

# PLAN OF IMPLEMENTATION OF THE STRATEGIC PLAN

for Educational, Scientific, Research, Developmental,  
Innovative, Artistic and Other Creative Activities of  
Brno University of Technology for **2020**





**BUT Strategic Plan for Educational, Research, Development, Artistic and other Creative Activities in 2020, including**

**Annex 1: BUT Plan of Investments for 2020;**

**Annex 2: Medium-Term Plan for National and International Surveys among BUT Students and Graduates;**

**Annex 3: BUT Research Framework;**

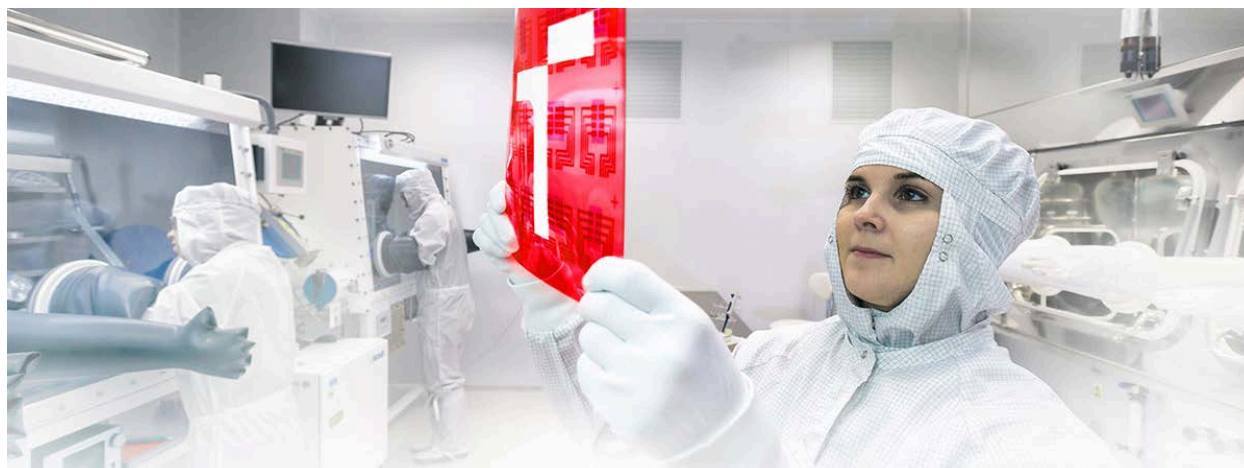
- **discussed by the Scientific Board of BUT per rollam between 17 September and 22 September 2019;**
- **approved by the Academic Senate of BUT on 24 September 2019;**
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rector**



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## Introduction

Brno University of Technology is an important Central European technical university. As such, it will continue working with its students, academic staff and other employees and colleagues to ensure it plays an important academic role in the Czech Republic and abroad in the year 2020 and beyond. Our priority is to educate students in technical and related fields in order to support the sustainability and competitiveness of the Czech Republic in the near and more distant future and to follow up on the successes of previous generations.

The “Strategic Plan for Educational, Scientific, Research, Developmental, Innovative, Artistic and Other Creative Activities of Brno University of Technology for 2020” (hereinafter the “BUT 2020 Plan”) is based on the Long-Term Plan for Educational and Scientific, Research, Developmental, Artistic and Other Creative Activities for the 2016–2020 Period (hereinafter the “BUT Long-Term Plan 2016–2020”), also taking into account the top priorities of the Long-Term Plan for the Area of Higher Education for 2020 prepared by the Ministry of Education, Youth and Sports (hereinafter the “MEYS Plan 2020” and its recommended framework.

The document also builds on the recommendations resulting from the international evaluation performed by the European University Association (EUA) as part of its Institutional Evaluation Programme (IEP).

The BUT 2020 Plan forms an integral part of BUT strategic management, together with the Institutional Plan for 2020–2019 (hereinafter the “BUT Institutional Plan 2019–2020”). The goals set forth in the Long-Term Plan 2016–2020 and the BUT 2020 Plan will be further supported by smaller scale BUT development projects funded within the institutional plan and centralised development projects for the respective period.



