash of a passenger car into

a crash barrier, a chain accident, and a perpendicular crash of two oncoming cars. The event also included a demonstration of the rescue process after the accident. On the Friday afternoon, Petr Štěpánek – the BUT Rector, signed an agreement on cooperation between Brno University of Technology and the Training Headquarters – Military Academy in Vyškov.



▲ **The Christmas Ball** which took place on December 7th, 2018 was attended by a record number of guests. The indoor hall P of the Brno Exhibition Center was filled by more than 3,600 guests making the ball the biggest one in the Czech Republic. More than 80 students from all the BUT faculties participated in its organization. Moreover, this year we managed to sell out the tickets in record time. The capacity of the largest exhibition hall in Central Europe was filled in four and a half hours, which proves the enormous interest of both BUT students and employees.

Antonín Píštěk, the teacher and long-time director of the Aerospace Institute of the Faculty of Mechanical Engineering, was elected as one of the **100 aviation personalities of the century** in a survey conducted by Aeroteam and the Czech Aviation Association. For most of his life, Professor Píštěk worked in the aerospace industry where he was involved in the creation of a wide range of aircraft – such as the L-410 and the L-610. After his transition to the academic campus, he continued this activity and was at the launch of the VUT100 Cobra and a series of experimental BUT aircraft. This survey serves as a Hall of Fame for the most important Czech and Slovak pilots, aviation constructors, educators and aviation publicists

The Centre of Sports Activities of BUT has successfully accredited its first ever study program – **Sports Technology**. The graduate of this new bachelor degree program will become familiar with devices such as Smart bracelets, tachographs, motion sensors and in-body system for full body diagnostics. The program combines the study of modern technology at the Institute of Biomedical Engineering of FEEC and sport at the Centre of Sports Activities. Future graduates of this republic's unique specialization will find employment in new sports technologies and will start their studies in the academic year 2019/2020.

The BUT Faculty of Business and Management marked International Businesswomen's Day. Along with the

Czech-Moravian Association of Businesswomen and Managers, the faculty held a meeting on November 21, 2018: Is All that Glitters Gold? alias Business **through the Eyes of Women**. The regular FP Forum held a discussion including papers delivered by the director of Hošek Motor, Andrea Ungerová, the financial director of ORGREZ, Hana Žůrková, and the head physician Zuzana Spurná. The discussion took place at the Faculty of Business Administration and was moderated by Anna Putnová. The meeting with prominent Brno businesswomen took place on the occasion of International Women's Day.

FFA prepared an exhibition of final theses entitled **The Diploma Students of FFA**, which took place from June 28 to July 27, 2018 in the House of Lords of Kunštát. It is a traditional event where the Faculty of Fine Arts presents the final works of its new graduates to the public. In 2018, when the Faculty celebrated 25 years of its existence, the exhibition presented a total of 31 young artists from 14 studios.

The Faculty of Chemistry held the 7th annual **Chemistry and Life 2018** international conference, attended by over 160 participants from ten countries. The conference included the Czech and Slovak Food Science Meeting on the occasion of the 100th anniversary of the founding of the Czechoslovak Republic, and two international workshops (PHA Based Bioplastics and 2nd GEODUST workshop).

Petr Neugebauer, Vojtěch Adam and Jan Macák, **the laureates of the prestigious ERC Grant**, have been working at CEITEC BUT since 2018. The details of their research can be found in the next chapter titled BUT Significant Projects. In addition, six new research groups have been launched here since January 2018.

In December 2018 the **Times Higher Education (THE) ranking** focused on technology and informatics. In the category of computer sciences, five Czech universities were included in the list. Brno University of Technology ranked best sharing 301st–400th place thanks to the Faculty of Information Technology.

In September of the academic year of 2018/2019, BUT decided to launch the **BUT Career Center**. Students will not only find information on training, internships and jobs, but also comprehensive support of their future career in one location. The BUT students can search companies' job offers at the newly created portal www.kariera.vut.cz. The facilities of the BUT Career Center can be found in the Faculty of Business and Management building, i.e. close to the University campus. The Career Center offers various workshops and seminars that are free of charge for BUT students.

BUT called for the **institutional accreditation** of seven areas of education on July 17, 2018, making it the first technical university in the Czech Republic to apply for institutional accreditation. BUT applied for the following educational areas: electrical engineering, informatics, economics, chemistry, energy, construction and engineering, technology and materials. The National Accreditation Office will make a decision at the beginning of 2019.

The first student with severely impaired hearing graduated from BUT. Tomáš Zbavitel, who has not been able to hear since he was born, has successfully completed his bachelor's degree at the Faculty of Mechanical Engineering. As the first BUT graduate with this type of handicap, he passed the final state examination in Czech sign language assisted by an interpreter. Tomáš has been continuing his follow-up Master's studies at the same faculty since the autumn of 2018. He receives close support from the Alfons Advisory Center, which operates at BUT.

Two years of preparation, six days of conference, more than 350 participants, 45 invited speakers and about 150 scientists with standard contributions. These are just some of the figures characterizing the **ICN+T International Conference on Nanosciences and Technologies**. The conference was held under the auspices of CEITEC BUT and the Institute of Physics of the Academy of Sciences of the Czech Republic at the Brno Exhibition Center from 22 to 27 July 2018, and presented the world's leading experts in the fields of nanostructures, two-dimensional nanomaterials and metamaterials and their applications in nanoelectronics, nanophotonics and nanomagnetism.

Mikuláš Macháček from FFA BUT designed the visuals of the 60th **International Engineering Fair**. The jury of experts chose from 25 submitted designs and appreciated the design of Mikuláš Macháček from the Studio of Graphic Design 2 especially for its timelessness, reference to the tradition of IEF, and modern concept respecting contemporary graphic design. Mikuláš Macháček created his design along with the Zetzetz Studio. The fair's jubilee events took place from May 1 to October 2018, and of course, the BUT booth presenting our successful projects was present.



▲ In June the first children graduated from the **BUT Junior Technical University**. Subsequently, on September 22, 2018, the Neo-Baroque auditorium of the BUT Rectorate welcomed a hundred new juniors. After a successful pilot year, the BUT management decided to double the number of the original fifty children. The popular lectures also began to be attended by children commuting from Prague and Ostrava. The BUT Junior Technical University enables the young scientists aged from 12 to 16 to attend one of the BUT departments every month.

On January 25, 2018, the Faculty of Civil Engineering organized the 20th anniversary of **Juniorstav, 2018** – the professional conference of PhD students. The conference was attended by PhD students from various faculties from all over the Czech Republic and Slovakia, giving them the opportunity to present the results of their research projects. The conference aims at the students of the follow-up master's and bachelor's programs and high school students interested in science and the latest technological trends.



▲ The Institute of Forensic Engineering organized a number of professional conferences in 2018. On February 1 and 2, the IFE hosted the 27th **ExFoS** – The International Scientific Conference of Forensic Engineering. In April, the 10th anniversary of the Junior Forensic Science Brno conference (JuFoS) – the PhD student conference, took place. In September, experts from the IFE co-organized a two-day event called 'The Crisis Management of Crisis Situations' in Uherské Hradiště. In November, they took part in the 10th of the Safety Improvements of Armed Forces Vehicles Conference, where they conducted crash tests for the needs of experts in the field of traffic accidents.

BUT completed the demanding **evaluation process EUA (European University Association)**, which started in the previous year. The representatives of the evaluation committee paid BUT two visits. From February 20th–22nd, they visited FEEC, FIT, FCH and CEITEC BUT. Subsequently, from April 18th to 20th, they visited FFA and FBM. They spoke with representatives of the University management, cooperating companies, students and academics. BUT has succeeded in this EUA/IEP evaluation process, which is registered in the European Quality Assurance Register for Higher Education (EQAR).

On October 2nd 2018, the Faculty of Business and Management held a **Student Conference on Cyber Security**, hosting among others Martin Konečný from the National Cyber and Information Security Office. The program presented FBM students or graduates from Management Informatics focusing on cyber security.

Achievements and awards

Fifteen Brno personalities were presented with the **City of Brno Award** at the town hall on January 30, 2018. Radim Chmelík from the Faculty of Mechanical Engineering and CEITEC BUT was awarded in the category of technical sciences. He has already won the Czech Head Award for his unique holographic microscope. The prize was also awarded to the architect and urbanist Jiří Oplatka, who is a BUT Faculty of Architecture graduate. He has been teaching at this faculty since 1990 and became an associate professor in 1995. Under the previous regime, Jiří Oplatek left for Basel, Switzerland, where he created his most famous designs.



▲ Two BUT professors received a **Silver Commemorative Medal of the Senate**. This medal was awarded to twenty-one personalities from science, culture and education on September 27, 2018. The ceremony was held for the seventh time in the Wallenstein Palace, traditionally on the eve of Czech Statehood Day. Professor Vladimír Šlapeta from the Faculty of Architecture of BUT was one of those awarded. He also won the Lifetime Achievement Award from the Society of Architects this year. Another award winner was BUT Rector Emeritus, Professor Petr Vavřín, who was awarded for his outstanding contributions to the development of the University of the Third Age.



▲ The hybrid pumping system, created by FME and FEEC experts, won the **Gold Medal** in the Innovation of Mechanical Engineering Component category at the 2018 **International Engineering Fair**. Serial shifting of these elements facilitates

the pumping of liquids over long distances, or from a great depth, even at low line pressure. A zero-emission excavator which was part of the BUT exhibition last year was also awarded a medal. This battery-powered device was developed in cooperation between BUT FEEC and FME specialists and representatives of Bosch Rexroth.

Three teachers from the Faculty of Architecture won the **Jože Plečnik Award**. During the International Architecture Day, celebrated around the world on October 1, 2018, the prizes for lifelong contribution to architecture and construction were awarded in the Spanish Hall of Prague Castle to major architects and builders from the Czech Republic and Slovakia. The FA academics, namely Vladimír Šlapeta from the Institute of Architecture Theory, Jaroslav Drápal from the Institute of Monument Care and Josef Kiszka from the Institute of Design were among the winners.

Seven personalities associated with the Faculty of Fine Arts of BUT exhibited at the 20th NordArt show. It is one of the largest contemporary art shows in Europe. It took place from June 9th to October 7th, 2018 in Búdelsdorf and Rendsburg in northern Germany. The works of art were presented in a unique exhibition space consisting of a historic iron foundry and a large park. More than 3,000 artists from 105 countries had presentations at the event in 2018. Michal Gabriel received the **NordArt Prize 2018** award. Milan Houser, Pavel Korbička, Tomáš Medek, Dušan Váňa, Tomáš Pavlacký and Monika Horčicová, who are FFA teachers or graduates, were among the exhibitors from the Czech Republic.

The research team supervised by Jan Kořenek from the Faculty of Information Technology of BUT won the **Minister of the Interior Prize for extraordinary results in the field of security research, experimental development and innovations** in December. The result of the project is utilized mainly by police and other state security forces as a tool in the fight against cybercrime.

Students of the Faculty of Mechanical Engineering won the **New Flying Competition**, which was co-organized by Airbus and Lufthansa in Germany at the end of September. Student teams from all over the world were assigned the task of designing and constructing a model transport aircraft, which would be able to reduce its wingspan automatically after landing to minimize airport space. The task was scheduled for the course of the academic year. The engineers from the BUT Chicken Wings team have developed a unique wing folding mechanism which serves this purpose.

Five BUT students won the **Josef Hlávka Prize** for the best students or graduates in November 2018. This award is aimed at talented students in bachelor's, master's or doctoral study programs who have demonstrated exceptional skills and creative thinking in their fields. The BUT students awarded in this category were: Lukáš Novák (FCE), Jan Maloušek (FEEC), Ján Jančík (FCH), Karel Veselý (FIT) and Markéta Tesařová (FME and CEITEC BUT).

Two BUT professors received **the South Moravian Region Prize**. The prize was awarded on 9 November 29th, 2018 to Jan M. Honzík from the Faculty of Information Technology for his work with youth. Professor Honzík is the founder of the Summer Computer School for Girls, which has been running at FIT for over 10 years. Vladimír Šlapeta from the Faculty of Architecture won the award for his work, which significantly represents the South Moravian Region and contributes to its reputation and good name.

In May, the BUT Magazine Events was awarded first place in the **Fénix Content Marketing** contest in the B2E category of magazines for staff and readers inside an institution. The University portal of ZVUT.cz, which presents articles and interviews with BUT students, graduates and employees, won third place in the Blog category. The fifth year of this marketing competition took place at the Prague Crossroads venue.

Ten promising BUT scientists won a scholarship for their research at the Brno PhD Talent competition. Representatives of the City of Brno and JCMM awarded the best doctoral students from Brno universities. The PhD students received the award on February 13th, 2018 at Brno City Hall. The BUT students, who won the scholarship of 300,000 CZK for their research were: Erik Képeš (CEITEC BUT), Matouš Kratochvíl (FCH), Viktor Malík (FIT), Jiří Matyáš (FIT), Petr Miarka (FCE), Vladimír Prajzler (CEITEC BUT), Stanislav Smatana (FIT), Igor Turčan (CEITEC BUT), Klára Zárybnická (CEITEC BUT) and Markéta Charousová (MENDELU and CEITEC BUT).



▲ The BUT Racing team competing in the Formula Student contest completed the 2018 season with the latest version of their **Dragon 8** monopost occupying an excellent 8th place among 556 teams from around the world in the category of internal combustion engines. The students of the Faculty of Mechanical Engineering took part in the SAE Formula Italy race, Formula Student East (the most innovative car competition organized by the Hungarian Ministry of Innovation and Technology), Formula Student Germany and Formula Student Czech Republic (1st place).

Petr Kousal – the new architecture graduate from the Faculty of Civil Engineering won the **Kaplický Internship** competition. He won a 3-month paid internship in the prestigious Adjaye

Associates architectural studio in London, where he will gain valuable work experience. The expert jury included Glenn DeRoche, an architect from Adjaye Associates, and Deyan Sudjic, the Director of the Design Museum in London. Petr Kousal impressed the jury with his minimalist, but sophisticated, design for the pavilion of the Brno Exhibition Center.

In November Martin Drahanský from the BUT Faculty of Information Technology received the **3rd Degree Medal** awarded by the Regional Directorate of the South Moravian Region. The medal was presented by the Deputy Regional Director for the long-term superior and excellent cooperation with the Criminal Police and Investigation Service. Professor Drahanský's team was involved in the collaborative research into fingerprint falsification, liveness detection and the generation of synthetic fingerprints with various types of damage, and 2D/3D face recognition.

Jan Šrámek from the BUT FFA video studio was awarded in the category of the **Illustrator of the Year** in the Czech Grand Design competition on March 27, 2018. The jury was impressed by his illustrations for the book named The Special Circumstances, which maps extinct socialist art in public spaces. The book was published by the FFA in cooperation with PageFive and PAF Olomouc. The experts also appreciated Šrámek's illustrations for the Paneland Exhibition, alias the Largest Czechoslovak Experiment hosted by the Moravian Gallery in Brno.

BUT students were successful in the competition called **Constructions with the Smell of Wood**, declared by the Wood for Life Foundation. 1st place in the category of small wooden construction was awarded to the Tree Office project of the students from the BUT Faculty of Architecture. The tree office designed by Adam Tomaschek, Patricia Štefíková and Marcel Mottl also succeeded in the Student Metropolitan Competition. Three architecture students from the BUT Faculty of Civil Engineering, Denisa Boháčová, Veronika Dubinová and Zuzana Krčková, won 1st place in the same category, this time from the perspective of the voting public, who liked their design of the observation tower on the hill in Židenice.

On November 27th, 2018, the **Minister of Education** awarded outstanding students in the Senate Knight's Hall. The biomedical student Martin Koban from the BUT Faculty of Electrical Engineering and Communication was one of the ten award-winning students. His bachelor's thesis deals with the demanding interdisciplinary topic of spinal canal segmentation and intervertebral discs in magnetic resonance data. Martin Koban sees the application potential of his bachelor's thesis in diagnostics and therapy. The cooperation of the Institute of Biomedical Engineering with a leading global company creates real possibilities of implementing the student-designed methods in clinical practice.

The BUT Center of Sports Activities announced the results of their **Athlete of the Year 2018** survey, which attracted almost 50 BUT students. The orienteering runner Miloš Nykodým from the BUT Faculty of Civil Engineering was recognised as the best BUT sportsman for a second time and also won

the Rector's Prize for outstanding results in sports. Jana Knapová – a orienteering runner from the same faculty, was awarded 2nd and Marcela Pírková, an athlete from FME, 3rd place.



▲ BUT pneumatic cars beat the European elite. The student prototype of a single-seat compressed air vehicle boasts the best acceleration in Europe. Students of the BUT Faculty of Mechanical Engineering scored with two racing models at international student team races in Hungary in May. They won three of five competition disciplines and ranked 3rd and 4th in the others. They achieved the best result among 36 university teams and reached the top in European competition. **Pneumobil Racing Team Brno** is the only representative of the Czech Republic at the pneumobiles races.

Tereza Hejmová – an assistant of Graphic Design Studio 2 from the Faculty of Fine Arts, won the first place in **The Most Beautiful Czech Books** competition, in the category of Professional Literature specifically, for her graphic design of the Circus Pictus publication. Tereza Hejmová won the Ministry of Culture Award for the second time. Her publication Cirkus Pictus maps circus motifs in Czech art and literature from the beginning of the 19th century to the middle of the 20th century.

Ludmila Čapova designed a new way in which an artificial heart can work. She chose a whirling pump to distribute blood through the body. Thanks to this idea, this fresh FME graduate was awarded first prize at the Edwards Awards on 2 November 2018. This competition awards the best technically oriented diploma theses. Along with **the Edwards Prize**, there was also the Atlas Copco Services Award, presented for the first time, evaluating diploma theses focused on economics and business. The expert jury chose the work of Kristína Lorková from the Faculty of Business and Management, which focused on increasing the effectiveness of marketing activities with the use of experimental methods.

Filip Mívalt, Kamila Lepková and Andrea Beháňová – Brno students of biomedicine, used artificial intelligence to detect Parkinson's disease in speech recording. Their algorithm

won **the Biosignal Challenge 2018** in Prague. The participants were assigned the task of programming an algorithm that will recognize the characteristics of Parkinson's disease in speech recordings. They were provided with a set of recordings of healthy and sick people, and it was up to them to choose an approach enabling detection of the patient's speech. The BUT team won 1st place in the competition of 26 teams.

The Czech Marketing Company awarded Brno University of Technology in its 13th **Marketer of the Year** competition. In the early evening of May 17, 2018, the final took place in the classic theater hall of the Lávka Club by the Charles Bridge in Prague, where marketers and marketing projects of both private and state companies were awarded. BUT won The Little Dolphin for the recruiting campaign "I belong here", namely for the marketing campaign designed to increase girls' interest in technical studies.

In June Miloš Musil, a PhD student at the BUT Faculty of Information Technology, won **Joseph Fourier Award**. He attained second place and a special award from the IT4Innovations National Supercomputing Center for his work in bioinformatics. He created a web service that helps doctors detect harmful mutations. The ceremony was held at the Buquoy Palace, the seat of the French Embassy. The laureates received the award from the hands of Jean-Marie Lehn, Jean-Pierre Sauvage and Serge Haroche – the Nobel laureates.

The Technology Agency of the Czech Republic awarded the best applied research projects in November. The winning project in the Partnership category comes from FEEC and Sewio and is called New Methods for Optimizing Energy Performance and Scalability of Ultra-Band Location Systems. The project was in cooperation with partners from National Chiao Tung University, Taiwan. The result is a localization system that allows work on an area of up to 10,000 square meters, monitoring up to 1,000 different devices while reducing energy consumption by up to 60%.



▲ The cup for **the eight-member rowboats race** which took place in October on the Svatka River in Brno was won by the BUT team. The students of the Brno University of

Technology competed with the Masaryk University team. Although the Hungarian crew from Győr won the Men's Fours with Cox, Brno University of Technology won the silver medal. Women's Fours teams from BUT managed 2nd and 3rd places.

The future **lookout tower on Židenice Hill** in Brno was designed by Barbora Hrončeková, a student of the Faculty of Architecture. The jury judged her design the best, hence she will begin its implementation in 2019. The jury was impressed by the distinctive and simple silhouette of the tower, where the staircase is located in the central part, while the pentagonal ground plan offers good statics and dynamics. The jury chose it from a total of 15 student designs.

A team of two students from the BUT Faculty of Chemistry strive to offer a real chemistry experiment experience to small children. Their **Matelab** game is a set of real chemistry equipment showing children from the age of 8 that every household can turn into a small chemistry lab. Tereza Klementová and Matyáš Horálek are looking for a way to simplify the selected experiments so that only chemicals that are safe and publically available can be used. In December, the students received the Dean's Prize for promoting children's chemistry.

In October, students from the Faculty of Business and Management were awarded at **The International Student "Economics and Management" Olympiad**, that took place at the St. Petersburg State Economic University in Russia. In the competition's 30th year, Jaroslava Staňková gained 3rd and Ivana Svobodová 2nd place for the best presentation in the Testing category. In the consolidation category, the team with Simona Hájková was awarded 1st place.

Anniversaries

The year 2018 was dedicated to the celebrations of **Czech statehood**. In October, 100 years had passed since the establishment of an independent Czechoslovak state. In January, the 25th anniversary of the independent Czech Republic was held. In addition to the exhibition 100 Years Together housed at the BUT Rectorate, the University also commemorated the forgotten personality Professor Josef Hak – an important freedom fighter, who died 50 years ago. The exhibition and lecture on this important electrical engineer took place in the BUT Archive, with significant support from FEEC. A series of video-interviews with witnesses was presented as a part of the History week event, which is available at www.vutbr.cz/historyweek. BUT also participated in the 100 lime-tree event organized by the South Moravian Region. BUT planted its lime tree on October 17, 2018, near the CESA sports complex, on a spot overlooking the BUT faculties. The staff of the Faculty of Architecture and the Faculty of Chemistry joined the Re: publika festival, which commemorated the significant domestic anniversary in the form of a month-long exhibition at the Brno Exhibition Center.



▲ The Faculty of Mechanical Engineering (FME), BUT was victorious for the third time in a row in the contest called **The School Recommended by Employers**. The competition is organized by the Czech Club of Employers and the prominent Czech employers evaluate university faculties according to the quality of their graduates and their contribution to the labor market. A record number of 380 employers from all over the country voted in 2018. The club of employers also evaluated the overall ranking of universities, and BUT was awarded 3rd place.

On April 16, 1848, **Professor Karel Zahradník**, a mathematician and the first BUT Rector, was born. Thus, in 2018, the University commemorated the 170th anniversary of his birth. He was the first Rector of the Czech Technical University in Brno in 1899–1901. In the academic years 1910–1911 he served as the Dean of the Department of Cultural Engineering. Mathematician Karel Zahradník came to Brno from Zagreb, Croatia, and Antonín Rezek described his recruitment as a 'windfall'. Professor Zahradník mastered German, French and Croatian. His geometry textbook, which was first published in 1896, was published in Croatia in 2003 and is still being used in Croatian high schools.