The description of BUT activities is structured in accordance with the following priority goals of the MEYS Long-Term Plan 2016–2020 and BUT Long-Term Plan 2016–2020:

**Priority goal 1: Quality assurance and strategic management**

**Priority goal 2: Diversity and accessibility of educational activities**

**Priority goal 3: Internationalisation**

**Priority goal 4: Relevance, graduates, marketing, and co-operation with the industry**

**Priority goal 5: High-quality and relevant research, development and innovation**

**Priority goal 6: Data and information-based decision-making and development**

**Priority goal 7: Effective management**

Educational activities are crucial and essential for BUT and other higher education institutions and must be closely linked to research, development and innovation synergistically supporting the “third role” of university. These main areas and their supporting activities are reflected in all sections of this document discussing the aforementioned objectives.

As “quality” is often mentioned in the Czech Republic and abroad and various university associations are forming to advocate a reform of public higher education institutions, we affirm BUT’s readiness to participate in these initiatives under clearly defined conditions and based on verified data. In any evaluation, temporal development of indicators must be taken into account and the evaluation must be prepared in such a way that prevents short-term performance fluctuations from impacting the funding of public higher education institutions.

The goals of the BUT Plan 2020 will be attained especially within the projects envisaged in the BUT Institutional Plan 2019–2020. Each of the priority goals is described in more detail in this document and will be subject to subsequent evaluation.

## Priority goals under the BUT 2020 Plan



### IN ALL ITS ACTIVITIES, BUT WILL:

- work intensively to ensure that BUT keeps its status as an important international educational and research institution which has appeared in top positions in global university rankings over the past decade;
- use human resources and university infrastructure including both its component parts and new research centres to support an interdisciplinary approach to education, research and co-operation with the industry in order to meet the current needs of technology sectors and society as a whole; this is of growing importance especially with regard to the slowdown of global economy that significantly impacts the national environment; BUT can leverage synergies based on the unique mix of programmes taught at the university;
- strive to ensure that evaluation of BUT, its faculties and component parts is carried out according to principles that the academic community and other employees find meaningful and acceptable, and that these efforts help foster a quality-oriented institutional culture;
- improve all its activities and study programmes, in particular by means of a meaningful implementation of quality control in all parts of the university, without further increasing the administrative burden.



## Priority goal 1: Quality assurance and strategic management

### **IN THE AREA OF QUALITY ASSURANCE AND STRATEGIC MANAGEMENT, BUT WILL:**

- continue in the implementation of recommendations following from the European University Association's Institutional Evaluation Programme;
- continue to create good environment for equal participation of all competent BUT staff in management and decision-making processes;
- develop its own system for evaluation and quality assurance and keep it compliant with the requirements defined by external evaluations, especially by the National Accreditation Bureau ("NAB") and the Government Council for Research, Development and Innovation ("R&D Council"), and criteria used by national and international rankings;
- constantly monitor and evaluate the changes in the external environment and prepare adequate responses;
- strengthen the university's social role, including its social responsibility, by emphasising expertise, professionalism and adherence to ethical and moral principles;
- create conditions for a transparent and open discussion about all matters related to university activities, thus supporting the employees' identification with the university's interests;
- evaluate and constantly develop the risk management system at BUT in order to make it a standard part of decision-making; implement risk management principles in all decision-making processes at BUT, thus contributing to a reduction of potential adverse impacts of external and internal risks on BUT results.

### **WITH RESPECT TO QUALITY ASSURANCE, BUT WILL:**

- continue evaluating the administrative demands of evaluation processes and comment on them by means of university representations, especially in cases where the administrative burden resulting from external requirements could adversely impact the quality of the BUT activities evaluated or disproportionately increase the workload of the academic staff and other employees;
- evaluate on regular basis the system of quality indicators and adjust it in line with the requirements of national and internal evaluation and based on suggestions raised by BUT academic staff; regularly update the system of quality indicators on the level of faculties and BUT component parts and ensure its cohesion on all levels of BUT management;
- continue in the implementation of quality indicators in the BUT information system;
- carry out a comparative analysis of quality of the individual faculties and component parts, including comparison between BUT and other (national and international) universities; the results will also be used for the purposes of financial incentives for and rewarding of specific BUT workplaces and individuals;
- continue creating and using quality evaluation methodology in co-operation with other higher education institutions (especially technical universities), the Ministry of Education, Youth and Sports ("MEYS"), both representative university organisations (the Czech Rectors Conference and the Higher Education Council) and other expert bodies and organisations in the Czech Republic and abroad.