In 2018, 5 years had passed since the opening of the **NETME research and development center**, which operates at the Faculty of Mechanical Engineering of BUT. The opening ceremony took place on 16 May 2013. The NETME Center (Center for New Technologies for Engineering) concentrates on research in the automotive and aerospace industries, as well as on power engineering and engineering technologies.

Currently the Center has 547 employees and almost 40% of its partners come from abroad. More about the Center can be found in the BUT Significant Projects chapter.

The university commemorated a sad 50th anniversary early this year. On January 16, 1968, several students of the then Faculty of Electrical Engineering died after being **engulfed by an avalanche** during a ski training course in Dolný Kubín, Slovakia. Unfortunately, six students did not survive this disaster, and others were injured. In 2018, FEEC representatives attended a memorial meeting in Slovakia commemorating this tragic event.

The Vox Iuvenalis (Voice of Youth) – the BUT choir, celebrated its quarter of a century existence. The choir consists not only of BUT students, but also of students and graduates of other universities. The choir was founded in 1993 by the choirmaster Jan Ocetek who has been conducting it since that time; the function of the choir is supported not only by BUT but also by the Statutory City of Brno. The singing ensemble has gradually built up the position of a quality young ensemble, which has been proven by numerous awards at international competitions and participation in various musical projects at home and abroad.

Edisonka, a University **mini-kindergarten school**, celebrated its fifth birthday. The school is housed at the Faculty of Electrical Engineering and Communication of BUT. The first preschoolers entered this center on September 24, 2013. On this festive occasion, the head of the Telecommunications Department, Jiří Mišurec, donated the amount of CZK 50,000 to the mini-school. The gift cheque was received by Irena Provazníková. This mini-kindergarten school is intended for children under 6 years of age and serves employees of all the BUT faculties.



▲ **The BUT Faculty of Fine Arts** celebrated its 25th anniversary. The three-day celebrations took place from October 3rd–5th 2018 and commemorated a quarter of a century of this artistically profiled faculty that has produced more than 800 graduates. To celebrate its foundation, the Faculty prepared a series of events called Open House FFA BUT, making all 16 of its studios accessible to the public. As an independent faculty, FFA has been operating since 1993, however, the history of fine arts at BUT dates back to 1899, when Czech Brno University of Technology was founded. The Institute of Drawing was established immediately, and Hanuš Schwaiger, an academic painter, became its first professor. The independent Faculty of Arts was established when it was separated from the Faculty of Architecture, thanks to Ivan Ruller, a significant architect, who founded the Institute of Drawing and Modeling in 1992. This very Institute later became the foundation of the future Faculty of Fine Arts.

1.3 Major projects of BUT

Central European Institute of Technology (CEITEC) of BUT

The year 2018 can be briefly characterized as one of internationalization, excellence and new cooperation for the CEITEC BUT research institute. Four new research groups began their work here in January. Petr Neugebauer – the head of one group, and the holder of the prestigious ERC Grant, aims to establish the first modern group in Central Europe focusing on the development of magneto-optical spectroscopy and its applications in material and life sciences. Jan Macák, another ERC Grant holder, who is dedicated to advanced low-dimensional nanomaterials and exploring the relationship of their structures and properties, has also expanded the number of new managers. Vojtěch Uhlíř, whose team deals with nanomagnetism and spintronics, and Jan Čechal, joining two current topics in his scientific focus: molecular arrangement and graphene, were also hired. The founding of the new research groups continued in March, when two foreign experts started to work at CEITEC BUT. The Austrian scientist Hermann Detz is both facing the task of getting a laser and detector on a single chip, and planning a program to connect the Brno and Vienna laboratories and researchers. The priority of Andreas Wolfgang Schell from Germany is to create a team of quantum technology research specialists housed in Brno. The continuing expansion of the international environment of CEITEC BUT is also evidenced by the fact that almost one fifth of the total number of the scientists who started to work here in 2018, came from abroad.

CEITEC BUT's mission is to improve the quality of life through scientific discoveries in material science. A typical example of these goals is Lucy Vojtová's new patent for hydrogel, which will help treat burns, dissolve chemotherapeutics and improve hemostatics and wound coverings using renewable

sources. However, we have noted scientific achievements not only in our researchers, but also in five PhD students who were awarded at the Brno PhD Talent competition. The jury was interested in the topics covering distorted magnetism, polymer foam, advanced ceramics, identification of materials by laser spectroscopy, and the use of nanoparticles for targeted cancer treatment.

During 2018, CEITEC BUT also took part in a number of popular events such as Days of Electron Microscopy, Night of Scientists and BUT Junior. Above all, the Center was involved in organizing scientific conferences. ICN+T conferences attracted experts from around the world, including top scientists in nanotechnology and nanoscience, to come to Brno. We must also mention the international Phase conference, held at "Pod Palackého vrchem" campus, which for a second time offered for a platform for discussing the latest trends in the development of living cell imaging techniques.

2018 was also important for an in-depth analysis of scientific excellence, with the participation of the International Scientific Advisory Board (ISAB), as well as the analysis of the future potential needs of the research center, carried out in connection with RICAIP and Back4Future in the Call H2020: Teaming. In 2018, CEITEC BUT also coordinated the prestigious SINNCE project, which is a part of the H2020: Twinning Call, joining the international network of world-renowned universities (Technical University of Vienna, Swiss ETH Zurich and Weizmann Scientific Institute in Israel) with the aim of setting up the management processes and identifying the areas to which research should be directed in the future. More at www.ceitec.cz.





IT4Innovations

IT4Innovations National Supercomputing Center (IT4Innovations) is an excellent IT researcher, particularly in the area of high-performance computing. IT4Innovations is a research center with strong international bonds. Since its foundation in 2011, IT4Innovations has been representing the Czech Republic as a member of the prestigious pan-European research infrastructure PRACE (Partnership for Advanced Computing in Europe). Since 2016 the Center has also been involved in the European Technology Platform for HPC (ETP4HPC, European Technology Platform in High-Performance Computing), which focuses on defining research priorities in the area of supercomputing in Europe.

IT4Innovations was started thanks to financing from European funds, specifically from the OP RDI. The subsidy amounted to approximately 1.8 billion CZK (of which approximately 200 million came to BUT). The IT4Innovations Excellence Center project was jointly implemented by five partners in the years 2011 and 2015: Technical University of Ostrava, University of Ostrava, Silesian University in Opava, Brno University of Technology and the Institute of Geonics of the Academy of Sciences, CR. The collaboration of these subjects continues in the form of the IT4Innovations excellence in science project from the National Sustainability Program II (NPU II), in the framework of which we continue to excel in the research areas of supercomputing and embedded systems.

The aim of IT4I is to carry out excellent research in the field of very sophisticated calculations and data analysis, and to operate the leading national supercomputer infrastructure, to mediate its efficient use in order to increase the competitiveness and innovation of Czech science and industry. IT4Innovations strives to be a leading supercomputer center that provides professional services and excellent research in high-performance computing and data processing areas to the benefit of science, industry and society.

There were two research programs in BUT in 2018: 'Recognition and Presentation of Information from Multimedia Data' and 'Secure and Reliable Architecture, Networks and Protocols'. Valuable results and publications have been achieved in the following areas: multimedia data processing, industrial applications of advanced information technology, video processing and speech recognition, computer vision and recognition, document and multimedia knowledge acquisition, 3D geometric modeling, data presentation and display, and specialized hardware acceleration, semantic web technology, formal languages and grammar, reliable and secure systems, multiagent systems security, wireless sensor networks and biometric systems, embedded systems, networks and protocols, computer architecture and diagnostics, joint HW/SW development, evolutionary hardware, automatic verification, supercomputer technology as well as modeling, simulation and optimization. More at www.it4i.cz.

Center of New Technologies for Mechanical Engineering (NETME Center)

Cooperation with the traditional regional industrial base as well as a number of international co-operations in the field of applied and contractual research has placed NETME Center among the leading engineering centers in the Czech Republic. NETME Center is a research and development center at the BUT Faculty of Mechanical Engineering. NETME's cooperation with industrial and other external partners reached nearly CZK 25.5 million (non-public sources) in 2018, of which the contract research of the Center represented CZK 20.8 million. As in previous years, the Center has not only managed to establish new cooperation, but has also developed a long-term cooperation with industrial partners from abroad (e.g. Siemens, ArcelorMittal, Primetals Technologies Austria, etc.).

There were 22 GA CR basic research projects in 2018, of which five have been initiated. These projects consistently represent a significant share of FME's basic research. There were 30 TA CR applied research projects, 15 projects in cooperation with industrial companies supported by the Ministry of Industry and Trade of the Czech Republic, and a number of cooperations in the field of contract and collaborative research.

A number of international collaborations, including two projects supported by the H2020 program, were implemented. In total, the Center prepared 28 projects of international cooperation. Research collaboration with the Technical University of Vienna in the field of both minimizing the environmental impact of energy transformations and computational flow and heat and mass transfer represents an interesting example. The starting phase of the cooperation culminated with the submission of the joint research project EMICOM in the WIDESPREAD-03-2018: Twinning call.

In 2018, several strategic cooperation projects with industry supported by OP RDE were launched. NETME Center projects were highly successful and ranked first in the relevant groups: Materials with Internal Architecture Structured for Additive Technologies project proved successful in the Pre-Application Research Call and three other projects in the Long-term Inter-Sector Cooperation Call. There are also two projects in the Excellence Research Call (BUT as a Partner) in aviation and energy. In total, there are seven research projects supported by OP RDE addressed in the Center.

The key factor for further sustainability of the Center in 2018 was the support of TA CR for two National Competence Centers (NCCs): The National Center for Competence of Mechatronics and Smart Technologies for Engineering and the National Competence Center for Aerospace. Both of these NCKs are coordinated from the NETME level, and include 35 major specialization related entities (research organizations and enterprises) from the Czech Republic.

At the end of 2018, the five-year project NPU I – NETME Center Plus was successfully completed. The implementation of the project has resulted in multiple exceedances of the planned outputs, results and indicators. A total of 345 articles were published in impacted periodicals/journals (world databases) from 2014–2018, representing 311 percent of the original planned total. NETME's cooperation with industrial partners reached CZK 105 million from non-public sources during the implementation of the five-year project. Current information is available at www.netme.cz.



Advanced Materials, Structures and Technologies Research Center (AdMaS)

Part of the Faculty of Civil Engineering (FCE), 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 reaches beyond the construction sector, which is evidenced by research targeted at transport systems and the infrastructure of towns and villages

The Center has completed its 4th year of full-scale operation at 139 Purkyňova Street. This year, the Center has continued working on R&D projects (including the international Shift2Rail project under H2020) and begun new ones. In total, there were 50 projects (GA CR, TA CR, Ministry of Industry and Trade, Ministry of the Interior of the CR) and 3 international projects in 2018.

The Center strengthened its commercial policy and intensified its cooperation with the application sphere. Income from commercial activity has reached almost 52 million CZK. In 2018, the mobility of employees abroad and incoming foreign employees continued to increase, contributing to the creation of new partnerships and areas of international cooperation (for example, with TU Wien, Norwegian University of Science and Technology, Nanjing University of Aeronautics and Astronautics, etc.).

This year, most of the planned values of monitoring indicators for the given year have been met. A significant part of them exceeded the planned values, for example,

29 publications were impacted, instead of the 4 planned. National sustainability program I nu. L01408 AdMaS UP – Advanced Building Materials, Structures and Technologies continued successfully in 2018. This project has been running since 1 January 2015.

In October 2018, the AdMaS Center succeeded with the CAMEB project within the National Competence Center program announced by the Czech Technology Agency. The project is aimed at supporting long-term cooperation between the research and application spheres and strengthening the institutional base of applied research. The motivation for founding the CAMEB center is the depletion of non-renewable natural resources, both of material and energy nature, and the impact of this phenomenon on construction. While the current trend of massive energy savings in building operation brings significant improvements in the field of operating energies, the material and energy intensity of construction is growing sharply. Thus, CAMEB brings together partners with competences that will improve the use of building resources in the spirit of circular economics, namely in the areas of materials, construction, indoor environment quality, and energy and water management. These areas will be supported by modern technologies in the field of digitization, optimization, modeling and efficient process management. The project partners are Czech the Technical University in Prague, Technical University of Liberec, Mendel University in Brno and 26 companies from the private sector. See www.admas.eu for details.





Materials Research Centre (MRC)

The Material Research Center successfully completed the Material Research Center project – Sustainability and Development from the National Sustainability Program 1 – at FCH BUT on 31st December, 2018. In the framework of this project, the Center completed all objectives with sufficient reserves and all monitoring indicators such as professional publications, patents, cooperation projects, etc. There has been a significant development of individual research teams, acceleration of their results and further development of the Center's management. The management has gradually become decentralized and oriented on individual research groups and result-oriented motivation has been strengthened. These changes resulted in a noticeable year-on-year increase of outputs (especially publications).

In 2018, MRC created 92 (comparing with 54 in 2017) new unique publications in the areas of science and research. The Center gained one national patent and submitted a PCT application with an excellent review of the method of the elimination of ammonia slip in secondary energy products. This patent license is supposed to be sold outside the Czech Republic. Furthermore, two patent applications have been filed in the area of PHA (polyhydroxyalkanoate) application.

As a part of its cooperation with the application sphere, MRC has implemented 64 contract research projects totaling CZK 13.7 million and 13 cooperation projects supported from grant resources (mainly TA CR, MPO Trio and OP EIC). The Center has acquired three new international cooperation projects, one of which has already begun and two that will be launched on 1 January 2019. In total, there were 14 research projects supported mainly by GA CR, OP RDE, H2020 and SoMoPro in 2018. Current information can be found at www.materials-research.cz.



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 participating departments provided the SIX Center with their research laboratories, while the laboratories' equipment was modernized and significantly expanded thanks to the financial support of the OP RDI from 2011–2013. 2014 was the first year of the Center's full operation without direct financial support from public sources. Despite the absence of this direct support, the SIX Center increased the numbers of its staff and their FTEs, as well as the number of professional outputs and the volume of grants and commercial contracts. The Center also continued its expansion from 2015–2017. Between 2017 and 2018, the volume of projects and the number of FTEs stabilized.

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 the basic research center 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 helps shape the Center into six narrower areas (sensors, signals, radio-frequency systems, mobile communication systems, antennas and high-frequency circuits, and advanced cybernetic security).

In recent years, a growing 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. 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. In cooperation with industry partners, SIX also participates in prestigious space research projects. This is evidenced by the growing number of contracts with the European Space Agency (ESA). For more visit www.six.feec.vutbr.cz.



Center for the Research and Utilization of Renewable Energy Sources (CRURES)

The CRURES research center deals with the complex challenges of renewable energy sources. The Center's research teams concentrate on chemical and photovoltaic energy sources, electro-mechanics, electrotechnology, electrical drives, electricity and industrial electronics in a total of five basic research areas: electromechanical energy conversion optimization, chemical and photovoltaic energy, production, transmission, distribution and the use of electricity, automation and sensor technology and, last but not least, research on the tripping process in switchgear.

In 2018, there was one patent granted and 39 papers published in various scientific journals, of which 14 were in impact factor journals according to the Web of Science database. The Center focuses not only on basic research, but also on expansion of cooperation with the application sphere and acceleration of the transfer of new technologies to the industrial sphere. All the CRURES laboratories form a unique infrastructure that addresses major industrial partners. The Center addressed a total of 23 applied research projects, in cooperation with industrial sector enterprises (TA CR and Ministry of Industry and Trade projects). The funds received for applied research projects amounted to about CZK 13.5 million.

In 2018, in cooperation with E.ON, the Switchgear Laboratory of the Center addressed an interesting project focused on the effects of electric arcing in the switchgear on the human body, and the importance of using protective equipment when working under voltage. The result is a professionally prepared instructional video showing the consequences of improperly selected and used protective equipment when working on the switchgear. The video will be used not only

for training students and staff of the Faculty, but also for the employees of E.ON.

The following are examples of other applied research projects: A Modular Sewage Treatment Plant for Municipalities using their own Energy Potential to Minimize Operating Costs (company ASIO, sro, TA ČR) and Research and Development of Asynchronous Motors with New Rotors (ATAS elektromotory, Náchod, as, MPO). In addition to these applied research collaborative projects, in 2018 a total of 129 research contracts were addressed with a financial benefit of approximately CZK 22 million. The most important research contracts include: Development and Delivery of a Measuring Station for the Measurement of Precision Gearbox Parameters (Reggiana Riduttori), Developmental Evaluation of Switching Off Electrical Devices (OEZ, Inc), Analysis of OLIFE Battery Properties (Olife Corporation) and Analysis of the Effect of Transition of a Compensated System to a Resistance Grounded (E.ON CR).

An important part of the CRURES Center is a large infrastructure named CRURES Power Laboratories (CRURES 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 enables, for example, the simulation of extreme short-circuit conditions in the network and lightning discharge into conducting wires. More detailed information can be found at www.cvvoze.cz.

1.4 Achieved objectives within the BUT Long-Term Plan for 2018

Brno University of Technology has clearly defined its strategic objectives. The main priorities in the area of educational, creative and related activities are presented in the BUT Strategic Plan for 2016–2020 and cover educational, scientific, creative, and supporting activities. These priorities are linked to the area of international cooperation and are relevant to the defined mission and role of the University. The strategic plan is closely linked to the annual plans for its implementation. The preparation of the strategic plan is guaranteed by the University management, in cooperation with representatives of the individual areas of the University's activities from individual faculties and other workplaces, including students' representatives. Completion of strategic objectives and the development of key indicators are regularly evaluated. The outline and priority objectives of the BUT Strategic Plan represent the backbone structure for the preparation of the strategic plans of the University faculties and components.

The BUT Strategic Plan contains 7 priority objectives:

Priority Objective 1:

Quality Assurance and Strategic Management

Priority Objective 2:

Diversity and availability of learning activities

Priority Objective 3:

Internationalization

Priority Objective 4:

Relevance, Graduates, Marketing and the Application Sphere

Priority Objective 5:

Quality and relevant research, development and innovation

Priority Objective 6:

Decision-making and development based on information and data

Priority 7:

Effective management

Following the Announcement of the Institutional Program for Public Universities for 2019–2020, a new BUT Institutional Plan was prepared in 2018. Through the Institutional Plan, BUT aims to achieve specific goals based on the Ministry's strategic plan and its own strategic plan. The BUT institutional plan contains traceable performance indicators and their target values.

BUT provides a wide range of education, offering study programs ranging from engineering and science, to economics and art. BUT is constantly expanding its portfolio to reflect the evolving demand of companies and potential employers of BUT graduates.

In 2018, BUT met several key goals. The external evaluation implemented by an independent international agency of the European University Association (EUA) within the Institutional Evaluation Program (IEP) was completed. The output is an evaluation report containing recommendations from independent international experts for individual specializations. The second major BUT objective attained in 2018 was the submission of an application for institutional accreditation of the following specializations: economic fields, electrical engineering, energy, chemistry, informatics, construction and engineering. Institutional accreditation has been submitted for bachelor's, master's and doctoral degree programs. In addition to the above, there were many sub-goals achieved in individual strategic areas. Most of the goals are of a long-term character; meeting them is a gradual process.

1.5 Activities of the Academic Senate of BUT in 2018

In 2018, the BUT Academic Senate (hereinafter referred to as AS) held eight regular sessions, plus an external session. The AS's main topics were legislative, economic, educational and creative activities. After the election of the BUT Rector for the next term of office (at the last meeting of the previous AS in October 2017), the newly elected AS (constituent meeting in November 2017) discussed the new team of Vice-Rectors for the term of office from February 2018 to January 2022. New members of the BUT Scientific Council were approved at the following meeting.

The standard activities of the AS include the approval of the annual reports on the activity and financial management of BUT for 2017, negotiations on the preparation and approval of the budgeting rules, and the subsequent approval of the BUT Budget for 2018. In connection with the discussion of the budget for 2018, great attention was paid to the ongoing analyzes of the BUT IS, especially in connection with the improvement of computer support, the division of specific research resources and RIV points among the University constituents. AS was continuously discussing and approving legislative proposals for amendments to the BUT internal regulations – namely the amendments to the BUT Study and Examination Regulations and Scholarship Regulations, and the new internal regulation – the BUT Rector's Rules of Procedure. A substantial part of the discussion took place at the AS external meeting in Černá Hora in June 2018. Next, the AS discussed changes to the internal regulations of the BUT faculties related to the implementation of the amendment to Act No. 111/1998 Coll. (see Act No. 137/2016 Coll.), which have not yet been discussed due to the large number of internal regulations approved in 2017 (especially the FA and FFA internal regulations). The AS discussed the new accreditations for the University institutions and more effective information for the BUT academic community. In the context of BUT's long-term strategy, AS continued to examine in detail a number of analyzes concerning major projects. AS approved the Implementation of the BUT Strategic Plan for 2019, Centralized Investment and Non-Investment Funds for 2019 (update) and The Investment Activity Plan for 2019. All topics were analyzed in detail in AS Working Committees.

The Economic Committee of the AS of BUT (hereinafter the EC) held 17 meetings discussing the BUT Budget and Financial Management Rules for 2018 and subsequently the BUT Budget for 2018 and the above-mentioned strategic documents. Analytical materials in tabular and text form were prepared and presented to AS during the preparation of the budget rules and the subsequent discussion of the BUT Budget plan for 2018. These materials specified some decisions and simplified the discussions on financing excessive numbers of students and the large research centers of the BUT constituents. Other analytical materials were prepared in connection with the representation of universities (university councils). The documents were distributed by the AS members individually as the parts of the reports

from the self-governing bodies. The EC cooperated with the bursar and Rector to reach detailed transparency of financial flows; the financial structure and the BUT budget in terms of resources.

The Legislative Commission of the AS of BUT (hereafter LC) held one standard meeting concerning the Rules of Procedure of the AS of the Faculty of Architecture. Other LC meetings on legislative proposals were held in accordance with the new Rules of Procedure of BUT AS per rollam. The LC Chairwoman always asked the members of the Commission to send any comments, which she summarized and provided to the submitter. The documents containing the comments were subsequently sent to all AS members. LC subsequently expressed its opinion by voting per rollam and the documents were discussed in the AS. In 2018, LC continued to cooperate significantly with the Legal Department of the BUT Rectorate.

The Pedagogical Committee of the AS of BUT convened two sessions and an external meeting of the BUT AS from June 26th–28th, 2018. Most of the presented materials were discussed in per rollam mode. The PC dealt mainly with the guidelines for admissions to BUT institutions (IFI, CEITEC BUT) and commented on the amended BUT internal regulations concerning the field of study. The application for accreditation of the study program Sport Technology (CESA) was also discussed. The PC evaluates the cooperation with BUT management very well, as the study vice-rector often participated in the negotiations on the submitted materials.