### **IN THE AREA OF STRATEGIC MANAGEMENT, BUT WILL:**

- create an effective decision-making system on the basis of an analysis and evaluation of information and the sorting thereof based on the needs of the individual levels of decision-making (creating a functional managerial information system);
- co-ordinate preparation of the proposed modules in the information system, especially for the purposes of creating external reports (e.g. quality evaluation, rankings and annual reports);
- push for effective use of information for decision-making without creating additional administrative burden for research and academic staff;
- meet the requirements stipulated by generally binding legal regulations and instructions of governmental authorities regarding the internal organisation and systems of higher education institutions;
- co-operate with its component parts on preparing a robust SWOT analysis to serve as a basis for the upcoming 2021–2025 period and strategic goals to be achieved by 2030, where all members of the academic staff and other employees will participate through the faculties and individual component parts, and which will also involve representatives of important partner companies;
- based on the analysis, prepare the BUT's Strategic Plan for 2021–2025 with a long-term strategic outlook to 2030;
- work intensively to obtain the "HR Award", which is important not only in terms of securing new projects, but also with regard to its influence on the external evaluation of BUT (including its economic implications) and publicity;
- communicate key topics not only with the management of the component parts, but also their academic senates and other bodies;
- co-ordinate activities and ensure sustainability of research centres on the basis of equality, utility and expedience;
- pay increased attention to co-operation with industrial partners and companies; put emphasis on co-operation with domestic partners who can contribute to the growth and competitiveness of the Czech Republic; carefully evaluate situations which could harm the Czech Republic through a "brain drain" supported by higher education institutions; in such situations, the matter of (even long-term) return on investment will be of key importance;
- look for ways to support the entrepreneurial spirit among graduates;
- co-operate with selected international universities in their areas of expertise and participate in international exchange of experience;
- increase the students' awareness of their study and social responsibilities and continue in expanding the university's influence in society as part of its third role;
- promote social responsibility, e.g. by supporting regional activities and co-operation with local public partners, NGOs and the private sector, and develop co-operation with institutions in Brno, the South Moravian Region and the Czech Republic as a whole.





## Priority goal 2: Diversity and accessibility of educational activities

### **IN THE AREA OF ATTRACTING APPLICANTS, BUT WILL CONTINUE TO:**

- encourage the best secondary school graduates to study at BUT by means of special scholarships;
- strive to make BUT the university of first choice for talented applicants;
- develop attractive forms of supporting technical education, starting from kindergartens and primary schools, and build on existing activities in this regard; maintain and expand co-operation with secondary schools involving both teachers and students;
- involve current students in promotion of BUT and reward their contributions by means of special scholarships;
- strengthen co-operation with the private sector in promotion of studies at BUT;
- support organising Open Days at faculties and component parts and contribute to their promotion at the university level.

### **IN THE AREA OF STUDIES AND STUDY PROGRAMMES, BUT WILL:**

- continue the transition to a new structure of study programmes based on the obtained institutional accreditation;
- consider transformation of selected fields of study to specialisations within study programmes;
- focus on the quality of studies in the first year of Bachelor's study programmes;
- recognise prior secondary and tertiary education obtained abroad in the admission procedure in accordance with BUT's institutional accreditation;
- consider broadening the institutional accreditation to include other areas of education, e.g. "Security", "Cybernetics" and "Arts";
- check compliance with the Study and Examination Rules of BUT at the individual faculties and component parts and incorporate suggestions for improvement raised by students and teachers;
- methodologically consolidate procedures of faculties and component parts in the area of study with regard to the relevant parts of the BUT information system;
- continue expanding the offer of free electives for BUT students in order to make studies more attractive to engaged students;
- continue to support student projects and other student activities;
- create university-wide rules for financing inter-faculty teaching;
- support small strategically and geopolitically important study programmes attended by relatively small numbers of students, which require highly specialised lecturers and experts from the industry.