The Committee for Creative Activities of the AS of BUT (hereinafter CCA) presented a resolution per rollam and recommendations of topical issues in the field of creative activity: e.g. opinion and subsequent recommendation of the proposed members of the BUT Scientific Board, approval of the proposed members of the CESA BUT Scientific Council, Implementation of the BUT Strategic Plan for 2017 and Implementation of the strategic plan of IFI BUT for 2018, as well as preparation of negotiations on methodology of R&D M17+ during the external meeting. CCA also commented again on the guidelines of the Student Grant Competition supporting the projects of BUT specific research and evaluation criteria (November, December).

In 2018, 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 (AC) in the Board of Higher Education (BHE) provided members of the AS with regular up-to-date reports from the committees.

Lectures and workshops were held, as is traditional, at the AS meeting held from June 26th–28th, 2018 at the Malthouse Hotel in Černá Hora as part of a follow-up seminar on the

development project Promoting Self-Government and the Autonomy of Universities. The seminar aims to support the promotion of university autonomy and self-government. AS's discussions with the BUT management concerning property-related issues can be considered as crucial.

Another substantial part of the discussion concerned changes in the BUT study regulations – BUT Study and Examination Regulations and BUT Scholarship Regulations. As always, the participation of all members of the BUT management – the Rector, Bursar, Vice-Rectors, the Chancellor, the head of the Marketing and External Relations Department, the head of the Department of Study Affairs and representatives of the BUT Central Library – can be evaluated very positively. The seminar was also visited by the BHE representatives – the chairwoman of the Economic Committee, the chairman of the Legislative Committee and the chairman of the Scientific Activity Committee – who presented current information from the BHE.

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. The SC cooperated with the student chambers of individual faculties and other BUT student organizations to create a traditional guide for first year BUT students, which is available at www.priurucka.vut.cz. The SC continued the Intern Fund to support student projects and implemented TOP10 – a student survey of the best BUT teacher. Voting took place from May 9th–June 30th, 2018 and was evaluated from July to September. In October, the results were published in the BUT information system and the winners were awarded at the BUT Academic Assembly in November. In December, SC members, along with BUT students, participated in organizing the BUT Ball, which took place on December 7th, 2018 at the Brno Exhibition Center, attended by 3,600 guests. The tickets were sold out in a record 4.5 hours, which was the fastest ticket sale in the modern history of the ball.

All the above-mentioned activities of AS are aimed at strengthening cooperation between BUT management and AS 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

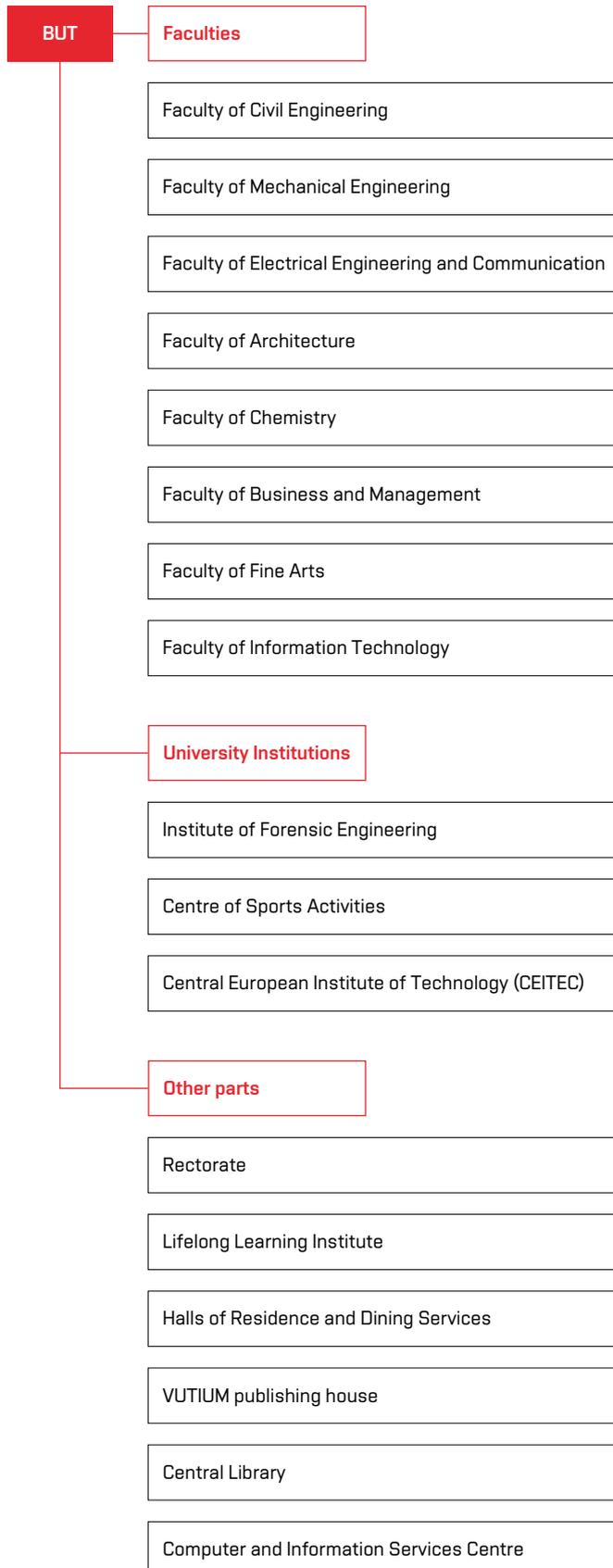
CESA
2896/2 Technická Street, 616 69 Brno
www.cesa.vutbr.cz

Central European Institute of Technology of BUT

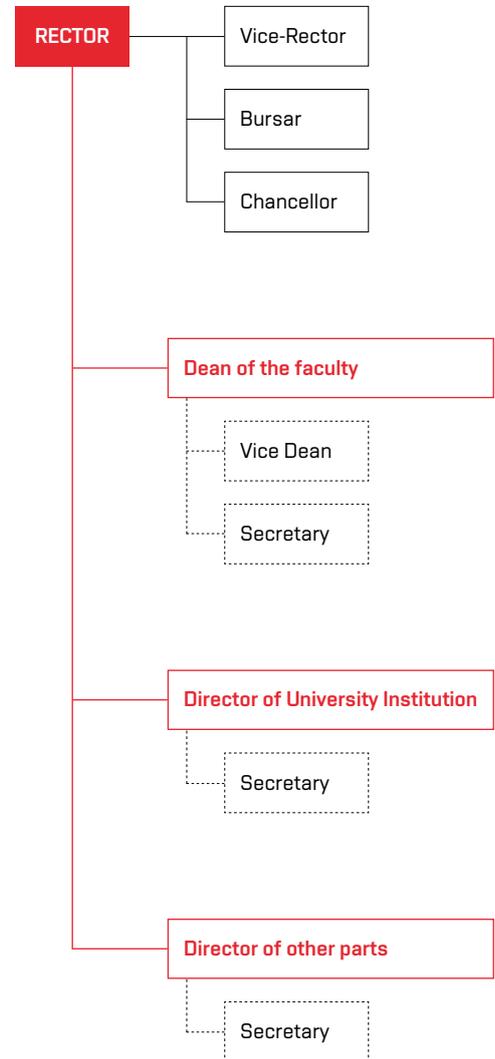
CEITEC BUT
3058/10 Technická Street, 616 00 Brno
www.ceitec.vutbr.cz

2.2 Organizational chart of BUT

Organizational chart of BUT



Management structure of BUT



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

Scientific Board of BUT

Chairman

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

Members (until 31 January 2018)

- Assoc. Prof. MSc Vojtěch Bartoš, PhD
- Prof. MSc Ladislav Buřita, PhD
- Prof. MSc Jarmila Dědková, PhD
- MSc Jaroslav Doležal, PhD, dr. h. c.
- Prof. RNDr. 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. PeaDr. Radek Horáček, PhD
- Assoc. Prof. MgA Milan Houser
- Assoc. Prof. MSc arch. Jan Hrubý
- Prof. Tomáš Hruška,
- Prof. Marcela Karmazínová
- Assoc. Prof. Jaroslav Katolický, PhD
- MSc Jaroslav Klíma
- Prof. Petr Konvalinka, CSc.
- Prof. Jan Kovanda, CSc.
- Prof. Zdeněk Kůs, DrSc.
- Prof. Miroslav Ludwig
- MSc Ilona Müllerová, DrSc.
- Prof. Drahomír Novák, DrSc.
- MSc Eduard Palíšek, PhD, MBA
- Prof. Miloslav Pekař, CSc.
- Prof. Zbyněk Raida
- Prof. Karel Rais, MBA
- Prof. Robert Redhammer, PhD
- Prof. Petr Sába
- Assoc. Prof. Stanislav Škapa, PhD
- Assoc. Prof. Aleš Vémola, PhD
- Assoc. Prof. Stanislav Veselý
- Prof. Peter Vojtáš, DrSc.
- Prof. Ivo Vondrák
- Prof. Radimír Vrba
- Prof. Martin Weiter, PhD
- Prof. MSc Pavel Zemčík, DrSc.

Members (from 13 February 2018)

- Assoc. Prof. Vladimír Aubrecht, PhD
- Assoc. Prof. Miroslav Bajer
- Prof. Miroslav Doupovec, PhD, dr. h. c.
- MSc Karel Endlicher
- MSc Miloš Filip
- Prof. Michal Gabriel
- Prof. MSc Lubomír Grmela, PhD
- Prof. MSc Martin Hartl, PhD
- Prof. MSc Jiří Hirš
- Prof. PeaDr. Radek Horáček, PhD
- Assoc. Prof. MgA Milan Houser
- Assoc. Prof. MSc arch. Jan Hrubý
- Assoc. Prof. Petr Hruška
- Prof. MSc Tomáš Hruška
- PhD Assoc. Prof. Jaroslav Katolický, PhD
- MSc Jaroslav Klíma
- Prof. MSc. Jiří Málek
- Prof. Ivana Márová, PhD
- Assoc. Prof. MgA Ilona Müllerová
- Prof. Drahomír Novák, DrSc.
- MSc Eduard Palíšek, PhD, MBA
- Assoc. Prof. Juraj Pančík, PhD
- Prof. Karel Rais, MBA
- Prof. Robert Redhammer, PhD
- Prof. MSc Mária Režňáková
- MSc Dětiřich Robenek
- Prof. Petr Sába
- Prof. MSc Lukáš Sekanina, PhD
- MSc Martin Slezák
- Prof. MSc Ján Šajbidor, DrSc, dr. h. c.
- Prof. Tomáš Šikola, PhD
- Assoc. Prof. Stanislav Škapa, PhD
- Prof. MSc arch. Vladimír Šlapeta, DrSc.
- MSc Miloš Štěpánovský
- Prof. Ing. Pavel Václavěk, PhD
- Assoc. Prof. Aleš Vémola, PhD
- Prof. Peter Vojtáš, DrSc
- Prof. MSc Radimír Vrba
- Prof. Martin Weiter, PhD
- Prof. MSc Pavel Zemčík, DrSc

BUT Management Board

Chairperson

- MSc Michal Štefl – until 14 May 2018

Chairman

- MSc Eva Bartoňová
- Assoc. Prof. Vladimír Dlouhý, MBA – from 21 May 2018
- Valentin Girstl – until 14 May 2018
- MSc Miroslav Hošek – until 14 May 2018
- MSc Jaroslav Klíma – from 21 May 2018
- MSc Miloslav Kopeček – from 21 May 2018
- PhDr. Miroslava Kopicová
- Mgr. Petr Kostík
- JUDr. Martin Maisner, PhD – until 14 May 2018
- ThDr. MSc Lukáš Evžen Martinec
- Mgr. Stanislav Moša
- MSc Jiří Nekovář
- MSc Eduard Palíšek, PhD, MBA – from 21 May 2018
- MSc Martin Pecina, MBA – until 14 May 2018
- MSc Petr Rafaj
- Prof. RNDr. Eduard Schmidt
- MSc Jan Světlík
- MSc Petr Vokřál – from 21 May 2018
- Prof. MUDr. Jiří Vorlíček, CSc.

BUT Board for Internal Rating

Chairman

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

Vice-Chairman

- Prof. MSc Tomáš Hruška, PhD

Members

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

BUT Disciplinary Board

Chairman

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

Members

- Assoc. Prof. Vojtěch Bartoš, PhD –
until 9 October 2018
- Prof. MSc Jiří Hirš, CSc. –
from 10 October 2018
- Prof. MSc Tomáš Hruška, PhD –
from 10 October 2018
- MSc Radek Hranický
- Bc. Daniel Janík
- Prof. MSc Marcela Karmazínová,
CSc. – until 9 October 2018
- MSc Pavel Maxera

Academic Senate (AS) of BUT

Chairperson

- Assoc. Prof. Petr Hanáček, Dr.SC

Vice-chairpersons

- MSc Pavel Maxera
- Prof. Milada Vávrová, PhD

Chamber of Academic Staff of BUT AS

Chairperson of Chamber

- Prof. Milada Vávrová, PhD

Members

- Assoc. Prof. Mgr. Tomáš Apeltauer, PhD
- MSc Petr Beneš, PhD
- MSc Albert Bradáč, PhD
- MSc arch. Nicol Galeová
- Prof MSc Eva Gescheidtová, PhD
- Assoc. Prof. MSc Petr Hanáček, PhD
- MgA Tomáš Hruža
- MgA Katarína Hládeková
- Assoc. Prof. MSc Jiří Jaroš, PhD
- MgA arch. Jan Kristek, PhD – until 9 November 2018
- Assoc. Prof. MSc Miloslav Meixner – from 4 December 2018
- Mgr. Bc. Helena Musilová
- MSc Tomáš Opravil, PhD
- Pavel Popela, PhD
- PaedDr Milan Slezáček
- MS. Lenka Smolíková, PhD
- Assoc. Prof. MSc Miloslav Steinbauer, PhD
- Prof. Josef Štětina, PhD

Chamber of Students of BUT AS

Chairperson of Chamber

- MSc Pavel Maxera

Members

- Bc. Jakub Czapek
- MSc Radek Hranický
- MSc Daniel Janík
- Eliška Jarmerová
- MSc Tereza Konečná
- MSc Anna Kruljácová, MSc
- MgA Martina Růžičková – until 10 September 2018
- Kristína Šintajová

Working Committee of BUT AS

Legislative Committee

Chairperson

- Mgr Helena Musilová

Members

- Prof MSc Eva Gescheidtová, PhD
- MgA Katarína Hládeková
- MgA arch. Ing. arch. Jan Kristek, Ph.D – until 9 November 2018
- Assoc. Prof. MSc Miloslav Steinbauer, PhD

Students

- MSc Radek Hranický
- Eliška Jarmerová
- MSc Tereza Konečná
- MSc Anna Kruljácová, MSc
- MSc Pavel Maxera

Economic Commission

Chairperson

- Pavel Popela, PhD

Members

- MSc Petr Beneš, PhD
- MSc Albert Bradáč, PhD
- MSc arch. Nicol Galeová
- MgA Tomáš Hruža
- Assoc. Prof. MSc Jiří Jaroš, PhD
- MSc Tomáš Opravil, PhD
- PaedD Milan Slezáček
- MSc Lenka Smolíková, PhD
- Prof. Ing. Josef Štětina, PhD
- Assoc. Prof. MSc Miloslav Steinbauer, PhD
- Prof. Milada Vávrová, PhD

Students

- Bc. Jakub Czapek
- MSc Daniel Janík
- MSc Anna Kruljácová, MSc

Pedagogical Commission

Chairperson

- Assoc. Prof. MSc Miloslav Steinbauer, PhD

Members

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

Students

- Bc. Jakub Czapek
- MSc Daniel Janík
- Eliška Jarmerová
- MSc Tereza Konečná
- MgA Martina Růžičková – until 10 September 2018
- Kristína Šintajová

Commission for Creative Activities

Chairperson

- MSc Albert Bradáč, PhD

Members

- Assoc. Prof. Tomáš Apeltauer, PhD
- Prof. MSc Eva Gescheidtová, PhD
- Assoc. Prof. MSc Jiří Jaroš, PhD
- MgA arch. Ing. arch. Jan Kristek, PhD – until 9 November 2018
- MSc Tomáš Opravil, PhD
- MSc Lenka Smolíková, PhD
- prof. Ing. Josef Štětina, PhD
- Prof. Milada Vávrová, PhD

Students

- MSc Radek Hranický
- MSc Anna Kruljácová, MSc
- MSc Pavel Maxera

2.4 Representation of BUT among universities

Czech Rectors Conference

- Prof. MSc Petr Štěpánek, PhD

BUT representatives on the Board of Higher Education (BHU)

Members of the BHU presidium

- Pavel Popela, PhD

Members of the BHU assembly

- MSc arch. Nicol Galeová (FA)
- MSc Ivana Jakubová (FECT)
- Assoc. Prof. Lenka Klodová, PhD (FFA)
- MSc Radek Kočí, PhD (FIT)
- Assoc. Prof. MSc Jana Korytářová, PhD (FCE)
- MSc Pavel Mráček, PhD (FBM)
- Mgr. Bc. Helena Musilová (BUT)
- Pavel Popela, PhD (BUT)
- MSc Jan Roupec, PhD (FME)
- Prof. Milada Vávrová, PhD (FCH)

Members of the Student Chamber of the BHU

- MSc Anna Kruljacová – delegate
- Eliška Jarmerová – substitute

Member of the Assembly of the Academy of Sciences of the Czech Republic and member of the Supervisory Board of the ASCR

- Prof. Milada Vávrová, PhD

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 the 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 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, corporate and cultural spheres. It develops international, especially European, cooperation, supports joint projects with similar institutions abroad, transfer of studies and diplomas, 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 bases the principles of its activity on academic freedom. This value is related to: institutional autonomy, political independence, freedom of thought, the right to present and defend opinions, and 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 2018

BUT Payroll Regulations – Amendment No. 1, was approved and registered, effective from 4 June 2018.

BUT Statute – Amendment No. 2 was approved and registered, effective from July 27, 2018.

BUT Study and Examination Regulations – Supplement No. 1 was approved and registered, effective from 1 September 2018.

BUT Scholarship Regulations – Amendment No. 1 was approved and registered, effective from 1 September 2018

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

In 2018, BUT received a total of 5 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

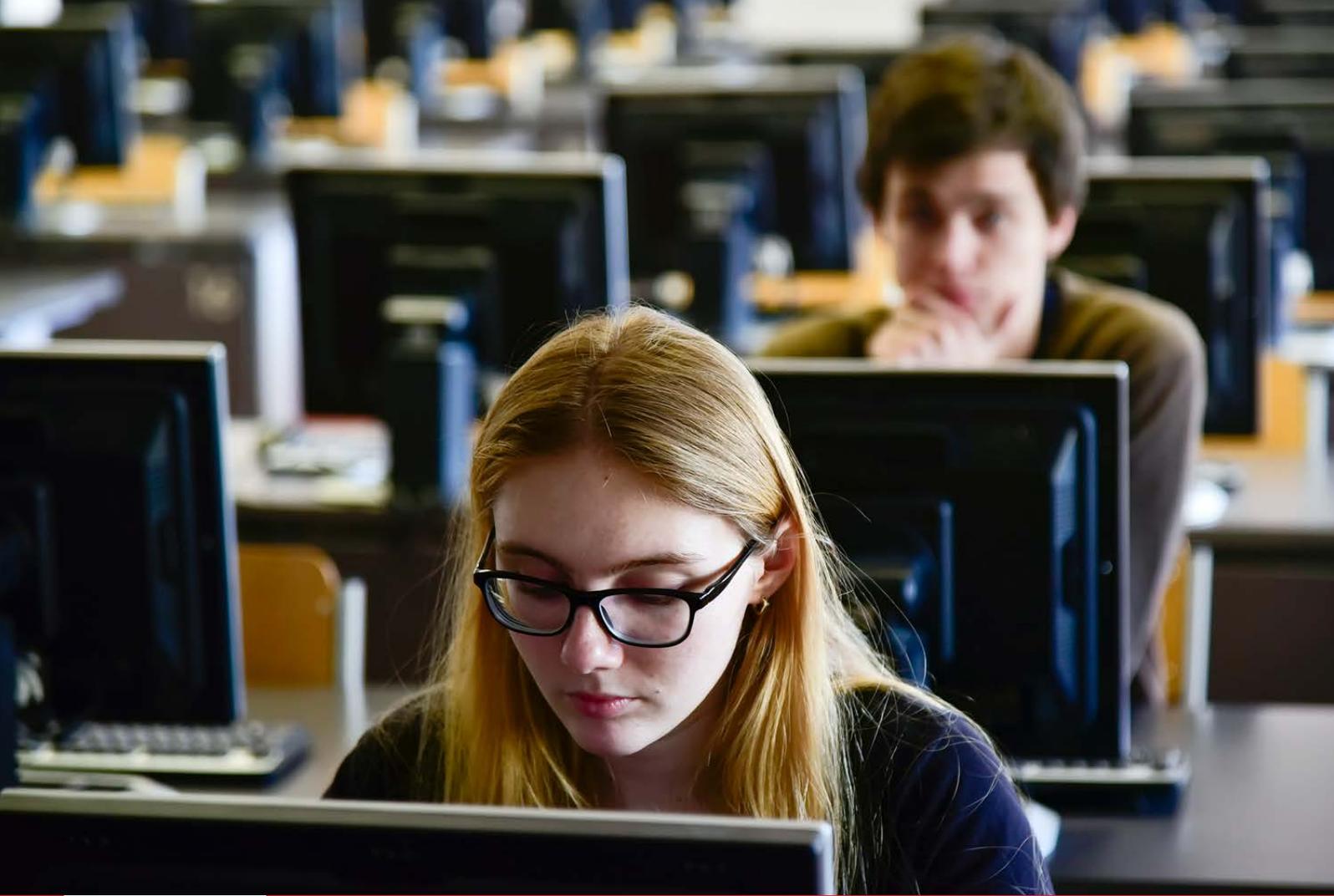
3.1 Number of accredited degree programs

BUT registered a total of 117 accredited study programs at the end of 2018. More information is in the table of the annual report (Table 2.1).

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

In 2018, BUT employees could make use of 155 courses organized by the Institute of Lifelong Learning on 91 different topics. The Institute of Lifelong Learning also organized 24 language courses and one course of the Additional Pedagogical Minimum. A total of 180 courses were organized in 2018, attended by 1,632 students (1,351 in internal

education courses, 267 in language courses and 14 in pedagogical sciences). 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 table section of the Annual Report and at www.lli.vutbr.cz



4

Students

4.1 Measures to reduce academic failure

The individual faculties of BUT offer preparatory courses for the entrance exams, and also preparatory exams for first year students before the beginning of the first semester. The preparatory courses are offered by practically all BUT faculties. Sometimes it is also necessary to balance the input knowledge of newcomers: grammar school students, whose share in some faculties is growing, usually exhibit only marginal technical knowledge. On the contrary, they exhibit solid knowledge of mathematics and physics, which gives them an advantage in theoretical subjects. The situation is the opposite in technical secondary school graduates. These are compensated after admission thanks to various optional subjects, such as Selected Chapters from Design Basics, Selected Chapters from Mathematics, etc.

In addition, faculties also organize various summer schools. At some faculties, there is a system of so-called

ambassadors, which are students with higher grades who provide incoming students with the information about the running and contents of the course. This year, BUT started the preparation of a new Knowledge Technique campaign, which will be officially launched in 2019 and which directly aims at reducing academic failure. The Student Chamber of the BUT Academic Senate has prepared a Freshman's Guide for new students, which is available online at www.priirucka.vut.cz.

BUT tries to identify the causes of academic failure, offering assistance, for example in the form of consultations at the Alfons Advisory Center. The Alfons Center also offers students a wide range of opportunities to cope with their specific needs. For example, EEG Biofeedback gives students the possibility to improve their concentration and thus improve their study results.

4.2 Measures applied to limit the extension of studies

The threat of the fees associated with exceeding the standard length of study by one year represents one of the most significant negative motivations for students. The Study Department informs them about this obligation from the very beginning of their studies so that they can promptly adapt their study strategy and avoid the potential threat of fees. The fee is relatively low in the first year; however, it gradually increases and represents a significant amount of money in the third year.

We can also mention the optional and preparatory courses that help students make their transition from high school to the University so that they have a better chance to complete their studies at a specified time. BUT also tries to present individual study programs to the candidates, so that they can choose the program they want to study with respect to their interests, abilities and talents. This gives the students chance to complete their studies in the standard time.

4.3 BUT and specific scholarship programs

All BUT faculties pay scholarships for excellent study results. E.g. the Institute of Forensic Engineering provides students with extraordinary scholarships in cases of difficult life situations. The University Rector can provide a student with the extraordinary social scholarship in a case of suddenly deteriorated social circumstances. The purpose of this one-off scholarship is to help overcome the unfavorable period and increase the chances of a successful continuation of studies.

The Student Chamber of the Academic Senate of BUT offers active students funding of their projects by 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 the University resources aimed at selected student projects.

4.4 BUT Advisory services for students and their scope

The Student Counseling Section is a part of the BUT Institute of Lifelong Learning (hereinafter ILL). The Institute 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. Based on feedback we can say that students are satisfied with the services. In 2018, ILL employees again participated in the organization of the JobChallenge fair. The fair was visited by approximately 2.7 thousand Brno students, of which more than 700 were from BUT (27, 1%).

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 adapt to difficulties. In 2018 it provided 315 psychological consultations.

Career counseling – this type of counseling helps students to choose their future jobs, and to plan and manage careers. It also addresses internal obstacles to career choices and job searches. This service also helps create a professional profile and offers coaching. There were 91 consultations provided in 2018.

Development and preparatory courses – Group activities aimed at the development of soft skills. Students use the acquired knowledge and skills to manage their personal, study and work lives. The courses are interactive in small groups (8 to 15 participants) and are presented, depending on their topic, either in the form of one-day training or regular meetings. There were 41 courses in this area, attended by 553 students.

4.5 Identification and support of students with specific needs

The applicants and students with specific needs (hereinafter referred to as SN), such as learning or health disabilities, mental illness, chronic somatic disease, etc., are provided with study support meeting the requirements of the MEYS standards. In particular, the services provide adaptation of admission procedures and the organization of studies through support services and directorial measures.

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 continues to improve academic awareness 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 hand them in personally at registration.

In 2018, 185 BUT students with special needs benefitted from the services of the Center. These services included individual English language lessons, interpretation into Czech sign language, simultaneous transcription, content writing, articulation interpreting, help with spatial orientation and individual counseling with the Center's counselors. In the year 2018, there were 7 courses organized for SN students, which were attended by 76 participants. Their topics covered mainly soft skills and legal issues.

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. The sessions are held individually throughout the academic year.

4.6 Support of exceptionally gifted students and BUT applicants

The faculties can reward gifted students by merit or extraordinary scholarships. For example, the Faculty of Chemistry offers scholarships for talented students paid in the form of a Dean's Award. These funds are provided by partner companies. The faculties can also nominate talented students for the Rector's Award, or for external competitions (such as Brno Ph.D Talent, the Werner von Siemens Award, etc.).

Active students have the opportunity to join student clubs and organizations, and participate in international competitions; PhD students can get funding through their participation in specific research. The five hundred best high school graduates who sign up at BUT will also receive a one-off financial contribution of CZK 6,000. However, the contribution is intended only for graduates of Czech state high schools. Extremely gifted students are also involved in specific projects of individual BUT institutes.

4.7 Support and identification of socio-economically challenged students

S-Compass service, run by the Alfons Advisory Center, provides students with socio-economic disadvantages with information about the scholarships (accommodation, merit, social, extraordinary, etc.) and allowances and benefits that they can claim. In addition to personal consultations, the students can also contact a counselor via e-mail at skompas@lli.vutbr.cz. In addition to social support, the students can also get legal advice, for example in the area of lease contracts, labor law, legal forms of business, etc. 11 students communicated by e-mail in social Issues, 15 in legal issues. The services of the Alfons Advisory Center are used not only by BUT students and applicants for study, but also by fresh graduates of technology in Brno, and academic and non-academic BUT staff.

The social and family situations of the students can be recognized by the reduction of tuition fees in cases where

they are required to pay them. The fees must always motivate students to complete their studies, but they should not be a fatal obstacle provided the students meet the requirements for completing their studies. The fees can be also paid in installments.

Certain disadvantages can be noticed by students who work while studying and therefore apply for the adaptation of their compulsory study attendance. For example, since the academic year of 2018/19, the Institute of Forensic Engineering has been assessing these applications individually. The Institute makes use of pedagogical advisors and departmental heads, who discuss the application with the student and assess whether they are able to continue their studies successfully.

4.8 Support of parenting students

BUT allows student-parents to apply for interruption of their studies, as parenthood is considered to be a legitimate reason to comply with this request. Another option is applying for an individual study plan. The time when a student studies in a legally defined "recognized parenthood time" does not count as part of the total study time from which the fee obligation is calculated later.

BUT runs Edisonka – a mini nursery school which celebrated 5 years of existence this year. Edisonka is housed in the building of FEEC and serves the children of BUT employees and students. Edisonka is not a regular nursery school but a babysitting corner for children up to 6 years of age. This year a new room serving as a resting place for parenting students, who take turns taking care of the child between individual study blocks, was opened at the Faculty of Chemistry. In addition, some women's toilets at BUT are equipped with changing tables.



5

Graduates

5.1 Cooperation and contact of BUT with its graduates

Contact with graduates is facilitated via the Internet portal absolventi.vut.cz with diploma verification module and regular updates of news and events from University life. The graduates are also regularly informed about the most important events at the University in the newsletter VUTARIUM, which brings an overview of the most important events and invitations to those mostly intended for the graduates. Detailed graduate surveys are held regularly, at two-year intervals, some of which are newly modified, e.g. a survey of the employability of graduates.

BUT also organizes graduate meetings, e.g. personal meetings with University representatives on special occasions – such as the anniversary of faculties, university, open days, social events, academic ceremonies, etc. During 2018, BUT started preparing celebrations for the coming year, when it will commemorate the 120th anniversary of its existence. The

celebration will also include the Golden Graduation Ceremony for the graduates from 50 years ago. That is why the preparations for the academic ceremony, and the collection of the contacts for 1969 graduates have started.

BUT cooperates with companies and personnel agencies, namely in close cooperation with the faculties. There is continuous communication at the level of personal offers, participation in fairs, job opportunities, etc. The Department of Marketing and External Relations also provides graduates with an information service. It helps connect them with relevant workplaces, for example in the requirement of diploma verification, university education/study certificates, BUT Archive contact information etc. It also manages the BUT Graduates profile on LinkedIn, and updates it regularly with events, invitations, alumni interviews, etc.

5.2 Monitoring of BUT graduate employability, measurement for its increase, surveys of graduate employability and its reflection in study programs content

In 2018, BUT conducted an internal survey of students in the last year of their Master's degree program and received 641 answers. Among other things, the survey showed that 43% of full-time students have already been working (either as employees or entrepreneurs), while another 18% had received the promise of a job. No less than 45% had landed a job through the help of an activity at, or information from, BUT.

Another survey performed and evaluated in 2018 also partly involved the area of employment. It is a regular survey of students in the last year of their bachelor study. Only 7% said that they do not want to continue their studies but want to start working (or have other plans).

Based on extensive databases, during 2018 we approached 1,610 companies and organizations employing BUT graduates. We used a set of questions with the aim of finding out what professions are most in demand, what specific knowledge and skills the employers require, and how they evaluate the preparedness of the graduates for a career. This survey will be evaluated in the first quarter of 2019.

At the end of the year, BUT participated in two other projects coordinated by the Ministry of Education, Youth and Sports and the Center for Higher Education Studies: Graduate 2018, addressing graduates from 2013 to 2017, and the international Eurograduate project.

5.3 Cooperation with prospective employers of BUT

At the level of faculties, or institutes, representatives of the application sphere can participate in teaching, supervising bachelor's and master's theses, cooperating in the field of specific research, and in professional conferences organized by the faculties. BUT faculties and faculty laboratories, research centers, and top scientific teams help companies do business, test products, and apply knowledge.

One of the important BUT links with the application sphere is the interconnection at the level of trade fairs and the newly established BUT Career Center. During 2018, employers could meet BUT students at iKariera Fairs, 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 FEEC. The event presents companies from the field of electronics and IT that are interested in employing FEEC 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, cooperating with Masaryk University and Mendel University of Brno. In 2018, the fair was held for a second time at the Brno Exhibition Center in Hall A1, where students could personally meet representatives of 126 exhibitors. BUT considers the job fairs very important as participating companies can address students and discuss their requirements and job offers. Students have the opportunity to make contacts with their future employers.

In September 2018, the BUT Career Center project was officially launched. The Center aims to connect students and the application sphere. It concentrates on providing comprehensive services for BUT students, focusing on their career development and promoting their entrepreneurial minds. It enables companies to advertise jobs, professional internships and training, and the opportunity for BUT students to participate in the Career Center. More information is available at kariera.vut.cz.

In December, the BUT Business Club took place for a second time. The event was a part of the BUT University Ball held at the Brno Exhibition Center. Representatives of the important commercial partners had the opportunity to meet the University management. During the evening they exchanged contacts and their experience, and discussed the possibilities of cooperation.

An important part of the University's services is the rental of BUT premises, accommodation and other facilities, which are also offered for commercial use.





6

Interest in studies

6.1 Characterization of entrance exams

BUT entrance examinations are organized by individual BUT Faculties. Some Faculties also use the services of Scio – a private company which organizes the National Comparative Exam. The entrance examinations consist mostly of the secondary school curriculum of mathematics and physics, depending on the particular study program. Based on the admission guidelines, most of the Faculties can waive the entrance examination on the basis of study results,

participation in various competitions (especially Secondary school activities, various Olympics), etc. under precisely defined conditions. The Faculty of Architecture and the Faculty of Fine Arts also require a specific aptitude test. This test may also be required for applicants for the industrial design study at FME, audioengineering at FEEC, and architectural study at the Faculty of Civil Engineering.

6.2 Cooperation of BUT with secondary schools

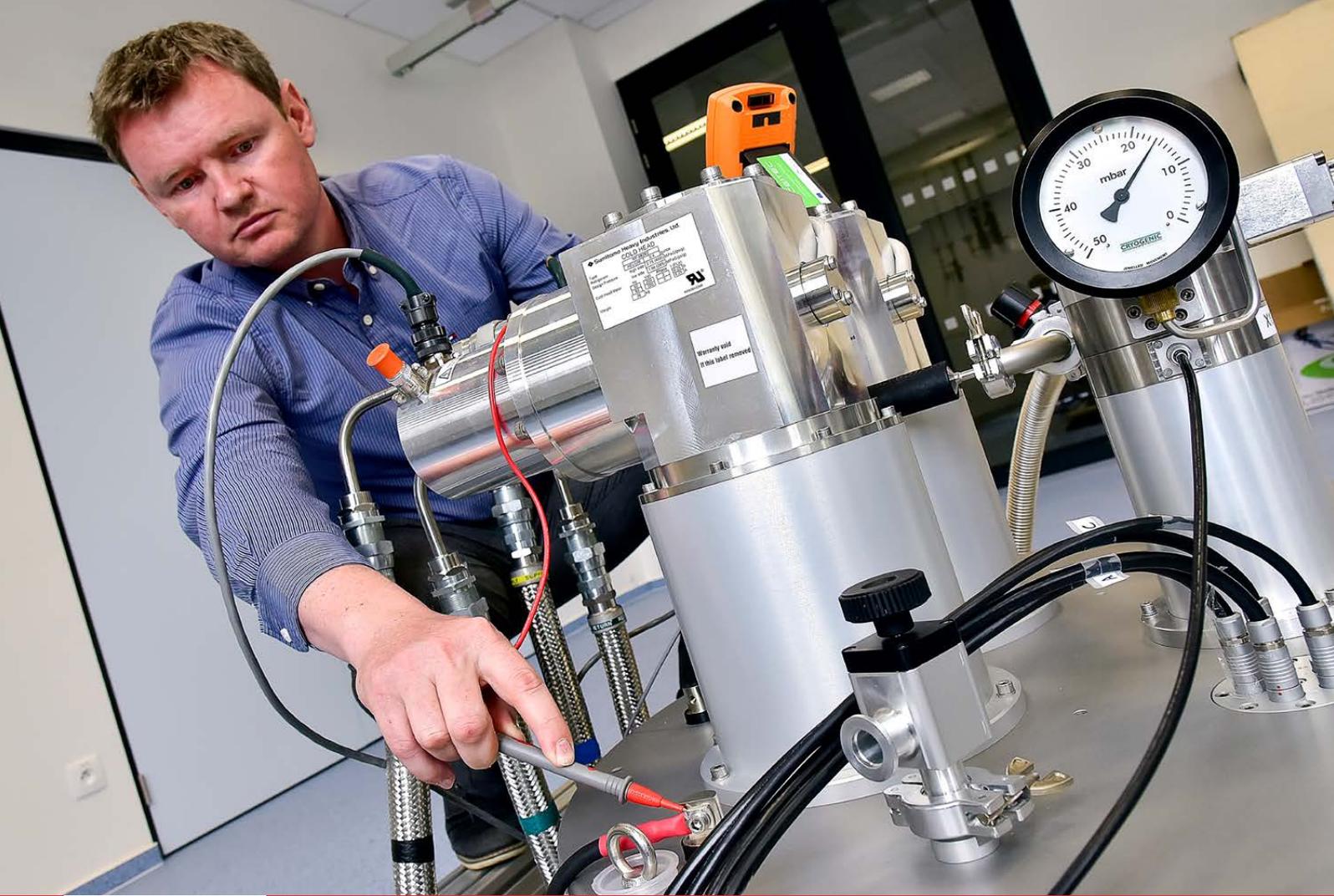
BUT continued its involvement in the area of secondary education where experts supervise the projects of secondary school students, allow them to work in the laboratories and premises of the University, and provide them with professional mentoring. BUT also organizes meetings of the directors of selected secondary schools and the University management, including a tour of the hosting BUT faculty. In 2018, the meeting took place at the Faculty of Civil Engineering on 13 February. BUT invited mainly the directors of the schools supplying successful graduates and winners of TOP 500 scholarship program. BUT also monitors which secondary schools most of the applicants come from and offers these schools closer cooperation.

The Rector's Office organizes the Road Show, whose aim is to inform high school students about study opportunities at BUT. Each visit includes a discussion in which the secondary school students can ask the BUT students questions concerning admission, organization of studies, and the specifics of individual study programs. In 2018, the roadshow consisted of 14 stops at secondary schools in the South Moravia, Zlín, Pardubice, Moravia-Silesia and Vysočina regions. Individual BUT Faculties also address relevant secondary schools according to their specializations.

In 2018, at the Gaudeamus Brno Fair, a presentation on the possibilities of studying at BU was prepared for secondary school counselors. During the personal meetings at the roadshow, the educational counselors receive a package of University-related information materials intended for their secondary school students. Each BUT Faculty organizes at least one Open Day, most of them offer several terms that are posted not only on the BUT web, but also on social networks. Open Days are also presented in BUT promotional materials, education fairs and roadshows.

In 2018, the preparation of a new project of mobile digital equipment called FabLab Experience started. This project is organized by the South Moravian Innovation Center (JIC) and BUT. It is a semi-trailer truck housing modern instruments and technologies (3D printers, laser cutters, electron microscopes, etc.). In 2019, FabLab experience will visit selected primary and secondary schools with the aim of popularizing experiential technical education.

Secondary school teams compete every year in the popular Mercury PerFEKT Challenge, in which students use the Mercury kits to design functional equipment. The Faculty of Business and Management organizes a Business Point competition where future university students can learn how to prepare a so-called case study with a specific marketing goal. FME offers Robots@FSI from programmable Lego Mindstorms NXT and Internet Mathematics Olympics for high school students. FIT organizes a 6-seminar IT and Security course for high school students interested in biometrics, sound analysis, or computer network security. The Faculty of Civil Engineering regularly prepares Stavoks, a scientific and professional conference of secondary school students. The students can prepare a contribution on architecture, building constructions, transport constructions, structures, etc.



7

Employees

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

BUT does not have an elaborate career code for academic staff; nevertheless, once a year the performances of individual employees are evaluated in the form of individual interviews with executives. During the interviews, the quantity and quality of work results are assessed. The assessment does not take into account breaks caused by

parenthood or a long-term illness. These interviews play a role in determining the variable component of wages for the next period. Exceptional one-off assignments are rewarded with extra bonuses. In order to support performance motivation, the wages of BUT employees increased by about 15% in 2018.

7.2 Development of pedagogical skills of academic staff

The BUT Institute of Lifelong Learning (hereinafter referred to as ILL), provides BUT employees with professional and personal development. The Institute offers for example regular intended not only for the academic staff. Complementary Pedagogical Studies is a comprehensive annual course for PhD students and, if interested, for academic staff. This study offers basic pedagogical training in several areas (pedagogical-didactic, psychological-social, pedagogical-managerial) and in 2018 was adapted to meet the needs of academic staff.

In 2018 the MOST project courses also contributed to the training of this group of employees. The MOST courses

focused on technology, teaching methodology and language training. Several GDPR training sessions took place during the course of 2018 and had an impact on the daily work of employees. ILL organized both general and specific training for the selected groups of workers. These training sessions were supervised by a data protection specialist. In addition to the regular courses, the Institute organized individual consultations with a psychologist to help the BUT employees create a professional personality profile (psychological diagnosis of strengths and weaknesses with recommendations for further development).

7.3 Gender equality

The principles of gender equality (equal approach to both sexes, e.g. when evaluating employees, drawing benefits, etc.) are embedded in the BUT Code of Ethics, which all employees are obliged to respect. At present, BUT does not have a separate gender equality plan. To support work-life balance, the employees are provided with flexible working hours (whenever

operational reasons allow) and part-time work. In extraordinary cases related to childcare, home office is possible for a limited period of time. In addition to the above, all employees have the opportunity to use the short-term babysitting facility, the so-called mini-kindergarten Edisonka, located at the Faculty of Electrical Engineering and Communication.

7.4 Problems of sexual and gender-based harassment

In 2018 there were no cases of sexual and gender-based harassment or discrimination at BUT that had to be addressed by the BUT Ethics Commission.



8

Internationalization

8.1 Support of participation of students in foreign mobility programs

The priorities for 2018 are determined by updating the Strategic Plan for 2018 and a long-term strategy in the area of international relations. The University primarily aims to increase student and employee mobility to and from abroad, and to actively cooperate with foreign countries.

In 2018, BUT sent abroad a total of 1,333 students, of which 62% made use of Erasmus+: 676 of them travelled to study, 197 students for internships, 2 students as graduates and 7 students made use of Erasmus+ International Credit Mobility. BUT students are most interested in destinations such as Austria, Finland, Germany and Italy.

A total of 452 employees made use of the Erasmus+ program and traveled most often to Germany, Austria, Poland, Portugal and Italy. The employees participated widely in the language courses abroad offered by the Erasmus+ program. The largest number of BUT employees visited Malta and the UK. The OP SRE project International Mobility of Researchers (MeMoV) was also implemented at Brno Technical University in 2018. A total of 16 researchers and 22 PhD students visited Sweden, Spain, Germany, the USA, Norway, Austria and Australia within this project.

In addition to the Erasmus+ program there are also other educational programs such as CEEPUS, AKTION, and scholarships of the Academic Information Agency used by BUT students and staff. Students like to use Free Mover, which is substantially financed by the Ministry of Education's institutional development projects. Students often make use of the international student clubs IAESTE (International Association of the Exchange of Students for Technical Experience) and BEST (Board of European Students of Technology) to take part in foreign internships or summer schools.

BUT actively supports and motivates students to participate in foreign mobility programs in the form of internships and summer schools, because it is an indispensable experience in the labor market. During their stay abroad, students gain not only educational, but also valuable life experience and contacts useful for their future study or employment. They would not acquire this experience if they limited their studies only to the Czech Republic.

To support the motivation of student trips abroad, BUT uses classic tools such as websites, Facebook and Instagram. The Foreign Relations Department issues monthly an electronic Newsletter where students can find information on current or upcoming dates for applying for a trip abroad, and the events and activities of international student associations.

The International Relations Department annually organizes International Mobility Day, when students are informed about

the possibilities to travel abroad. The organizers invite the students who have already participated in a mobility program and would like to share their experiences with others and motivate them to travel. The event is attended by the representatives of the Experience Germany platform, the Fulbright Commission, and the House of International Cooperation. The individual BUT faculties organize partially motivational events to promote the foreign mobility of students.

Mov'in Europe, organized by ESN VUT Brno, represents another activity that aims to support student trips abroad. The event is very successful and is of significant interest to the students.

BUT also organizes photo competitions aiming to motivate students to make study visits abroad. Students share photos from their foreign study visits, internships or summer schools. Subsequently, their photographs are displayed at the faculties with the aim of providing students in an attractive way with the information that foreign study visits can not only be beneficial for their studies, but also for their careers and personal lives.

BUT was actively involved in the organization of the International Festival which is a part of the Brno International Student project, co-ordinated by BUT, Brno Municipality, and Masaryk and Mendel Universities. The aim of the festival was not only to motivate university students to participate in foreign study visits, practical internships or summer schools, but also to provide high school students with the opportunities offered by a university and, last but not least, to inform the general public.

BUT is committed to maintaining and improving the conditions of the foreign credits transfer. The conditions of the transfer are regulated by the BUT Rector's Directive. In general, BUT exerts a pressure on students not to continue their studies beyond the given limit, and to complete them with the experience from abroad.

Electronizing the mobility agenda of both students and the constituent parts, the Department of Foreign Relations continuously implements its objective to reduce the administrative burdens in this area.