### **IN THE AREA OF DOCTORAL STUDIES, BUT WILL:**

- co-operate with the individual faculties to define minimum publication and artistic results required for defending dissertations in the individual fields of study;
- encourage submitting doctoral dissertation theses in English;
- check compliance with BUT Internal Evaluation Board's requirement that non-habilitated supervisors be always approved for a single, specific topic only;



- check compliance with BUT Internal Evaluation Board's requirement that doctoral studies include study stays abroad;
- when approving supervisors and dissertations in scientific and doctoral boards, take into account the supervisors' creative activities, especially their research results, their ability to secure project grants and participate in project implementation, as well as their previous successes in supervision of doctoral students;
- support doctoral dissertations prepared under cotutelle;
- strive to attract talented doctoral students from abroad;
- proceed to ensuring that a significant majority of available doctoral studies topics are supported by relevant projects associated with the particular topics, which will enable to boost funding for doctoral students based on scholarships; leverage additional project funding of doctoral studies to improve interdisciplinary co-operation where doctoral students in one field can pursue interdisciplinary topics supported by projects from other fields.

#### **IN THE AREA OF OPENNESS AND INTERNATIONAL CHARACTER OF HIGHER EDUCATION, BUT WILL:**

- proceed to ensuring that the vast majority of BUT study programmes are accredited in both Czech and English; support additional remuneration received by lecturers teaching in foreign languages through the faculties and university institutes;
- strive to ensure that each faculty provides at least one international Double Degree / Joint Degree study programme; these programmes will continue being supported by BUT by means of an institutional development programme;
- take steps towards increasing the number of self-paying students attending English-language programmes; evaluate best practices and identify obstacles to progress in this area;
- involve foreign staff at BUT in various forms of educational activities in order for them to obtain academic staff status;
- encourage writing final theses in English; doctoral dissertations should routinely be submitted in English.

#### **IN THE AREA OF MONITORING THE QUALITY OF TEACHING, BUT WILL:**

- evaluate the results of anonymous student surveys taken at the individual BUT faculties and component parts; adopt appropriate remedial measures in case of recurrent problems;
- given the anonymous nature of the surveys and their potential statistical bias, support the lecturers' possibilities to respond to the evaluation and specific experiences with teaching in order to acquaint the participating students with the perspectives of their teachers; the goal is to facilitate mutual interaction in order to improve the quality of teaching and to encourage the students to further pursue the topics they encounter within the instruction;
- consistently check that quality standards of study programmes are met within the study programmes' approval procedure conducted by the BUT Internal Evaluation Board;
- check and evaluate the work of the BUT Internal Evaluation Board and its members;
- meet the requirements laid down by the NAB in the decision on institutional accreditation of BUT;
- ensure that the audit report to be submitted by 31 August 2020 under the Decision on Institutional Accreditation of BUT is prepared correctly;



- continue organising the “Best Teacher at BUT according to the Students’ Evaluation” competition in co-operation with the Student Chamber of the Academic Senate of BUT and use the results to promote and publicly present popular BUT lecturers (e.g. in evening news and other media) in order to attract new applicants to BUT.

#### **IN THE AREA OF LIFELONG EDUCATION, BUT WILL:**

- offer more lectures for the general public on current topics, also using experience from lifelong learning (“LL”) and University of the Third Age (“U3A”) programmes;
- continue in the successful development of U3V and introduce practical courses focused on the needs of senior citizens in the digital age;
- regularly provide information on the plan of the Lifelong Learning Institute’s (“LLI”) activities and its requirements for events with the faculties and component parts;
- consider possibilities for a systematic expansion of the offer of further professional education courses for external experts as part of the planned broader support for lifelong learning according to MEYS plans;
- continue offering paid specialised lifelong learning courses reflecting the demand on the part of the industry;
- continue expanding the offer of educational courses for BUT employees in accordance with the priorities set out in this document and specific demands on the part of the management of BUT and its component parts; take into account the needs of senior employees and the staff themselves; expand the offer of language courses to include teaching of Czech to foreign employees;
- improve the education process in the framework of supplementary pedagogical studies, respond flexibly to development of pedagogical competences and modern teaching methods, including teaching of doctoral students with special needs, and newly hired and existing lecturers; in addition to long-term courses, offer attractive one-off events hosted by lecturers skilled in rhetoric and other fields.