In 2018, a total of 1,272 foreign students completed a study visit or a practical internship at BUT, of which more than 77% were foreign students who came to BUT on the Erasmus+ program. Most of the BUT Erasmus students come from France, Spain, Greece and Turkey. About 18% of international students visited BUT through Memorandum of Understanding. A smaller group studied at BUT with the support of CEEPUS, AKTION and the Visegrad Fund programs, or on the basis of intergovernmental agreements.

Before the beginning of each semester, the International Relations Department organizes the Welcome Week for foreign students. This event is held one week before the beginning of the semester with the aim of making the foreign students familiar with the BUT environment, the city of Brno and local customs so that they can easily cope with the necessary study and residential formalities required in the Czech Republic.

In 2018, BUT was visited by a total of 231 foreign employees who made use of Erasmus+, CEEPUS, AKTION, and inter-governmental agreements. A total of 17 researchers from Ukraine, Germany, Russia, France, South Africa, Jamaica and Iran worked at BUT within the MeMoV project.

BUT actively participates in foreign trade fairs, where it offers foreign students, employees and scientists various possibilities of cooperation. BUT also looks for opportunities to offer its students, employees and researchers professional experience at foreign universities. In 2018, the University participated in APAIE (Asia-Pacific Association for International Education), NAFSA (National Association of Foreign Student Advisors), EAIE (European Association for

International Education), Student Fair in Kiev, and EduExpo in China.

BUT attracts foreign students, so-called self-payers, through its involvement in the activity called "Study in the Czech Republic", which promotes BUT study programs. This activity is supervised by the House of Foreign Cooperation. BUT also uses the services of the South Moravian Center for International Mobility, which provides it with more foreign students. An integral part of this collaboration is the implementation of the SoMoPro project, enabling BUT to gain top scientists.

BUT is a member of international organizations such as the European University Association (EUA), the European Association for International Education (EAIE) and the CESAER (University of Advance Engineering, Education and Research) – a university network of technical universities.

In 2018, BUT concluded 18 university-wide cooperation agreements, the so-called Memorandum of Understanding, with Vietnam, Russia, Poland, South Korea, New Zealand and Canada.

8.2 Integration of foreign members of the academic community

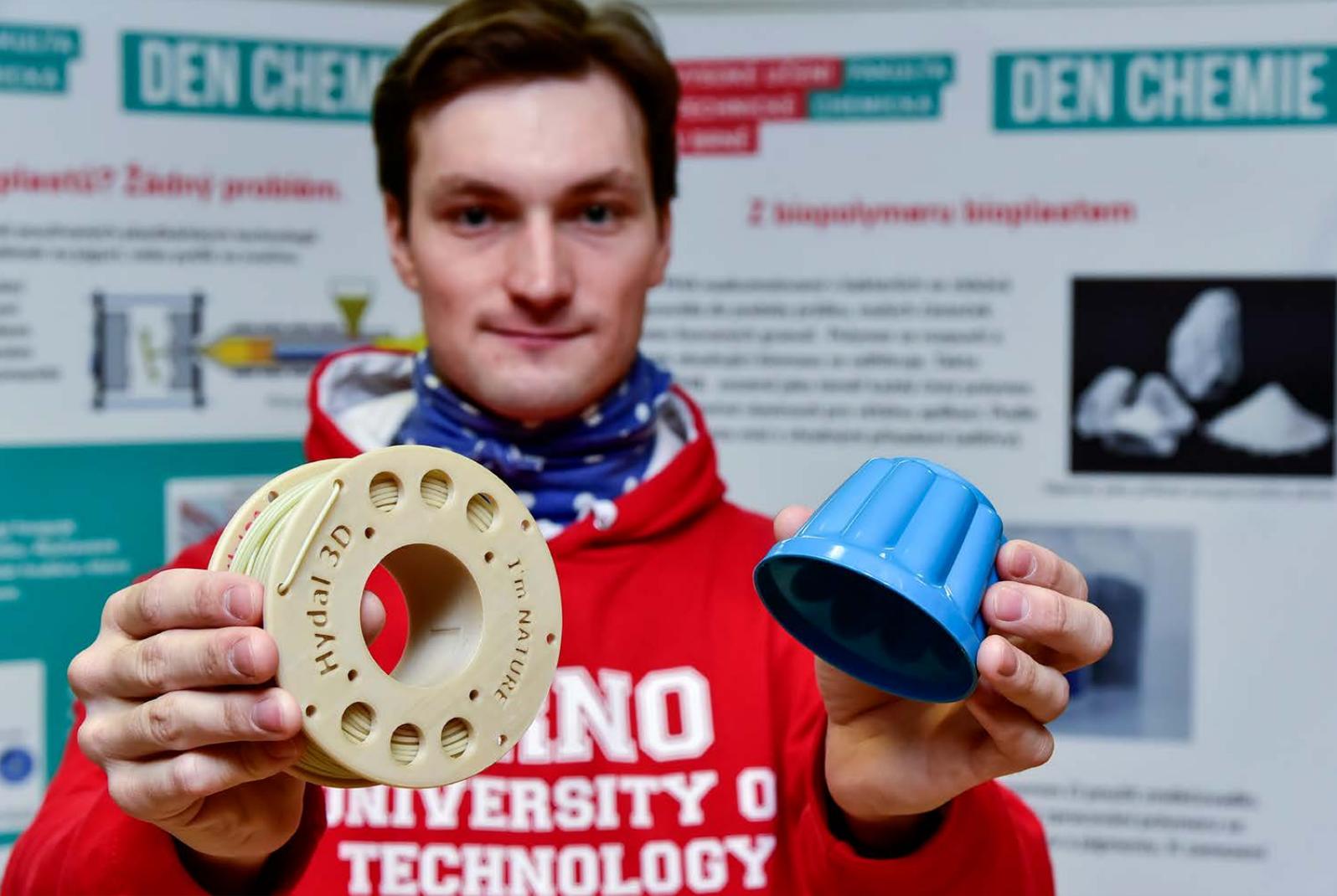
The integration of foreign members of the academic community into the life of the university is one of BUT's priorities. Given that BUT offers considerable scientific and research potential concentrated in its research centers, the interest in attracting foreign academic and scientific staff is growing.

BUT Welcome Services represent an activity successfully integrating foreign scientists, researchers and academics. Centralized Welcome Services will be fully operational in 2019 and will be provided by the Department of Foreign Relations. Welcome Services will not only provide services

and information prior to the arrivals of foreign employees, but also during their stay. The services and information will also be provided to accompanying family members. BUT will closely cooperate with the South Moravian Regional Center for the Support of Foreigners' Integration and the Brno Expat Center in building the Central Welcome Services.

BUT is aware of the importance of the recruitment of visiting academics. In this way, the University strives to ensure the smooth integration of foreign members of the academic community.





9

Research, development,
artistic and other creative
activities

9.1 Linking creative and educational activities

BUT declares in its all strategic materials that it seeks to profile itself as a European research university with all the associated attributes. The aim of all academics and researchers is to engage in prestigious international and national basic and applied research projects and contractual cooperation with industrial partners, to produce results corresponding with the latest scientific findings and with a high application and commercial potential. The results of creative activities are promptly incorporated into lectures and seminars for students of all accredited programs.

In 2018, the materials for institutional accreditation were prepared at BUT. In connection with these materials, BUT faculties reflected their recent research findings on educational blocks so that they would correspond to the latest level of knowledge in the given research area. The creative activities of each faculty include research projects with direct participation of students. The immediate combination of the creative activities with education equips the prospective BUT graduates with a high potential in the international labor market.

9.2 Engagement of bachelor's and master's students in creative activities

Involvement of students is an integral part of research, development and art projects of all types. The largest number of follow-up Master's and PhD students participate in the projects organized based on the student grant competition, which is funded by the Ministry of Education, Youth and Sports, with funds allocated for specific research at BUT. In 2018, a total of CZK 82 million was given to 183 student junior and standard projects, which are organized under the internal regulations as one-year faculty, one-year inter-faculty, and three-year faculty projects. The form of inter-faculty projects focuses on multidisciplinary cooperation and the optimal use of the new instruments and technologies that were created at BUT as a part of the OP RDI projects. The results are defended at each faculty or constituent part at student conferences organized at least once a year. Besides internal academic staff, the jury also includes representatives from the companies that cooperate with BUT long-term, and employ BUT graduates. The student conferences create an opportunity for students to present their level of knowledge, creativity and research teamwork.

There are also BUT yearly projects, bachelor's and master's theses, the content of which is assigned directly by industrial companies. Their results are mainly of a technical nature, in the form of research reports describing a functional sample, prototype or software. These projects lead to publications, both in impacted journals and magazines with reviews or in conference proceedings.

Students of all forms of studies are involved in basic research within the BUT Motivation System, where the authors or co-authors of publications indexed in WoS are supported by scholarships. The significant increase in the number of students involved in the research activities was caused by the calls for the projects in the TA ČR Zeta and TA ČR Gama programs, and their acquisition. The students of follow-up master and doctoral programs participate in these projects' research teams, and produce high-quality outputs.

9.3 Targeted funds for research, development and innovation gained in 2018

In 2018, BUT received a total of CZK 1.4 billion in both targeted and scientific research projects in both current and capital funds. Of this, 1,015 million was as a principal researcher and 393 million crowns as a co-researcher.

BUT transferred CZK 210 million to the partners cooperating in these projects. The largest share is represented by the grants received in the projects supported by the National Sustainability Program, OP RDE (MEYS), TA CR and H2020.

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

BUT supports PhD and post-doctoral students primarily at the level of the individual faculties and constituent parts. This is mainly due to the specific character and financial demands of these training programs. The university level supports the implementation of the strategy by setting strategic priorities within the BUT Institutional Plan. Individual projects serve the individual development of PhD students and young academic staff who continue their professional career at BUT after completing their doctoral studies.

Great attention is paid to young foreign hosted by BUT and their inclusion in research funded by the projects from operational programs. In the National Sustainability Programs (NSP) projects, positions were created for doctoral PhD graduates. Young scientists participated in the NSP sub-tasks as well as the related projects needed for sustainability.

Specialized seminars were held for PhD and postgraduate students. Their main objectives were the systematic support and development of specific human resources, further education of postgraduate students in the European context, and in particular the creation of suitable conditions for their integration into research groups. An integral part of the training is knowledge of technology transfer and protection of intellectual property.

BUT also disseminates information about the possibilities of establishing spin-off and start-up companies. In this area, BUT cooperates closely with the South Moravian Innovation Center, which offers a range of motivational projects and support. The BUT Project Support Department offers detailed information acquired at the seminars concentrating on the projects aimed at PhD and post-doctoral students.

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

The BUT Rector and Vice-Rector for Studies communicate with professional chambers, professional associations, employers' organizations and other professionals at the University level. The Rector regularly participates in the sessions of the South Moravian Community (members of the South Moravian Community are representatives of important companies in the South Moravian Region, the Governor of the South Moravian Region and the Brno City Mayor). The Vice-Rector for Studies is a member of the Board of Directors of the Brno Regional Economic Chamber. BUT also organizes professional conferences and discussions with representatives of major companies. The representatives of the industrial sphere are also traditionally members of the BUT Scientific Council and BUT Board of Directors.

Cooperation with the application sphere is organized mainly by the individual BUT faculties, especially by the Deans and heads of educational departments, who communicate with the representatives of the application sphere. Faculty staff cooperate with companies in addressing specific problems. Business leaders and professional specialists are also external members of the scientific boards of the individual faculties and hence they are involved in the preparation and approval of degree programs.

The most important forms of cooperation with the application sphere in the creation and implementation of study programs are: assigning topics of final theses from the

application sphere; involvement of the application sphere representatives in direct teaching, in particular in the form of lectures and seminars; involvement in the commissions for state final exams; professional training; excursions and internships of students in companies; involvement of BUT students in professional competitions announced by companies (e.g. the Werner von Siemens Prize); and, last but not least, participation of the representatives in faculty scientific and study program boards (regularly evaluating the implementation and quality of study programs).

One of the examples of cooperation with the application sphere is the Industrial Project at the Faculty of Mechanical Engineering. This course is aimed at acquiring practical skills and experience when addressing a specific problem assigned by an industrial partner. Topics are assigned by the company in agreement with the educational department of the faculty; the student approaches the problem independently and consults with the company's employees concerning the progress of his/her work. Another example of the cooperation is the application sphere oriented bachelor's and master's theses at the Faculty of Electrical Engineering and Communication. In 2018, there were 22 topics of the theses, and about 200 topics of the final thesis are offered by companies each year. Approximately 130 application sphere specialists are involved in all study programs at the faculty every year, usually in the form of invited lectures, especially in optional courses included in the last year of study.

BUT's industrial partners include Thermo Fisher Scientific, Skoda Auto, Kiwi, Honeywell, T-Mobile, CEZ, ABB, ON

Semiconductor, Prefa Brno, EON, Siemens Sensors, Linet, AT&T, Red Hat and many others.

9.6 Cooperation with the application sphere on the development and transfer of innovations and their commercialization

BUT has long been cooperating with a number of major companies in the Czech Republic in the field of the implementation of joint projects of applied and contractual research. The form of the cooperation with the application sphere, based on the demands for specific technical solutions, is also an example of stable cooperation. BUT protects the generated results according to their nature, and internal assessment of their commercial potential is in accordance with the University's internal regulations. In specific cases, BUT also provides intellectual property protection thanks to the Technology Transfer Department. It is a priority for the University to decide whether to extend this protection abroad, most often through the European Patent Office, or the mechanisms of the Patent Cooperation Treaty.

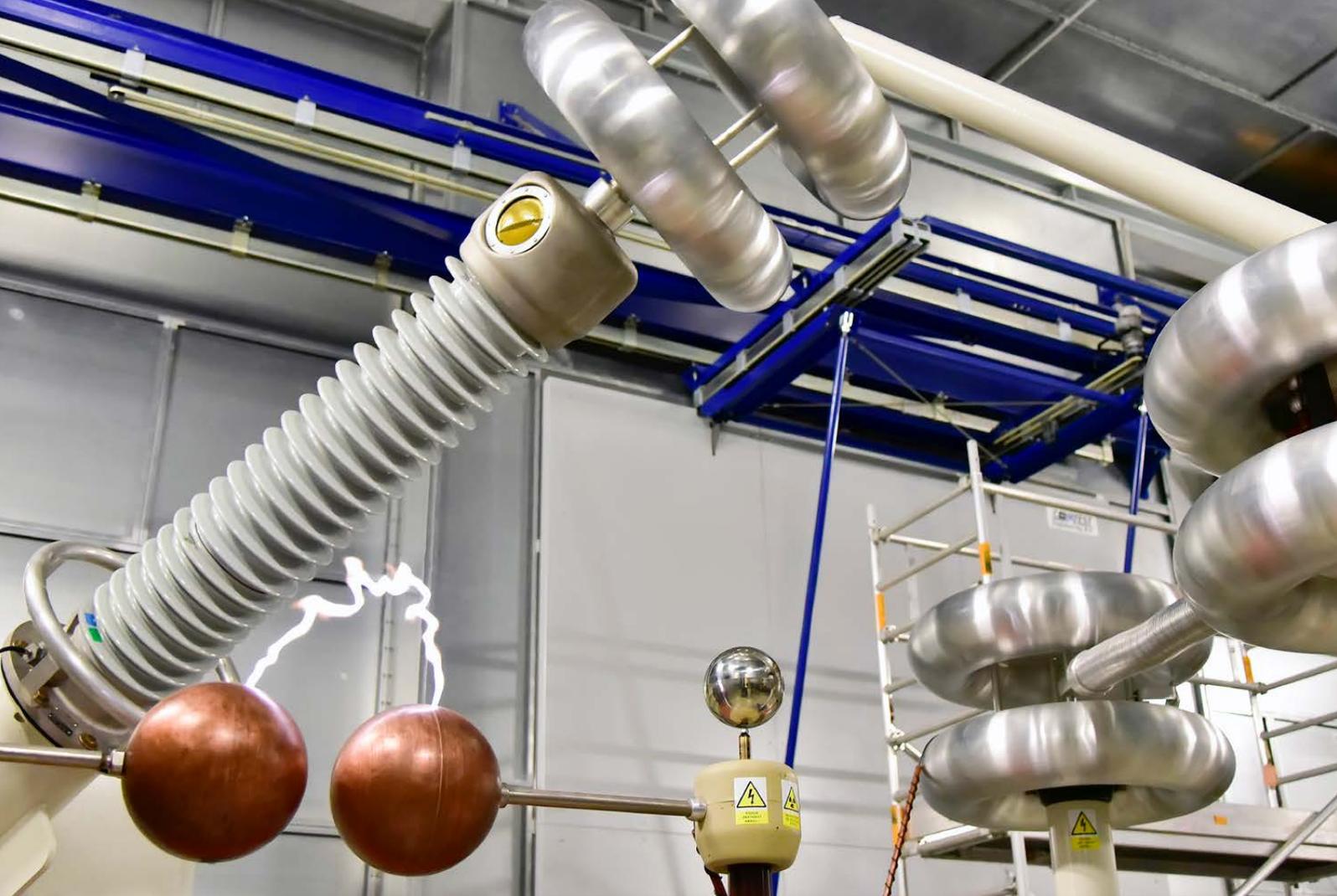
Under the terms of the OP RDE Opportunity project, BUT addresses a new form of cooperation between research teams and industrial partners through business development managers. These managers actively communicate, seek active collaboration, track market opportunities and participate in the commercialization of the research and development results that are intellectual property. They are supervised directly by the management of individual faculties and BUT components, have a perfect knowledge of the research carried out, and the possibilities of its application and commercialization.

BUT possesses a relatively significant portfolio of research and innovation results that have been created thanks to implemented projects to support Pre-Seed activities and as a result of the TA CR Gama project.

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

The BUT Career Center supports the development of competences for innovative entrepreneurship. The Center was created under the terms of the university-wide MOST project, which was acquired from the OP RDE call. The Center organizes entrepreneurship courses in which all University students can participate. In 2018, there was e.g. a one-semester course, Do It!, in which students, supervised by a lecturer from the application sphere, developed their ideas. Other courses were held in cooperation with the South Moravian Innovation Center and focused on the strengths of students and their commercial use. Some courses concentrated on the ways of bringing an idea into real life.

Other activities were prepared in cooperation with the BUT Strategy Department as pilot ones and are expected to continue in the following calendar year. This area includes implemented internships and the internships of students in industrial companies (organized as a part of educational activities at some faculties) and professional lectures, which are presented by prominent specialists.



10

Quality assurance
and evaluation of activities

Being a public university, BUT persistently concentrates on quality management in all areas of its activities. BUT employees, as members of the supreme bodies of universities, cooperated with the Ministry of Education, Youth and Sports on the preparation of an amendment to the Higher Education Act. Therefore, they were well acquainted with the new wording of the law and prepared to implement the law consistently into BUT regulations in the scope of the obligations imposed and offered by the law. Implementation

activities started in mid-2017 and continued very intensively in 2018. In addition to the BUT strategic objectives and activities from the previous periods, BUT continued to certify and re-certify other selected faculties and constituent parts, cooperate with Czech professional institutions and universities active in the field of quality assurance and evaluation, and, of course, continued its cooperation and educational activities involving the BUT academic community, including students.

10.1 Significant events related to quality assurance and evaluation of implemented activities in 2018

Project Support of the development of quality management at BUT in 2018:

Implementation of quality management tasks has been supported by several investigations at different levels:

- Project 1.4 of the BUT IP 2016-2018 entitled: Building of the Quality System of the University and its Constituent Parts in 2016–2018. The project was completed with a final report demonstrating that all the planned objectives were met, both in 2018 and throughout the period of the project duration. In the following years, the BUT Institutional Plan 2019–2020 will be followed up, with the project developing the achieved results and performing other BUT tasks, mainly a broader cooperation of BUT constituents and students involvement in BUT quality management.
- CRP project C22–2018 of the Ministry of Education, Youth and Sports entitled: Deepening Strategic Cooperation of Universities for Quality Management of Technical Education according to the Needs of the Society and Knowledge Economy. The project was addressed in cooperation with seven Czech universities, mainly of a technical nature (CTU, TUL, UJEP, TBU, TUO, BUT and UWB). The project followed the similar intentions and problems of

the participating universities and concentrated on the elaboration of methodologies for internal evaluation of quality in education (the guarantor was the UWB, later UJEP), in the field of creative activities (the guarantor was TUL), and in the field of external cooperation of higher education institutions in education, creative activities and social responsibility (the guarantor was BUT).

- The MOST (Modern and Open Study of Technology) project, which is addressed by a wide range of BUT faculties and components, includes, among other things, the A8 Quality Management System. Under the terms of this activity the BUT Quality Department addresses a partial activity at the central level: Developing a system of internal quality assurance and assessment. The MOST project is linked to the BUT Long-Term Plan 2016–2020, Priority Objective 1: Quality Assurance and Strategic Management, as well as other strategic documents at a domestic and international level. The targets set for 2018 were met, especially with regard to the amendment to the Higher Education Act, as evidenced by the extensive partial final report for 2018.

Building an organizational, legislative and methodological basis for quality management at BUT in 2018

This year, the organizational structure for quality management at BUT was revised and completed, including the changes made on the basis of an amendment to the Higher Education Act. In particular, it included:

- Revision, completion and strengthening of existing organizational units for internal quality management, especially at the BUT Rectorate, but with the cooperation of faculties and other BUT constituents. These include, in particular, the BUT Quality Department (hereinafter referred to as QD), which is the organizational unit of the BUT Rectorate, overlapping faculties and other BUT components.
- The proposal, discussion and establishment of new bodies and bodies for internal quality management with regard to the requirements of the amendment, defining their activities and mutual cooperation with other BUT bodies and the National Accreditation Authority (NAO), which was founded by the amendment. These include, in particular, the BUT

Internal Evaluation Board (BUT IEB) and the BUT Rector's Advisory Board entitled: Working Group on Internal Security and Quality Assessment of BUT Activities and (hereinafter referred to as the Quality Working Group).

- The BUT Internal Assessment Board was established in 2017 (see the previous Annual Report).
- The Quality Working Group was established in accordance with Rector's Decision No. 35/2017, to link quality management activities between the BUT Rector's Office and its faculties and other constituents. The working group's competence includes, in particular, elaborating, discussing and approving new internal legislation for BUT quality management and its approval by the external authority, as well as personnel, organizational, material and financial support of the processes in the field of BUT quality management.

Personnel and methodological support of processes in the area of quality management at BUT:

In 2018, the personnel structure of QD was partially changed in compliance with a tender. This department contributed significantly to the draft and discussion of the curriculum, and to the creation of the BUT Quality Assurance and Internal Quality Assessment Report and its comments. In particular, the report respected the NAI's core requirements regarding assessment of education, creative activities, and the activities that support these core processes. In addition, the report also presents a broad perception of the quality of BUT, for example in terms of internationalization, external relations and social responsibility (the third role of a university). The report was discussed and agreed upon by the procedure stipulated for the approval of BUT strategic documents and became a part of the institutional accreditation application.