#### **IN THE AREA OF CO-OPERATION WITH THE INDUSTRY, BUT WILL:**

- continue supporting company participation in educational activities, especially by:
  - offering final theses topics inspired by the industry;
  - directly involving private sector experts in teaching;
  - organising internships, excursions and student employment in companies;
- involve private sector experts in programme boards and doctoral boards;
- reflect topics raised by the industry in creating and innovating study programmes;
- organise meetings and discussions with representatives of important companies;
- inform industry experts about the benefits of teaching approaches (especially in terms of encouraging systematic and critical thinking which can be of benefit for companies’ strategic development);
- involve private sector experts in working groups for evaluation of study programmes;
- support and develop the BUT Career Centre’s offer.



### **IN THE AREA OF CONSULTANCY AND ACCESSIBILITY OF HIGHER EDUCATION, BUT WILL:**

- bolster its focus on the quality of the first year of Bachelor's study programmes and continue supporting catch-up courses, more intensive teaching of introductory courses and pre-semester courses at the individual component parts in order to ensure that students coming from various backgrounds are well prepared for study at BUT;
- continue offering psychological, study and career counselling and consultancy to students with special needs – also in English in case of foreign students;
- present consultancy services to BUT applicants, e.g. during Open Days at the faculties and by means of individual consultations, also during visits to secondary schools;
- closely co-operate with the faculties to accommodate students with special needs and support everyone who work with these students by providing consultations and further education.

### **Priority goal 3: Internationalisation**

#### **IN THE AREA OF INTERNATIONALISATION, BUT WILL:**

- evaluate the current situation and monitor the process of internationalisation on all levels;
- proceed in accordance to the agreed BUT internationalisation strategy created in co-operation with BUT faculties and component parts, the key parts of which define e.g. the following:
  - strategically important self-paying student source countries;
  - methodology for supporting internationalisation at BUT faculties and component parts;
  - manner of effective use and development of international activities;
  - course of implementation of marketing activities abroad, etc.;
- closely co-operate with MEYS as well as the Centre for International Cooperation in Education ("CICE"); one of the elements of this co-operation involves participation in the MEYS' "Internationalisation Monitoring" project; the project will yield an analysis of internationalisation self-evaluation by external experts, monitoring visits by external experts and CICE, and preparation of a long-term plan to gradually implement the recommendations based on internationalisation monitoring at BUT;
- support student projects and other activities of student associations focusing on international co-operation;
- strongly support student associations' activities (Formula Student, ESN VUT Brno – Movi'n Europe, events supporting BUT students' student stays abroad, traineeships, summer/winter schools, international engineering competitions, etc.);
- ensure closer co-operation with foreign students at BUT with regard to their acting as BUT ambassadors abroad and attract potential self-paying international students;
- continue to set up methodologies and conditions for internationalisation at the individual faculties and university institutes;
- continue to co-operate on BUT marketing abroad by evaluating the current situation and proposing measures to attract a higher number of self-paying students of programmes taught in foreign languages;
- try to hire a foreign expert to revise and propose ways to implement a successful international marketing strategy;



- activate co-operation with reliable agents to attract foreign self-paying students, especially of doctoral programmes taught in English;
- increase activities in the “Study in the Czech Republic” expert group, which will primarily focus on sharing experience with technical universities and implementing best practices at BUT;
- support international co-operation of higher education institutions and support their marketing and presentation in the Czech Republic and abroad; build infrastructure for admission and services provided to international students, including training of administrative staff, by implementing the planned centralised “Study in Brno” development project.