Creating a methodology and methodological background for evaluating the quality of higher education activities in connection with the amendment to the Act was another 2018 key objective. This task included the design, discussion and approval of quality indicators, and was conceived in a broader context. It respected NAI criteria, which are contained in the NAI's legal regulations/standards. Other universities (especially of technical nature), as well as Czech national requirements, such as the unfinished Methodology 17+ with its five modules (quality of selected results, research performance, social relevance, viability, strategy and concept) were also considered.

BUT International Quality Management Aspect:

2018 was a relatively successful year in terms of international quality management contacts. The most important event was the completion of, and drawing strategic conclusions from, the EUA/IEP external evaluation. The year 2018 was marked by the increased efforts of the QD staff

to provide the necessary collaboration between student representatives when implementing the basic feedback evaluation procedures, based on the system of Nottingham Trent University.

Cooperation with domestic universities and other professional institutions active in the field of quality:

In connection with the broader themes related to the amendment to the Higher Education Act, a number of lectures concluding with discussions, were held by the QD staff, for example at the UWB seminar, UPOL seminar, Quality international conference in Ostrava, at a meeting of departments of the universities focusing on quality of education

(May, VŠB-TUO), and at the conference of the Ministry of Industry and Trade/Quality Council of the Czech Republic/Section for Quality in Education (November, Prague). BUT also organized expert discussions between the QD manager and BUT management, including discussions with the representatives of the BUT faculties and constituents.

Preparation for certification, certifications and recertifications of the Rectorate, faculties and BUT components:

The Rectorate and selected faculties (FP, FME, FEEC, FCH or FIT) went through various stages of the first or repeated certification process. Specific and detailed time data on the certification processes and the granted certifications

are included in the partial final reports of the institutional development project for 2016, 2017 and 2018. FAST, FA and FFA are waiting to start their certification process.

Outlook in internal quality assessment at BUT:

In the next period, QD will focus primarily on completing implementation of the amendment to the Higher Education Act, especially on the completion and pilot testing/verification of newly proposed methodologies. It will also

considerably strengthen BUT's internal culture with a focus on quality and intensifying cooperation with faculties, constituents and BUT students.



11

BUT national and international excellence

11.1 International and major national research, development and creative activities, integration of research infrastructure into international networks, and BUT 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:

The Association of European Schools of Planning, The American Ceramic Society, Conference of European Schools of Advanced Engineering Education and Research (CESAEER), CISCO Networking Academy, European League of Institutes of the Arts, European Quality Association for Recycling, European Universities Public Relations and Information Officers, European Association for Accident Research and Analysis, European Structural Integrity Society, European University Association, European Association for International Education, Global Business and Technology Association, Gesellschaft für Informatik, International Council of the Aeronautical Science, International Federation for the Promotion of Mechanism and Machine Science, The International Federation for Structural Concrete, The International Union for Vacuum Science, Technique and Applications, The Federation of European Heating, Ventilation and Air Conditioning Associations, Transformation in Business and Economics, Die Wissenschaftlich-Technische Arbeitsgemeinschaft für Bauwerkserhaltung und Denkmalpflege 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:

The Association of Libraries of the Czech Republic, The Association of Mechanical Engineers, The Association of Experts and Appraisers of the Czech Republic, Czech Education and Scientific NETwork (CESNET), Czech and Slovak Society for Soil Mechanics and Geotechnical Engineering, Czech Concrete Society, Czech Physical Society, Czech Concrete Society, Czech Physical Society, Czech Welding Society, Czech Society for Chemistry, Czech Society for Mechanics, Czech Society for Non-Destructive Testing Czech welding Society, Czech Vacuum Society, Czech Society for New Materials and Technologies, Czech National Committee for Hydrology, Czech-Moravian Association of Women Entrepreneurs and Managers, Czech-Moravian Electrical and Electronic Association, European Association for Biometrics, Institute of Electrical and Electronics Engineers, International Society for Optics and Photonics, International Society of Electrochemistry, International Union of Radio Science, Union of Czech Mathematicians and Physicists, National Transfer Platform, Association for Railways, Association for Concrete Structures, Society of Radio-Electronic Engineering, Society for Environmental Technology, Association of Czech Booksellers and Publishers, Technical Committee of the International Standardization Organization, Technological Platform for Energy Security, Science and Technology Society for Building Remediation and Monument Care, etc.

11.2 National and international awards in 2018

In 2018 BUT and its staff won a number of awards, such as the School Recommended by Employers, the Brno City Award, NordArt Prize, the Jože Plečnik Award, the Phoenix

Content Marketing Award, etc. The list of achievements and awards can be found in the introductory part of the Annual Report in the Significant events at BUT section.

11.3 International assessment of BUT, including foreign accreditations

In 2018, BUT completed the demanding EJA evaluation process, which began in the previous year. The Institutional Evaluation Program (IEP) is an independent service of the European University Association (EUA), which aims to evaluate participating institutions so that they are capable of further development in the areas of strategic management and internal quality culture. IEP is a full member of the European quality network ENQA (European Association for Quality Assurance in Higher Education) and is included in the European Quality Assurance Register (EQAR).

The BUT self-assessment report, including annexes, was sent to the team of evaluators in January 2018. Other required materials were delivered in the term between the two visits of the evaluation commission. The BUT self-evaluation report was prepared by a large team of authors, which was further divided into individual subgroups. The core team included BUT management members, the BUT Academic Senate chairman, and student representatives. The broader team consisted of the representatives of faculties and institutes, academic and administrative staff, students, and the main University bodies. This procedure was publicly announced and discussed with the Vice-Rectors, Deans and Academic Senate. In order to achieve a deeper involvement, the self-assessment report was developed on an interactive basis using online sharing and commenting. Great emphasis was placed on ensuring a representative opinion platform, so the self-assessment report reflects the views of people throughout the institution. The result is a very detailed document. There was also a meeting reflecting the SWOT analysis, that outlined further avenues for each of the examined areas. The report was then presented and discussed at the conference, which resulted in final adjustments.

International evaluators found BUT one of the leading technical universities in the Czech Republic with a long tradition of technical education and research. According to the team, BUT possesses several centers of excellence in research and plays an important role in the technology industry. The team was impressed by the commitment of the University management, employees and students. According to the final report, the evaluation team believes that BUT must face the challenges of today in order to maintain its position. At the same time, BUT represents a strong institution that is developing in a positive direction, and has a visionary strategy and committed leadership.





12

Third role of the University

12.1 Transfer of knowledge into the application sphere

The transfer of findings from the BUT laboratories into real life is executed by the staff of the Technology Transfer Department, and is described in Chapter 9 – Research, Development, Art and Other Creative Activities. In protecting intellectual property, BUT prefers licensing. Co-ownership results are protected by partnership agreements. A specific example of the transfer is the battery research and development carried out at the Faculty of Electrical Engineering and Communication. Tomáš Kazda applied for a European patent in connection with his technology improving the properties of lithium-sulfur batteries. His research proved that the capacity of lithium-sulphur batteries is higher than the capacity of the currently used lithium-ion batteries, while the number of charge cycles comparable to those of batteries available today, has been retained by electrode treatment. The new technology promises higher battery capacity, lower weight and environmentally friendly applications.

Among other things, research groups at the Faculty of Information Technology are investigating deep integration of computing and physical systems and feedback control structures in which physical processes effect computing systems and vice versa. However, this not only involves basic research, cooperation with industry also leads to the origin of real prototypes that find use in the application sphere. One example is a flight simulator for small aircraft. A cyber-physical system simulates the flight of a small aircraft, including the inertia forces on a man in the cockpit, so that pilots do not recognize the difference between the actual flight and the flight in this simulator. These are just some of the examples of the practical use of university knowledge.

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

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, traffic accident analyses etc. BUT participates significantly in the activities of the Regional Chamber of Commerce and cooperates with the Brno branch of CzechInvest. BUT offers a range of public courses in terms of lifelong learning and the University of the Third Age.

Thanks to regular meetings with representatives of the city and region, BUT participates in addressing the current

challenges of the region and thus helps improve the quality of life in Brno and the South Moravian Region. BUT is also represented on the Committee of the Regional Innovation Strategy of the South Moravian Region for the years 2014 to 2020, and in the creation of the Strategy for Brno 2050, focusing on the development of the Moravian metropolis.

BUT cooperates with the Academy of Sciences of the Czech Republic in the creation of doctoral degree programs and in research. Experts from the Academy of Sciences of the Czech Republic often supervise the final theses of BUT PhD students. In addition, the South Moravian Region houses a number of industrial enterprises in cooperation with BUT: branches of Honeywell, Thermo Fisher Scientific, Red Hat, etc.

12.3 BUT activities beyond the region

BUT is involved in international scientific research, offering an attractive background for foreign scientists, not only thanks to the modern technologies available at BUT scientific centers, which are mentioned in the introductory part of the Annual report (in the section Major BUT Projects BUT). The chapter on internationalization introduces the preparation of the Welcome Services Center, which should facilitate the arrival of foreign scientists and their families in Brno.

Since 2018, three scientists- Petr Neugebauer, Vojtěch Adam and Jan Macák have been working at CEITEC BUT under the terms of a prestigious ERC Grant. This year, CEITEC organized the International Conference on Nanosciences and Technologies ICN+T at the Brno Exhibition Center. Thanks to this event, Brno was visited by more than 350 participants from many countries around the world, 45 of them were speakers and about 150 were scientists with standard contributions. In the past, this prestigious event has taken place in Switzerland, Sweden, the United States and China.

In the introductory part of the Annual Report, in the chapter BUT awards, we can find a number of international achievements of BUT students and employees. For example, the International Astronomical Union has approved the naming of a planet after Miloslav Druckmüller – the Brno mathematician working at FME BUT. Brno students from the Chicken Wings team from the same faculty were victorious at an international competition organized by Lufthansa and Airbus in Hamburg, Germany with their unmanned aircraft. Michal Gabriel from the Faculty of Fine Arts brought home the NordArt Prize 2018 which he won in Germany. BUT boasts a number of similar international successes that promote the University beyond the South Moravian Region.



TABLE PART

OF BUT ANNUAL ACTIVITY
REPORT FOR 2018

Tab. 2.1: Accredited degree programs (numbers)

BUT		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		
Faculty of Civil Engineering											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	4	2	0	0	4	1	2	2	15
	Faculty total	X	4	2	0	0	4	1	2	2	15
Faculty of Mechanical Engineering											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	2	1	0	0	4	1	5	5	18
	Faculty total	X	2	1	0	0	4	1	5	5	18
Faculty of Electrical Engineering and Communication											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	10	5	0	0	5	1	2	2	25
	Faculty total	X	10	5	0	0	5	1	2	2	25
Faculty of Architecture											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	1	0	0	0	1	0	2	2	6
	Faculty total	X	1	0	0	0	1	0	2	2	6
Faculty of Chemistry											
	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
	Faculty total	X	2	2	0	0	5	4	5	5	23
Faculty of Business and Management											
	Groups of accredited study programs	CREF									
	Economics	62,65	5	2	0	0	4	1	1	1	14
	Faculty total	X	5	2	0	0	4	1	1	1	14
Faculty of Fine Arts											
	Groups of accredited study programs	CREF									
	Disciplines on culture and arts	81,82	1	0	0	0	1	0	1	1	4
	Faculty total	X	1	0	0	0	1	0	1	1	4
Faculty of Information Technology											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	1	0	0	0	1	0	1	1	4
	Faculty total	X	1	0	0	0	1	0	1	1	4
Institute of Forensic Engineering of BUT											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	0	0	0	0	4	0	1	1	6
	Constituent part total	X	0	0	0	0	4	0	1	1	6
CEITEC BUT											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	0	0	0	0	0	0	1	1	2
	Constituent part total	X	0	0	0	0	0	0	1	1	2
	BUT TOTAL	X	26	12	0	0	29	8	21	21	117

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

BUT		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		
Faculty of Civil Engineering											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	1	0	0	0	1	0	1	1	4
	Faculty total	X	1	0	0	0	1	0	1	1	4
Faculty of Mechanical Engineering											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	2	0	0	0	3	0	4	3	12
	Faculty total	X	2	0	0	0	3	0	4	3	12
Faculty of Electrical Engineering and Communication											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	1	0	0	0	3	0	1	1	6
	Faculty total	X	1	0	0	0	3	0	1	1	6
Faculty of Architecture											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	0	0	0	0	1	0	0	0	1
	Faculty total	X	0	0	0	0	1	0	0	0	1
Faculty of Chemistry											
	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
	Faculty total	X	0	0	0	0	0	0	4	4	8
Faculty of Business and Management											
	Groups of accredited study programs	CREF									
	Economics	62, 65	1	0	0	0	2	0	1	1	5
	Faculty total	X	1	0	0	0	2	0	1	1	5
Faculty of Fine Arts											
	Groups of accredited study programs	CREF									
	Disciplines on culture and arts	81,82	0	0	0	0	0	0	0	0	0
	Faculty total	X	0	0	0	0	0	0	0	0	0
Faculty of Information Technology											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	0	0	0	0	1	0	1	1	3
	Faculty total	X	0	0	0	0	1	0	1	1	3
Institute of Forensic Engineering of BUT											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	0	0	0	0	0	0	0	0	0
	Constituent part total	X	0	0	0	0	0	0	0	0	0
CEITEC BUT											
	Groups of accredited study programs	CREF									
	Technical sciences and disciplines	21-39	0	0	0	0	0	0	1	0	1
	Constituent part total	X	0	0	0	0	0	0	1	0	1
	BUT TOTAL	X	5	0	0	0	11	0	13	11	40

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

BUT		Faculty of Mechanical Engineering BUT	
Name of program		Manufacturing technology	
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		Two years of study in Czech and one 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 under the terms of Erasmus+ for 1 academic year.	
Number of active studies on 31 December		7	
Name of program		Production systems	
Partner organization		Technische Universität Chemnitz (DE)	
Affiliated organization		none	
Start of program implementation			
Kind of program		Double Degree	
Length of study (semesters)		4	
Type of program		Continuing Master's	
Description of organization of studies, including the admission and completion of the study		One academic year of study in Czech and one 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 under the terms of Erasmus+ for 1 academic year.	
Number of active studies on 31 December		13	
Name of program		Industrial Engineering	
Partner organization		Art et Métiers ParisTech (FR)	
Affiliated organization			
Start of program implementation			
Kind of program		Double Degree	
Length of study (semesters)		4	
Type of program		Continuing Master's	
Description of organization of studies, including the admission and completion of the study		One academic year of study in Czech and one in French. The condition for the admission to the field of Industrial Engineering from the general bachelor study program Basics of Mechanical Engineering is the completion of the final year of bachelor study at the 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 presented at the graduation ceremony or in person.	
How are student exchanges implemented?		The student exchange is implemented under the terms of Erasmus+ for 1 academic year.	
Number of active studies on 31 December		7	

BUT		Faculty of Electrical Engineering and Communication	
Name of program		Telecommunications	
Partner organization		TU Wien	
Affiliated organization			
Start of program implementation		2016/2017	
Kind of program		Joint Degree	
Length of study		4	
Type of program		Continuing Master's	
Description of organization of studies, including the admission and completion of the study		Agreement on a Joint Master Degree Program in Telecommunications	
How are diploma and diploma supplement issued		Diplomas are issued in the standard way at both universities	
How are student exchanges implemented?		Agreement on a Joint Master Degree Program in Telecommunications	
Number of active studies on 31 December		4	

BUT		Faculty of Business and Management (FBM)BUT	
Name of program		Economics and Management – European Business and Finance	
Partner organization		Nottingham Trent University (GB), Karol Adamiecki University of Economics in Katowice (PL)	
Affiliated organization			
Start of program implementation		2008/2009	
Kind of program		Joint Degree	
Length of study (semesters)		4	
Type of program		Continuing Master's	
Description of organization of studies, including the 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 st 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 nd 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 Management.	
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		24	

BUT	CEITEC BUT
Name of program	Advanced materials and nano-sciences
Partner organization	University of Bari Aldo Moro (IT)
Affiliated organization	
Start of program implementation	21 st August 2018
Kind of program	Double Degree
Length of study (semesters)	8
Type of program	PhD
Description of organization of studies, including the 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?	student studies for 6 months in Brno and 6 months in Italy
Number of active studies on 31 December	1
Name of program	Advanced materials and nano-sciences
Partner organization	Université Grenoble Alpes (FR)
Affiliated organization	
Start of program implementation	11 th December 2018
Kind of program	Double Degree
Length of study (semesters)	8
Type of program	PhD
Description of organization of studies, including the admission and completion of the study	e-registration, admission, enrolment , Ph.D. evaluation 8 semesters of study, state doctoral exam
How are diploma and diploma supplement issued?	Issuing standard diploma
How are student exchanges implemented?	student studies for 7 months in Brno and 5 months in France
Number of active studies on 31 December	1

Summary information on table 2.3

BUT	Bachelor Study	Master Study	Continuing Master Study	Doctoral Study	Total
Number of study programs	1	0	4	2	7
Number of active students in these programs	7	0	48	2	57

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

BUT	FEEC BUT
Name of program	Biomedical Technology and Bioinformatics
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 B.Sc. 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 secondary 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 2018	187
Name of program	Biomedical Engineering and Bioinformatics
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 MA 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 secondary 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 2018	66
Name of program	Audio engineering
Group CREF	B3961
Partner university	JAMU, Hudební fakulta
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 secondary or secondary vocational education and meeting the conditions specified in the Regulations for Admission in the degree program AUDIO-J. The mode of completion – defense of the bachelor thesis, final state examination.
Number of active studies on 31 December 2018	140
Name of program	Audio engineering
Group CREF	N3961
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	2-year continuing daily Master's study at the premises of FEEC of BUT and (MF JAMU). The prerequisite for admission is a bachelor degree and meeting the conditions specified in the Regulations for Admission in the degree program AUDIO-P. The mode of completion – defense of the bachelor's thesis, final state examination.
Number of active studies on 31 December 2018	57

Name of 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 secondary or secondary vocational education and meeting the 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 2018	183

BUT	CEITEC BUT
Name of program	Advanced materials and nano-sciences
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-application, admission procedure, enrollment in study, PhD evaluation, 8 semesters of study, final state examination
Number of active studies on 31 December 2018	92

Summary information on table 2.4

BUT	Bachelor Study	Master Study	Continuing Master Study	Doctoral Study	Total
Number of study programs	3	0	2	1	6
Number of active students in these programs	510	0	123	92	725

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		
Groups of accredited degree programs									
natural sciences	11–18							2	2
technical sciences	21–39	7	8					49	64
agricultural-forestry and vet. sciences	41,43								0
medical, doctor and pharm. sciences	51–53							8	8
social sciences and services	61, 67, 71–73			17				12	29
economics	62, 65							2	2
law, legal and public law activities	68							2	2
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
TOTAL		7	8	18	0	0	0	84	117

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

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			
Groups of accredited degree programs										
natural sciences	11–18							25	25	
technical sciences	21–39	41	57					799	897	
agricultural-forestry and vet. sciences	41, 43									
medical, doctor and pharm. sciences	51–53							168	168	
social sciences and services	61, 67, 71–73			238				985	1,223	
economics	62, 65							24	24	
law, legal and public law activities	68							145	145	
pedagogy, teaching and social care	74, 75			18					18	
courses in the field of psychology	77									
disciplines on culture and arts	81, 82							835	835	
TOTAL		41	57	256				2,981	3,335	

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

BUT		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		
Faculty of Civil Engineering											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	2,284	153	0	0	1,157	105	135	191	4,025
	Faculty total	X	2,284	153	0	0	1,157	105	135	191	4,025
	Thereof number of women	X	848	51	0	0	433	33	50	61	1476
	Thereof number of foreigners	X	439	22	0	0	190	18	18	16	703
Faculty of Mechanical Engineering											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	2,488	122	0	0	1,233	113	168	130	4,254
	Faculty total	X	2,488	122	0	0	1,233	113	168	130	4,254
	Thereof number of women	X	321	14	0	0	192	12	23	18	580
	Thereof number of foreigners	X	431	10	0	0	262	7	32	22	764
Faculty of Electrical Engineering and Communication											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	1,774	132	0	0	772	131	143	154	3,106
	Faculty total	X	1,774	132	0	0	772	131	143	154	3,106
	Thereof number of women	X	241	14	0	0	123	9	16	24	427
	Thereof number of foreigners	X	514	26	0	0	213	27	24	22	826
Faculty of Architecture											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	311	0	0	0	173	0	32	17	533
	Faculty total	X	311	0	0	0	173	0	32	17	533
	Thereof number of women	X	196	0	0	0	110	0	20	8	334
	Thereof number of foreigners	X	100	0	0	0	65	0	3	3	171
Faculty of Chemistry											
	Groups of accredited degree programs	CREF									
	Natural sciences	11–18	643	36	0	0	263	34	86	33	1,095
	Technical sciences	21–39	0	0	0	0	0	0	21	17	38
	Faculty total	X	643	36	0	0	263	34	107	50	1,133
	Thereof number of women	X	420	17	0	0	173	23	52	27	712
	Thereof number of foreigners	X	210	6	0	0	95	9	21	3	344
Faculty of Business and Management											
	Groups of accredited degree programs	CREF									
	Economics	62, 65	1,679	23	0	0	721	282	32	20	2,757
	Faculty total	X	1,679	23	0	0	721	282	32	20	2,757
	Thereof number of women	X	740	14	0	0	369	161	18	9	1311
	Thereof number of foreigners	X	371	4	0	0	166	26	6	5	578

BUT										
	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		
Faculty of Fine Arts										
Groups of accredited degree programs	CREF									
Disciplines on culture and arts	81, 82	181	0	0	0	61	0	21	9	272
Faculty total	X	181	0	0	0	61	0	21	9	272
Thereof number of women	X	119	0	0	0	43	0	11	6	179
Thereof number of foreigners	X	36	0	0	0	18	0	6	1	61
Faculty of Information Technology										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	1,572	0	0	0	483	0	100	63	2,218
Faculty total	X	1,572	0	0	0	483	0	100	63	2,218
Thereof number of women	X	130	0	0	0	48	0	18	3	199
Thereof number of foreigners	X	615	0	0	0	189	0	31	11	846
Institute of Forensic Engineering of BUT										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	291	0	14	32	337
Constituent part total	X	0	0	0	0	291	0	14	32	337
Thereof number of women	X	0	0	0	0	128	0	7	9	144
Thereof number of foreigners	X	0	0	0	0	35	0	0	4	39
CEITEC BUT										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	0	0	0	0	0	0	84	21	105
Constituent part total	X	0	0	0	0	0	0	84	21	105
Thereof number of women	X	0	0	0	0	0	0	28	8	36
Thereof number of foreigners	X	0	0	0	0	0	0	39	8	47
BUT TOTAL	X	10,932	466	0	0	5,154	665	836	687	18,740
Thereof number of women	X	3,015	110	0	0	1,619	238	243	173	5,398
Thereof number of foreigners	X	2,716	68	0	0	1,233	87	180	95	4,379

Tab. 3.2: Paying Students (numbers)

BUT		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		
Faculty of Civil Engineering											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	1	0	0	0	1	0	1	0	3
	Faculty total	X	1	0	0	0	1	0	1	0	3
Faculty of Mechanical Engineering											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	3	0	0	0	5	0	3	1	12
	Faculty total	X	3	0	0	0	5	0	3	1	12
Faculty of Electrical Engineering and Communication											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	1	1
	Faculty total	X	0	0	0	0	0	0	0	1	1
Faculty of Architecture											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
	Faculty total	X	0	0	0	0	0	0	0	0	0
Faculty of Chemistry											
	Groups of accredited degree programs	CREF									
	Natural sciences	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
	Faculty total	X	0	0	0	0	0	0	0	1	1
Faculty of Business and Management											
	Groups of accredited degree programs	CREF									
	Economics	62, 65	24	0	0	0	0	0	0	0	24
	Faculty total	X	24	0	0	0	0	0	0	0	24
Faculty of Fine Arts											
	Groups of accredited degree programs	CREF									
	Disciplines on culture and arts	81, 82	0	0	0	0	0	0	0	0	0
	Faculty total	X	0	0	0	0	0	0	0	0	0
Faculty of Information Technology											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	0	0	0	0	1	0	2	0	3
	Faculty total	X	0	0	0	0	1	0	2	0	3
Institute of Forensic Engineering of BUT											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
	Constituent part total	X	0	0	0	0	0	0	0	0	0
CEITEC BUT											
	Groups of accredited degree programs	CREF									
	Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	0	0
	Constituent part total	X	0	0	0	0	0	0	0	0	0
	BUT TOTAL	X	28	0	0	0	7	0	6	3	44

Tab. 3.3: Unsuccessful students in first year of their 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	37.30	57.43	39.50				5.97	47.14	10.14	23.53	39.13	27.47	26.98
Faculty of Mechanical Engineering	29.31	29.67	29.34				5.20	23.64	6.43	5.88	20.00	7.69	19.94
Faculty of Electrical Engineering and Communication	36.10	62.83	39.43				20.66	68.22	29.72	1.96	16.67	3.51	34.51
Faculty of Architecture	13.66		13.66				3.56		3.56	41.67	33.33	40.00	8.56
Faculty of Chemistry	48.40	75.00	50.00				5.00	25.00	8.02	18.33	33.33	19.05	33.88
Faculty of Business and Management	38.98	61.73	41.58				13.13	28.90	18.05	27.78	75.00	36.36	29.99
Faculty of Fine Arts	18.57		18.57				16.07		16.07	0.00		0.00	16.06
Faculty of Information Technology	32.17		32.17				24.00		24.00	15.79	50.00	17.50	28.92
Institute of Forensic Engineering of BUT							26.90		26.90	0.00	16.67	10.00	26.09
CEITEC BUT										0.00		0.00	0.00
BUT TOTAL	34.28	54.63	35.92				11.69	39.42	15.16	13.48	33.33	16.22	26.53

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

BUT Purpose of scholarship	Number of students	Average amount of scholarship
For excellent study results according to § 91 para. a)	942	9,384
For outstanding scientific research, developmental, artistic or other creative results according to § 91 para. b)	3,073	9,691
For research, development and innovation activities pursuant to a special legal regulation, § 91 para. c)	1,211	33,919
In the case of a difficult social situation of a student according to § 91 par. d)	4	17,500
In the case of a difficult social situation of a student pursuant to Section 91 (3)	88	17,364
In cases of special consideration worthy under § 91 par. e)	13,516	4,767
– Of which accommodation scholarship	13,516	4,767
To support study abroad according to § 91 para. a) CZK	1,252	32,706
To support study abroad according to § 91 para. (a) EUR		
To support studies in the Czech Republic according to § 91 par. b)	35	115,561
Students of doctoral study programs according to § 91 par. c)	1,092	95,758
Other scholarships CZK	11	11,455
Other scholarships EUR		
TOTAL	21,224	13,919

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	
Faculty of Civil Engineering										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	546	8	0	0	567	19	3	36	1,179
Faculty total	X	546	8	0	0	567	19	3	36	1,179
Thereof number of women	X	202	2	0	0	218	7	0	15	444
Thereof number of foreigners	X	82	0	0	0	63	2	0	1	148
Faculty of Mechanical Engineering										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	564	30	0	0	456	27	3	39	1,119
Faculty total	X	564	30	0	0	456	27	3	39	1,119
Thereof number of women	X	83	1	0	0	53	2	1	5	145
Thereof number of foreigners	X	97	1	0	0	68	3	1	2	172
Faculty of Electrical Engineering and Communication										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	363	17	0	0	296	35	3	24	738
Faculty total	X	363	17	0	0	296	35	3	24	738
Thereof number of women	X	61	4	0	0	39	0	0	5	109
Thereof number of foreigners	X	102	1	0	0	53	7	1	7	171
Faculty of Architecture										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21–39	61	0	0	0	63	0	0	4	128
Faculty total	X	61	0	0	0	63	0	0	4	128
Thereof number of women	X	38	0	0	0	30	0	0	0	68
Thereof number of foreigners	X	17	0	0	0	15	0	0	0	32
Faculty of Chemistry										
Groups of accredited degree programs	CREF									
Sciences and disciplines	11–18	123	6	0	0	128	6	1	8	272
Technical sciences and disciplines	21–39	0	0	0	0	0	0	0	5	5
Faculty total	X	123	6	0	0	128	6	1	13	277
Thereof number of women	X	79	4	0	0	90	4	1	8	186
Thereof number of foreigners	X	42	2	0	0	36	1	0	1	82
Faculty of Business and Management										
Groups of accredited degree programs	CREF									
Economics	62, 65	391	2	0	0	243	135	0	8	779
Faculty total	X	391	2	0	0	243	135	0	8	779
Thereof number of women	X	210	1	0	0	132	77	0	4	424
Thereof number of foreigners	X	63	0	0	0	37	5	0	3	108
Faculty of Fine Arts										
Groups of accredited degree programs	CREF									
Disciplines on culture and arts	81, 82	26	0	0	0	31	0	1	3	61
Faculty total	X	26	0	0	0	31	0	1	3	61
Thereof number of women	X	20	0	0	0	15	0	1	3	39
Thereof number of foreigners	X	8	0	0	0	7	0	0	2	17

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	
Faculty of Information Technology										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	269	0	0	0	154	0	1	8	432
Faculty total	X	269	0	0	0	154	0	1	8	432
Thereof number of women	X	22	0	0	0	10	0	0	0	32
Thereof number of foreigners	X	106	0	0	0	53	0	0	1	160
Institute of Forensic Engineering of BUT										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	108	0	0	8	116
Constituent Part total	X	0	0	0	0	108	0	0	8	116
Thereof number of women	X	0	0	0	0	53	0	0	5	58
Thereof number of foreigners	X	0	0	0	0	10	0	0	0	10
CEITEC BUT										
Groups of accredited degree programs	CREF									
Technical sciences and disciplines	21-39	0	0	0	0	0	0	0	10	10
Constituent Part total	X	0	0	0	0	0	0	0	10	10
Thereof number of women	X	0	0	0	0	0	0	0	1	1
Thereof number of foreigners	X	0	0	0	0	0	0	0	4	4
BUT TOTAL	X	2,343	63	0	0	2,046	222	12	153	4,839
Thereof number of women	X	715	12	0	0	640	90	3	46	1,506
Thereof number of foreigners	X	517	4	0	0	342	18	2	21	904

Tab. 5.1: Interest in studies at BUT

BUT	Groups of accredited degree programs												CREF			
	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	
Faculty of Civil Engineering																
Technical sciences and disciplines	21-39	1,834	2,038	1,699	894	0	0	0	718	775	604	543	76	84	70	19
Faculty total	X	1,834	2,038	1,699	894	0	0	0	718	775	604	543	76	84	70	19
Faculty of Mechanical Engineering																
Technical sciences and disciplines	21-39	2,003	2,232	1,791	1,226	0	0	0	946	1,219	1,094	713	68	68	63	49
Faculty total	X	2,003	2,232	1,791	1,226	0	0	0	946	1,219	1,094	713	68	68	63	49
Faculty of Electrical Engineering and Communication																
Technical sciences and disciplines	21-39	1,460	1,618	1,058	904	0	0	0	608	685	638	495	57	58	52	46
Faculty total	X	1,460	1,618	1,058	904	0	0	0	608	685	638	495	57	58	52	46
Faculty of Architecture																
Technical sciences and disciplines	21-39	392	392	356	91	0	0	0	119	119	105	93	14	14	13	13
Faculty total	X	392	392	356	91	0	0	0	119	119	105	93	14	14	13	13
Faculty of Chemistry																
Technical sciences and disciplines	21-39	917	1,005	717	369	0	0	0	208	211	161	149	33	33	32	32
Sciences and disciplines	11-18	0	0	0	0	0	0	0	0	0	0	0	8	8	7	7
Faculty total	X	917	1,005	717	369	0	0	0	208	211	161	149	41	41	39	39
Faculty of Business and Management																
Economics	62, 65	1,860	2,162	1,366	860	0	0	0	920	1,149	713	510	31	33	24	19
Faculty total	X	1,860	2,162	1,366	860	0	0	0	920	1,149	713	510	31	33	24	19
Faculty of Fine Arts																
Disciplines on culture and arts	81, 82	367	368	68	61	0	0	0	47	47	33	31	19	20	6	6
Faculty total	X	367	368	68	61	0	0	0	47	47	33	31	19	20	6	6
Faculty of Information Technology																
Technical sciences and disciplines	21-39	1,536	1,536	922	668	0	0	0	316	332	205	203	38	41	33	31
Faculty total	X	1,536	1,536	922	668	0	0	0	316	332	205	203	38	41	33	31
Institute of Forensic Engineering of BUT																
Technical sciences and disciplines	21-39	0	0	0	0	0	0	0	251	267	193	166	12	12	11	10
Constituent part total	X	0	0	0	0	0	0	0	251	267	193	166	12	12	11	10
CEITEC BUT																
Technical sciences and disciplines	21-39	0	0	0	0	0	0	0	0	0	0	0	55	58	49	31
Constituent part total	X	0	0	0	0	0	0	0	0	0	0	0	55	58	49	31
BUT TOTAL	X	10,369	11,351	7,977	5,073	0	0	0	4,133	4,804	3,746	2,903	411	429	360	263

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

BUT	Academic staff					Scientific (non-academic) staff				Other employees	Total number of employees	
	Total number of academic staff	Profess.	Assoc. Profess.	Asst. Profess.	Asst.	Lects.	Scientific, research and development staff involved in the teaching activities	Postdoctoral students	Ph.D. students			Other scientific, research and development employees
Faculty of Civil Engineering	313.333	32.260	64.027	162.665	54.381		9.549	15.244	0.258	30.021	210.428	578.833
Number of women at FCE	93.900	3.906	7.913	53.238	28.843		2.590	4.734		3.651	120.349	225.224
Faculty of Mechanical Engineering	260.821	34.576	76.881	125.755	15.982	2.197	5.430	25.494	1.000	34.831	228.698	558.464
Number of women at FME	33.749	0.350	2.243	22.772	6.207	2.177		2.297		1.099	90.623	127.768
Faculty of Electrical Engineering and Communication	187.897	27.229	58.872	89.551	11.590	0.655		6.385		27.025	196.714	424.066
Number of women at FECC	37.739	1.748	9.644	18.717	6.990	0.640		0.926		2.438	67.743	110.384
Faculty of Architecture	37.936	4.500	12.747	13.517	7.172			0.200		0.900	29.955	68.991
Number of women at FA	8.727	2.000	1.516	3.800	1.411			0.200			16.567	25.494
Faculty of Chemistry	48.394	10.263	13.736	23.395		1.000		13.567	9.895	1.000	108.356	195.981
Number of women at FCH	19.875	3.000	2.319	13.556	1.000			2.530	3.723	5.108	66.738	97.974
Faculty of Business and Management	64.850	9.219	18.660	33.962	3.009			1.632	0.100	2.353	46.651	115.586
Number of women at FBM	20.422	3.000	3.862	11.609	1.951			1.246		1.103	32.916	55.687
Faculty of Fine Arts	34.140	4.000	7.201	7.112	15.827			0.872		0.134	21.478	56.624
Number of women at FFA	7.309		1.000	2.729	3.580			0.335			14.094	21.738
Faculty of Information Technology	49.909	7.957	17.050	24.052	0.850			4.943	0.548	9.321	142.414	207.135
Number of women at FIT	1.810		0.818	0.992				1.675			57.395	60.880
Institute of Forensic Engineering of BUT	13.063	0.443	4.119	8.501				0.200	0.501	0.200	16.499	30.463
Number of women at IFI	2.000			2.000				0.200	0.400		10.683	13.283
Sports activities center	12.266	0.700	2.100	4.066	5.400						19.610	31.876
Number of women at SAC	5.466	1.000	1.000	2.066	2.400						12.705	18.171
CEITEC BUT	14.774	0.200		4.837				9.737	2.367	4.461	155.931	270.056
Number of women at CEITEC	1.104			0.266				0.838	3.981	1.000	54.639	74.144
Other workplaces	1.600		0.600	1.000							496.692	498.292
Number of women at other workplaces	0.600		0.600								321.373	321.973
TOTAL	1,038.983	131.347	275.993	498.413	114.211	3.852	15.167	67.373	61.266	6.719	188.600	3,036.367
Total number of women	232.701	14.004	30.915	131.745	52.382	2.817	0.838	13.148	13.227	1.000	26.819	865.825

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

BUT	Academic staff										Scientific staff		Other employees	Total number of employees	Therof women									
	Professors		Associate Professors		Assistant Professors		Lecturers		Scientific, research and development staff involved in educational activities		Post-doctoral students					Ph.D. students		Other scientific, research and development employees		Scientists not falling into other categories				
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women				Total	Women	Total	Women	Total	Women			
Under 29 years			10	1	21	6	1	1	1	1	2	2	65	16	10	2	516	157	625	183				
30–39 years	1	0	35	2	271	48	63	24	1	1	13	0	79	15	28	5	3	1	89	18	484	171	1064	284
40–49 years	14	1	133	9	174	44	35	16	2	2	0	0	6	2	1	1	1	1	49	11	398	279	814	364
50–59 years	37	4	48	12	45	22	18	13	1	0	1	0	0	0	16	1	360	239	526	291				
60–69 years	56	5	68	8	67	34	2	1	1	0	1	0	13	1	201	113	408	162						
Over 70 years	48	5	42	2	14	3	2	1	1	0	1	0	1	12	48	13	167	24						
TOTAL	156	15	326	33	581	152	141	61	4	3	19	1	87	17	94	21	5	1	189	33	2,007	972	3,609	1,308

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.		DSc, PhD, ThD		Others		Total	Women		
Faculty of Civil Engineering												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3	2	0	3	0	8	2	10	4	25	4	48	10
0.31–0.5	1	0	10	1	19	5	8	1	10	1	48	8
0.51–0.7	6	0	3	0	13	4	1	1	8	4	31	9
0.71–1.0	28	4	60	7	129	42	58	32	18	4	293	89
More than 1									2	0	2	0
TOTAL	37	4	76	8	169	53	77	38	63	13	422	116
Faculty of Mechanical Engineering												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3	1	0	12	0	14	4	7	1	4	0	38	5
0.31–0.5	13	1	8	0	16	3	5	3	12	0	54	7
0.51–0.7	7	0	18	0	12	2	3	1	8	1	48	4
0.71–1.0	21	0	58	2	103	18	21	8	47	2	250	30
More than 1	2	0	2	0	1	0			1	0	6	0
TOTAL	44	1	98	2	146	27	36	13	72	3	396	46
Faculty of Electrical Engineering and Communication												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3	3	0	4	0	9	0	2	1	13	1	31	2
0.31–0.5	4	0	7	0	4	1			3	0	18	1
0.51–0.7	6	1	14	0	11	2	1	1	9	0	41	4
0.71–1.0	20	1	47	10	66	11	16	12	28	8	177	42
More than 1									2	0	2	0
TOTAL	33	2	72	10	90	14	19	14	55	9	269	49

BUT									Academic staff	Scientific staff	Total	Thereof women
Faculty of Architecture												
Range of workloads	Prof.		Assoc. Profs.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3							3	1	1	1	4	2
0.31–0.5	1		1	1	3	0	4	0			9	1
0.51–0.7			1		1	0	1	1			3	1
0.71–1.0	4	2	12	1	11	3	7	2			34	8
More than 1											0	0
TOTAL	5	2	14	2	15	3	15	4	1	1	50	12
Faculty of Chemistry												
Range of workloads	Prof.		Assoc. Profs.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3	1	0							9	4	10	4
0.31–0.5	1	0	2	1	2	1			5	2	10	4
0.51–0.7	1	0	2	0	2	1			2	1	7	2
0.71–1.0	11	3	10	2	19	11	3	3	28	8	71	27
More than 1									3	1	3	1
TOTAL	14	3	14	3	23	13	3	3	47	16	101	38
Faculty of Business and Management												
Range of workloads	Prof.		Assoc. Profs.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3					1	0			3	1	4	1
0.31–0.5	2	0			2	1	8	3			12	4
0.51–0.7	1	0			1	1	1	0	2	1	5	2
0.71–1.0	8	3	19	4	5	2	9	1	1	1	42	11
More than 1											0	0
TOTAL	11	3	19	4	9	4	18	4	6	3	63	18
Faculty of Fine Arts												
Range of workloads	Prof.		Assoc. Profs.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3			1				2	2			3	2
0.31–0.5					3		3	1	1	1	7	2
0.51–0.7											0	0
0.71–1.0	4		10	2	28	10	4	2	1		47	14
More than 1											0	0
TOTAL	4	0	11	2	31	10	9	5	2	1	57	18

BUT	Academic staff								Scientific staff		Total	Thereof women
	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others		Total	Women		
Faculty of Information Technology												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3			2	0	3	1			6	1	11	2
0.31–0.5	1		0	0	4	2			3	0	8	2
0.51–0.7			5	0	3	0			2	0	10	0
0.71–1.0	8		15	1	19	0	2		11	2	55	3
More than 1											0	0
TOTAL	9	0	22	1	29	3	2	0	22	3	84	7
Institute of Forensic Engineering of BUT												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3											0	0
0.31–0.5	1		1		1	0			1	1	4	1
0.51–0.7					1	0	1				2	0
0.71–1.0			4		7	2					11	2
More than 1											0	0
TOTAL	1	0	5	0	9	2	1	0	1	1	17	3
Sports activities center												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3			1				1	1			2	1
0.31–0.5											0	0
0.51–0.7	1										1	0
0.71–1.0			2	1	2	1	7	3			11	5
More than 1											0	0
TOTAL	1	0	3	1	2	1	8	4	0	0	14	6
CEITEC BUT												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3	1		1		1				17	3	20	3
0.31–0.5			1				1		17	3	19	3
0.51–0.7	1				4				16	5	21	5
0.71–1.0					10	1	1		53	10	64	11
More than 1									3	1	3	1
TOTAL	2	0	2	0	15	1	2	0	106	22	127	23

BUT	Academic staff								Scientific staff		Total	Thereof women
	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others		Total	Women		
Other workplaces												
Range of workloads	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3											0	0
0.31–0.5											0	0
0.51–0.7			1	1	1						2	1
0.71–1.0											0	0
More than 1											0	0
TOTAL	0	0	1	1	1	0	0	0	0	0	2	1

BUT TOTAL	Profes.		Assoc. Profes.		DSc, PhD, ThD		Others				Total	Thereof women
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women		
Up to 0.3	8	0	24	0	36	7	25	10	78	15	171	32
0.31–0.5	24	1	30	3	54	13	29	8	52	8	189	33
0.51–0.7	23	1	44	1	49	10	8	4	47	12	171	28
0.71–1.0	104	13	237	30	399	101	128	63	187	35	1,055	242
More than 1	2	0	2	0	1	0	0	0	11	2	16	2
BUT TOTAL	161	15	337	34	539	131	190	85	375	72	1,602	337

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
Rectorate	1	5	18	41	1	15		31	112
Thereof women		1	6	3		2		10	22
Faculty of Civil Engineering	1	4	25	30	1			26	87
Thereof women			5	4				4	13
Faculty of Mechanical Engineering	1	4	24	23	1			16	69
Thereof women			1					3	4
Faculty of Electrical Engineering and Communication	1	4	12	19	1			17	54
Thereof women		1	3	1					5
Faculty of Architecture	1	4	8	8	1			12	34
Thereof women			1	1				2	4
Faculty of Chemistry	1	4	10	22	1			6	44
Thereof women		1	3	4				1	9
Faculty of Business and Management	1	4	12	12	1			8	38
Thereof women		3	4	4				1	12

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
Faculty of Fine Arts	1	4	7	21	1			20	54
Thereof women		2	2	3				3	10
Faculty of Information Technology	1	4	8	18	1			8	40
Thereof women								1	1
Institute of Forensic Engineering of BUT				12	1		1	4	18
Thereof women								1	1
Centre of Sports Activities				4			1	3	8
Thereof women				1			1	2	4
CEITEC BUT				5	1		1	5	12
Thereof women									0
Faculties total	8	32	106	153	8		0	113	420
Thereof women	0	7	19	17	0		0	15	58
Other workplaces	1	5	18	62	3		3	43	150
Thereof women	0	1	6	4	0		1	13	27
BUT TOTAL	9	37	124	215	11	15	3	156	570
Thereof women	0	8	25	21	0	2	1	28	85

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

BUT	Academic staff					Scientific staff				Other employees	
	Professors	Associate Professors	Assistant Professors	Assistants	Lecturers Scientific, research and development staff involved in educational activities	Postdoctoral students	PhD students	Other scientific, research and development employees	Scientists not falling into other categories		
Faculty of Civil Engineering	0.25	0	3.1	4.162	0	0	1.213	1.893	0.134	1.804	4.926
Of which: Germany										0.252	
Poland											
Austria									0.134	0.252	0.136
Slovakia	0.25		3.1	2.162			1.213	1.785		1.3	3.003
Other EU countries				1							
Other countries outside EU				1				0.108			1.787
Whereof women (regardless citizenship)			0.1	0.54				0.2			3.082

BUT	Academic staff						Scientific staff				Other employees
	Professors	Associate Professors	Assistant Professors	Assistants	Lecturers	Scientific, research and development staff involved in educational activities	Postdoctoral students	PhD students	Other scientific, research and development employees	Scientists not falling into other categories	
Faculty of Mechanical Engineering	0.666	0.2	3.029	0.261	0	0	2.087	7.465	0	3.938	6.881
Of which: Germany											
Poland											
Austria		0.15									0.041
Slovakia		0.05	1.958	0.261			1.001	2.915		0.5	4.714
Other EU countries							0.3			1.501	0.402
Other countries outside EU	0.666		1.071				0.786	4.55		1.937	1.724
Whereof women (regardless citizenship)			2.373					2			1.552
Faculty of Electrical Engineering and Communication	0.091	1.627	5.709	0	0	0	0.283	2.286	0	6.646	13.256
Of which: Germany							0.1			0.514	0.057
Poland	0.091							1			
Austria										0.5	1.111
Slovakia		1.627	2.29					1.286		2.8	7.055
Other EU countries							0.183			0.482	0.207
Other countries outside EU			3.419							2.35	4.826
Whereof women (regardless citizenship)		1	2					1		1.594	5.138
Faculty of Architecture	0	0	0	0	0	0	0	0	0	0	0
Of which: Germany											
Poland											
Austria											
Slovakia											
Other EU countries											
Other countries outside EU											
Whereof women (regardless citizenship)											
Faculty of Chemistry	0	0.754	1.247	0	0	0	0.2	1.853	0	2.786	7.666
Of which: Germany											
Poland											
Austria											
Slovakia		0.754	1.247				0.2	1.853		1.4	7.259
Other EU countries										0.8	0.2
Other countries outside EU										0.586	0.207
Whereof women (regardless citizenship)			1				0.2	1.253		1	2.694

BUT	Academic staff						Scientific staff				Other employees
	Professors	Associate Professors	Assistant Professors	Assistants	Lecturers	Scientific, research and development staff involved in educational activities	Postdoctoral students	PhD students	Other scientific, research and development employees	Scientists not falling into other categories	
Faculty of Business and Management	0.498	2.75	1.418	0	0	0	0.586	0	0	0.751	0.348
Of which: Germany											
Poland											
Austria											
Slovakia	0.498	2	1								0.305
Other EU countries											
Other countries outside EU		0.75	0.418				0.586			0.751	0.043
Whereof women (regardless citizenship)		1	1.418				0.586			0.2	0.133
Faculty of Fine Arts	0	0	0	3.377	0	0	0	0	0	0	0
Of which: Germany											
Poland											
Austria											
Slovakia				1.877							
Other EU countries				1							
Other countries outside EU				0.5							
Whereof women (regardless citizenship)				1.377							
Faculty of Information Technology	0	1	0	0	0	0	2.76	0	0	1.302	14.546
Of which: Germany											
Poland											1
Austria											
Slovakia		1					0.1			0.562	7.908
Other EU countries							2				0.3
Other countries outside EU							0.66			0.74	5.338
Whereof women (regardless citizenship)							1.675				1.531
Institute of Forensic Engineering of BUT	0	0	0	0	0	0	0	0	0	0	1.193
Of which: Germany											
Poland											
Austria											
Slovakia											1.193
Other EU countries											
Other countries outside EU											
Whereof women (regardless citizenship)											

BUT	Academic staff						Scientific staff				Other employees
	Professors	Associate Professors	Assistant Professors	Assistants	Lecturers	Scientific, research and development staff involved in educational activities	Postdoctoral students	PhD students	Other scientific, research and development employees	Scientists not falling into other categories	
Centre of Sports Activities	0	0	0	0	0	0	0	0	0	0	3.271
Of which: Germany											
Poland											
Austria											
Slovakia											3.271
Other EU countries											
Other countries outside EU											
Whereof women (regardless citizenship)											1.271
CEITEC BUT	0	0	0.933	0	0	4.459	2.771	0.167	0	7.715	19.291
Of which: Germany						0.586					0.1
Poland						0.671					
Austria						0.838				0.164	
Slovakia						0.614				1.836	10.244
Other EU countries						0.03	0.265			2	1.841
Other countries outside EU			0.933			1.72	2.506	0.167		3.715	7.106
Whereof women (regardless citizenship)						0.838	0.534			3.636	5.764
Other workplaces	0	0	0	0	0	0	0	0	0	0	5.022
Of which: Germany											
Poland											
Austria											
Slovakia											5.022
Other EU countries											
Other countries outside EU											
Whereof women (regardless citizenship)											3.817
BUT TOTAL	1.505	6.331	15.436	7.8	0	4.459	9.9	13.664	0.134	24.942	76.4
Of which: Germany	0	0	0	0	0	0.586	0.1	0	0	0.766	0.157
Poland	0.091	0	0	0	0	0.671	0	1	0	0	1
Austria	0	0.15	0	0	0	0.838	0	0	0.134	0.916	1.288
Slovakia	0.748	5.431	9.595	4.3	0	0.614	2.514	7.839	0	8.398	49.974
Other EU countries	0	0	0	2	0	0.03	2.748	0	0	4.783	2.95
Other countries outside EU	0.666	0.75	5.841	1.5	0	1.72	4.538	4.825	0	10.079	21.031
Whereof women (regardless citizenship)	0	2	6.891	1.917	0	0.838	2.995	4.453	0	6.43	24.982

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

BUT	At the university		Number	Average age of the newly appointed
	Total	Thereof the basic staff of the university	Basic staff appointed at another university	
Faculty of Civil Engineering				
Professors appointed in 2018	2	2	0	65
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	6	6	0	43
Thereof women	0	0	0	0
Faculty of Mechanical Engineering				
Professors appointed in 2018	0	0	1	55
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	5	5	0	39
Thereof women	0	0	0	0
Faculty of Electrical Engineering and Communication				
Professors appointed in 2018	0	0	0	0
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	5	5	0	40
Thereof women	1	1	0	37
Faculty of Architecture				
Professors appointed in 2018	0	0	0	0
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	3	3	0	46
Thereof women	1	1	0	41
Faculty of Chemistry				
Professors appointed in 2018	2	2	0	40
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	2	2	0	51
Thereof women	1	1	0	56
Faculty of Business and Management				
Professors appointed in 2018	1	1	0	41
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	1	1	0	48
Thereof women	0	0	0	0
Faculty of Fine Arts				
Professors appointed in 2018	0	0	0	0
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	2	2	0	49
Thereof women	1	1	0	41
Faculty of Information Technology				
Professors appointed in 2018	0	0	0	0
Thereof women	0	0	0	0
Assoc. Professors appointed in 2018	1	1	0	38
Thereof women	0	0	0	0
TOTAL Professors	5	5	1	51
Thereof women	0	0	0	0
TOTAL Assoc. Professors	25	25	0	43
Thereof women	4	4	0	44

Tab. 7.1: Involvement of the University in international cooperation programs (regardless of the source of funding)

BUT	H2020 / 7. EC Framework Program		Others	Total
	Total	Of which Marie-Curie Actions		
Number of projects	34	6	37	71
Number of students posted	7	6	1,333	1,340
Number of admitted students	0	0	1,276	1,276
Number of seconded academic and scientific staff	80	19	309	389
Number of recruited academic and scientific staff	56	1	211	267
Subsidies in ths. CZK	97,320.12	4,559.28	140,102.21	237,422.33

Tab. 7.2: Mobility of students and academic staff by a country (regardless of the source of funding)

BUT Country	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						
Albania			1		8			9
Algeria					2			2
Argentina							2	2
Bangladesh					1		1	1
Belgium	24		23	7		4		58
Brazil	1		74					75
Bulgaria	5		24	6	20	4		59
North Macedonia			4					4
Montenegro			16		1			17
China	2		7					9
Taiwan	3		32		1			36
Denmark	36		8	1		5		50
Estonia	34		16	4	3			57
Finland	95	1	15	6		7	3	127
France	75	1	140	8	14	12		250
Croatia	5		4	7				16
India			6					6
Iran					1		1	2
Ireland				4	1	2		7
Iceland	6		1	6				13
Italy	104		55	16	3	20	1	199
Jamaica							2	2

BUT Country	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						
Japan	1		1			1		3
South Africa					3		1	4
Canada	1		1		1			3
South Korea	2		6					8
Cyprus			3	6				9
Lithuania	11		73	5	4	3	1	97
Latvia	11		11	6	2	2		32
Hungary	19		3	7	2	1	1	33
Malaysia					1		1	2
Malta	7		13	14		23		57
Netherlands	27	1	8	1				37
Norway	58		4	5	11	1		79
New Zealand	1							1
Poland	30		26	19	16	11		102
Portugal	73		72	11	4	2		162
Austria	246	1	14	24	9	11	2	307
Kazakhstan	7		13					20
Romania			4	1	7			12
Russia	16		24		1		4	45
Greece	42		90	7	8	4		151
Slovakia	5		43	19	16	5	2	90
Slovenia	51		27	13	4	4		99
United Kingdom of Great Britain and Northern Ireland	70	1	9	22	3	13		118
United States of America	23		1	2	5			31
Mexico	2		11					13
Germany	107	2	32	23	6	19	2	191
Serbia			11	2	34			47
Israel	4				2	1		7
Spain	80		188	27	5	18		318
Sweden	27		2		4			33
Switzerland	13		3					16
Tunisia			4					4
Turkey	2		123		1		1	127
Ukraine	4		1		1		2	8
Vietnam	2							2
TOTAL	1,332	7	1,247	279	205	173	27	3,269

Note: The data mentioned do not reflect the source of mobility funding. In the electronic form, Table 7.2 is completed with a list of all the world states. The printed version of the Annual report mentions only those countries in which BUT registered some form of a foreign mobility in 2018.

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

BUT	Bachelor's Study		Master's Study		Continuing Master's Study		PhD Study		Total	
	Share	No.	Share	No.	Share	No.	Share	No.	Share	No.
Faculty of Civil Engineering (FCE)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	6.7%	37			9.4%	55	17.9%	7	8.4%	99.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							17.9%	7	17.9%	7
Faculty of Mechanical Engineering (FME)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	2.2%	13			19.5%	94	38.1%	16	11.0%	123.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							38.1%	16	38.1%	16
Faculty of Electrical Engineering and Communication (FEEC)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	1.8%	7			8.2%	27	25.9%	7	5.6%	41.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							25.9%	7	25.9%	7
Faculty of Architecture (FA)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	31.1%	19			27.0%	17	50.0%	2	29.7%	38.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							50.0%	2	50.0%	2
Faculty of Chemistry (FCH)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	0.8%	1			10.4%	14	35.7%	5	7.2%	20.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							35.7%	5	35.7%	5
Faculty of Business and Management (FBM)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	2.0%	8			8.5%	32	12.5%	1	5.3%	41.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							12.5%	1	12.5%	1
Faculty of Fine Arts (FFA)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	42.3%	11			32.3%	10	75.0%	3	39.3%	24.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							75.0%	3	75.0%	3

BUT	Bachelor's Study		Master's Study		Continuing Master's Study		PhD Study		Total	
	Share	No.	Share	No.	Share	No.	Share	No.	Share	No.
Faculty of Information Technology (FIT)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	5.9%	16			17.5%	27	22.2%	2	10.4%	45.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							22.2%	2	22.2%	0
Institute of Forensic Engineering of BUT (IFE)										
Share of the graduates who spent at least 14 days abroad during their studies [%]	0.0%	0			0.9%	1	12.5%	1	1.7%	2.0
Share of Ph.D. graduates whose length of stay abroad reached at least 1 month (i.e. 30 days) [%]							12.5%	1	12.5%	1
BUT	4.7%	112	0.0%	0	12.2%	277	26.7%	44	8.9%	433

Tab. 8.1: Conferences (co)organized by BUT

BUT	With more than 60 participants	International conference
Faculty of Civil Engineering	7	8
Faculty of Mechanical Engineering	5	5
Faculty of Electrical Engineering and Communication	4	7
Faculty of Architecture	2	3
Faculty of Chemistry	1	1
Faculty of Business and Management	1	1
Faculty of Fine Arts	0	0
Faculty of Information Technology	4	2
Institute of Forensic Engineering of BUT	2	3
CEITEC BUT	7	7
TOTAL	33	37

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
Faculty of Civil Engineering				14	35	41
Whereof women				2	8	26
Faculty of Mechanical Engineering	33			15	232	79
Whereof women	14			3	34	19
Faculty of Electrical Engineering and Communication	69	48		10	45	66
Whereof women	7	3		3	2	8
Faculty of Architecture	32					
Whereof women	6					
Faculty of Chemistry	5	4		16	28	12
Whereof women	3	1		6	6	3
Faculty of Business and Management	2			1	4	15
Whereof women	0			0	1	6
Faculty of Fine Arts				6	1	
Whereof women				3	0	
Faculty of Information Technology				28	70	
Whereof women				1	9	
Institute of Forensic Engineering of BUT	16	7				
Whereof women	5	3				
CEITEC BUT				1		
Whereof women				1		
TOTAL	125	59	0	91	415	213
Whereof women	29	7	0	19	60	62

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 active students in these specializations
Faculty of Electrical Engineering and Communication	6	903
Faculty of Business and Management	2	606
Faculty of Civil Engineering	3	394
TOTAL	11	1,903

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

BUT	In CR	Abroad	Total number	Total income
Number of new spin-offs/start-ups			0	
Patent applications	12	6	18	
Patent granted	13	14	27	
Registered utility patterns	14	0	14	
Licensing contracts valid as of December 31	23	38	61	
Newly contracted licenses	5	17	22	310,153 CZK
Contractual research, consultancy			92	175,194,852 CZK
Paid educational courses for employees from the application sphere			35	4,063,123 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 the application sphere.	149	179,568,128 CZK	1,205,155 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 December 31, 2018	6,958
Number of approved applications/reservations for accommodation to December 31, 2018	6,390
Number of bed-days in 2018	1,592,292
Number of main meals served to students in 2018	810,579
Number of main meals served to employees in 2018	110,497
Number of main meals served to other boarders in 2018	106,005

Tab. 12.2 BUT Libraries

BUT	Number
Annual acquisitions per 1 year	7,096
Of which an acquisition in physical units	6,580
Of which an increase in e-books in a permanent purchase	516
Total library fund	247,023
Of which physical units	245,824
Of which e-books in a permanent purchase	1,199
Number of subscribed journals	
physically	717
electronically (esteemed)	100
in both forms	10

Tab. 12.3: Institutional Plan of BUT in 2018 (public universities only)

BUT	Provided funds (contribution) in thousand CZK		Meeting targets/indicators	
	Capital	Conventional	Initial state	Target state
Institutional Development Plan				
Priority Goal 1: Quality Assurance and Strategic Management				
1.1 Preparation of the employee care concept		1,200	Absence of systemic activity in human resource development	A functioning and modern Department of Personnel Management and Development; the concept of employee appraisal and the evaluation of academic staff; searching new minimum self-evaluation criteria; discussing main career guidelines.
1.2 Preparation of the EUA reevaluation and implementation of recommendations from the last evaluation		1,200	Evaluation of EUA from 2010.	In 2018, BUT evaluation was completed by an independent external international agency EUA/IEP. Final report including recommendation on BUT websites. Beginning implementation of recommendations.
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 in terms of IPn projects; Revision and defining hierarchy of internal regulations and standards	Analysis of existing strategic objectives (new BUT management); Preparation of the Strategic Plan for 2019; Developed Partial Strategies (e.g. Internationalization, R&D); Preparation of New Institutional Development Projects for 2019–2020.
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	Revised BUT functional internal quality management system; internal and external audits (suppressed by EUA in 2018); direct cooperation with other universities in creating a quality management system; cooperation with MIT/Quality Council.
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)	Strategic cooperation of technically oriented universities, cooperation of expert groups; Quality Assurance CRP 2018 coordination with regard to common technical university indicators. Solution of selected issues specific to technical universities (e.g. scaling, methodology 17+ and others).
1. Analysis and building of the Rector's Office as an effective and helpful service to faculties and constituent parts	100	900	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	Existence of an executive information system connected to SAP EIS. The "Full Cost" add-on application built over SAP EIS for automated calculation of indirect cost percentages. Comprehensive process analysis of the Rectorate with identification of the main processes has been completed and their optimization was proposed with a focus on the elimination of duplicates and redundancy. The revised system of the University's internal standards in relation to the BUT economy. Extensive analysis and mapping of tax and other impacts related to sending employees on long-term business trips. Harmonization of the rules of recruitment from other EU Member States. Continuous implementation of FIDIC Terms and Conditions in various areas of efficiency.

BUT	Provided funds (contribution) in thousand CZK		Meeting targets/indicators	
	Capital	Conventional	Initial state	Target state
Institutional Development Plan				
1.7 Strategically oriented project management incl. TT		450	Has not been implemented.	A separate Project Support Department (OPP) and Technology Transfer Department (OTT), with well-defined activities, has been embedded in the new BUT Rector's Regulations. A seminar for academic researchers focused on the issue of intellectual property protection. Innovation of technology transfer website. OTT collective publication "Protection of Intellectual Property and Technology Transfer".
1.8 Support of BUT self-government and autonomy		750	Support of AS BUT activities	Support of activities leading to the creation of electronic tools to enhance direct information. Support of the formalization of analysis for BUT AS members and for BUT management. In 2018, following the amendment to HEIs, Act No. 137/2016 Coll. the amendment of the remaining internal regulations of BUT faculties has yet to be completed. Detailed changes of the already approved BUT internal regulations were made in the form of amendments. TOP10 competition for best teachers at BUT. BUT AS external meeting was held.
1.9 Development of risk management at BUT		1,000	Was not implemented	New Risk Management Directive. Arranging a workshop for a new risk management module at BUT IS. Updating the risk catalog in the new module. First risk assessment performed in the new module.
Priority Goal 2: Diversity and Availability of Educational Activities				
2.1 BUT cooperation with primary, secondary and higher vocational schools		1,000	5 competitions for secondary school students	In 2018, the project supported more than 70 competitions for high school students, 51 projects for current BUT students, which led to new applicants. 176 BUT students were supported by extraordinary scholarships.
2.2 Support of first-year students		3,200	Number of students enrolled in the 1 st year of the Bachelor's degree program; the initial value in 2015 is 500 students	The target value for 2018 is 500 students; the best 500 first year students were supported
2.3 Support of talented students		1,700	Starting value in 2015: about 150 students supported by scholarships	More than 450 students supported by scholarships for the period 2016–2018.
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)	Internships in companies. Practical training; The involvement of experts in teaching; An increase of 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

BUT	Provided funds (contribution) in thousand CZK		Meeting targets/indicators		
	Institutional Development Plan	Capital	Conventional	Initial state	Target state
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	2018: number of participants 1,632, number of courses: 180
2.7 Support of U3A development			800	In 2015 the recalculated U3A BUT performance was 48,968 student hours.	Growth in 2018: a total of 3,047 students
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	1,007 users of services; 406 individual consultations; 601 group activities
Priority Goal 3: Internationalization					
3.1 Support of international cooperation			4,000	Initial values for 2015: 19 bilateral contracts. 28 sub-contracts and general international contracts	103 bilateral contracts, 50 sub-contracts and general international contracts
3.2 Support of international mobility of BUT academic staff			2,000	35 outgoing persons/ 16 incoming persons.	98 outgoing persons/ 29 incoming persons
3.3 Support of international mobility of BUT students			5,000	400 student-months	320.5 student-months. The decline was caused by the increasing mobility costs, with the volume of DP funding remaining the same as in previous years.
Priority Goal 4: Relevance, graduates, marketing and collaboration with the application sphere					
4.1 Support of the activities of the Department of Marketing and External Relations			1,000	Performance indicators – number of cooperating companies. BUT graduates database	42 new partnerships with major companies and sponsorships; database of graduates: the current state is 40,000 registered addresses of graduates, 18,500 graduates gave their consent to receive the newsletter.
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 as a result of an online campaign	Participation in 2 domestic and 7 foreign trade fairs; 6,950 applications submitted via an online campaign
Priority Goal 5: Quality and relevant research. development and innovation					
5.1 Promoting excellence of BUT publishing activities			15,300	In 2015, the total number of publications in the WoS/Journal Citation Reports was Q1, Q2, Q3 and Q4: 373.	An increase in publications indexed in WoS: Q1 + Q2 in 2018 325 articles were published. SCOPUS: Compared to 2017 increase of about 2%.

BUT	Provided funds (contribution) in thousand CZK		Meeting targets/indicators	
	Institutional Development Plan	Capital	Conventional	
			Initial state	Target state
Priority Goal 6: Decision-making and development based on information and data				
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 analyzes performed	2018 Values: Marketing strategy: 1 (partial updates) The number of innovated or newly created teaching and promotional materials: 17 Facebook fans page Central Library in Brno: 824 Number of researches and user testing: 3 Number of e-learning courses with mentored teachers: 5 Number of prepared and realized seminars with the share of mentoring teachers: 8 Number of promotions (seminars, training): 36 Attendance at a professional conference: 8 Number of digital documents stored: 58,224 Number of Repository Accesses: 157,858 Number of citation analyzes performed: 55
6.2 Development of the educational computer network and the main data center	1,000	1,500	A. Default BUT Internet Connection Capacity 2x10Gbps B. Default number of types of electronic approval processes at BUT = 2 (travel orders, internal grant agency) C. Default number of room recording systems = 3 (GTF, Central Database and SAP) D. The default number of the translated interfaces that allows working in English is 1 (Studls)	A. BUT Internet Connection Capacity 40Gbps B. Preparation of the BUT Information System on GDPR, according to the credentials. Preparation of BUT for eIDAS – Regulation (EU) No. 910/2014 of the European Parliament and of the Council on electronic identification and services creating trust for electronic transactions in the internal market. C. Number of room recording systems: 2 (central database and SAP) D. Mobile interface to BUT IS for teachers. Information support for NAI accreditation and support for institutional accreditation.
Internal competition				
Internal competition		10,592	In 2015, 97 projects supported	In 2018, FME BUT was supported by internal competitions in the following areas: 1. Promoting the pedagogical activities of academic staff and profiling and innovating study programs at subject/course level; 2. Creative work of students leading to innovation of educational activity.
TOTAL		1,100	66,192	





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Conclusion

If you have continued to read the annual report up to here, allow me to thank you. A careful reader who paid sufficient attention to the tables could find out how Brno University of Technology progressed and changed in 2018.

In 2019 and in the years to come, we will face serious challenges, which include the development of internationalization and the implementation of a quality management system in all areas of the activities covered by the amendment to the Higher Education Act. I would be happy if we could find enough energy and courage to improve BUT's corporate culture.

BUT will be preparing a Strategic Development Plan covering the years to 2030. The plan is to be discussed at the beginning of 2020. I hope we will find a common view of our future and agree how to approach this goal.

I do not like to copy, however, I would like to repeat the wish and request I made here last year: In order to meet our 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 search for those that are the most beneficial for our University. It will not always be easy. Let's start with ourselves in our working or research teams, institutions and faculties. Let's provide feedback and accept it as a contribution to improvement. Let's put at least the same demands on ourselves as we put on others. Let's seek consensus and consistency. This is the only way to assert the legitimate interests of BUT and technical universities in general – both in the Czech Republic and throughout the world. Finally, allow me to wish not only 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 put before us in our everyday lives, but also those which we sometimes, and perhaps unnecessarily, put before ourselves.



prof. MSc Petr Štěpánek, PhD, dr. h. c.
Rector of BUT



Annual Report on the Activities of Brno University of Technology in 2018

Published by BUT in 2019.
Compilation of documents: Radana Kolčavová
Graphic design and typesetting: Vojtěch Lunga
Photos: Igor Šefr, Jakub Holas and BUT photos
Print: Helbich Printing House

Number of copies 170 pieces

ISBN 978-80-214-5745-4