## **Priority goal 4: Relevance, graduates, marketing, and co-operation with the industry**

### **IN THE AREA OF CO-OPERATION WITH ITS GRADUATES, BUT WILL:**

- finalise and publish the offer of services for graduates at the BUT website in the “Graduates” section;
- carry out another bi-annual survey among the graduates focusing especially on obtaining feedback regarding forging stronger ties between the graduates and the university;
- prepare a “Golden Graduation Anniversary” for graduates from the 1970 graduation year;
- provide for collection of company preferences regarding the students’ expertise while leveraging support from the Modern and Open Studies in Technology (“MOST”) project, as well as other Career Centre channels and in co-operation with graduates working in the private sector; the information will be forwarded to the faculties for the purposes of innovation of study programmes;
- use social networks such as LinkedIn a lot more for communication with the graduates;
- will continue issuing the “Vutarium” newsletter for the graduates to inform about BUT news and upcoming BUT events;
- prepare new interviews with successful graduates to be published via [www.ZVUT.cz](http://www.ZVUT.cz) or the Události na VUT (Events at BUT) magazine as inspiring examples.

### **IN THE AREA OF MARKETING, BUT WILL:**

- maintain presence on social networks, carry out on-line marketing, especially with the aim of improving awareness on the part of applicants for study, and connecting current students with the university;
- closely co-operate with the faculties and component parts to finalise the English versions of their websites, thus completing the unification of BUT’s visual presentation;
- continue in the BUT JUNIOR project and expand it to secondary schools subject to agreement with the individual faculties and component parts;
- maintain successful communication with Brno city authorities, the South Moravian Region and the South Moravian Innovation Centre (JIC) in order to co-ordinate activities and plan joint promotional events;



- use international marketing tools to attract foreign self-paying students; this primarily means providing information to potential foreign applicants via the English version of the BUT website, use study portals and social networks, as well as promotional and print materials;
- use articles and interviews to present interesting students, employees and scientists from BUT;
- present its discoveries and successes at professional fairs such as the International Engineering Fair in Brno;
- promote BUT brand awareness, e.g. by participating in public events (e.g. Science Night, Science Festival, Days of Electron Microscopy etc.), creating new promotional merchandise and communication with the media.

#### **IN THE AREA OF CO-OPERATION WITH THE INDUSTRY, BUT WILL:**

- evaluate the activities of the BUT Career Centre in the previous year in order to set the centre's priorities and strategies for the next period, especially to expand services and ensuring the centre's professionalism;
- use the BUT Career Centre to connect students with the industry, support the students' entrepreneurial activities and projects, and co-operate with the industry at the level of the university;
- aim to ensure that the BUT Career Centre helps not only students and companies, but also the individual faculties and component parts (by informing the faculties on the BUT Career Centre's activities in the area of co-operation with the industry, proposing potential avenues of co-operation, and mediating contact with private partners in situations where a company wants to co-operation only with an individual faculty);
- offer lectures and workshops to students and future graduates leveraging support from the MOST project in order to better prepare them for employment.

#### **IN THE AREA OF CO-OPERATION WITH STRATEGIC PARTNERS, BUT WILL:**

- develop ideas and pursue conclusions arrived at meetings between the university's management and its strategic partners;
- organise regular bi-annual meetings with VIP company partners;
- respect the unique nature of companies and their needs and possibilities they can offer to BUT, understanding the importance of the university's co-operation with the private sector;
- create a marketing portal for recently contacted companies and for businesses which have contacted BUT via the BUT Career Centre;
- create a catalogue including a list of services that the individual faculties are able to provide;
- regularly send information and news to companies concerning their possibilities and interest (visibility, current offers, VIP meetings, competitions, new projects/research); as this is a two-way channel of communication, the companies will be able to use the BUT news for their own purposes;
- strive to make the university more attractive for Czech as well as international partners, students, lecturers and researchers;
- continue co-operating in terms of project-oriented teaching to help resolve the region's current problems.



## Priority goal 5: High-quality and relevant research, development and innovation

### **IN THE AREA OF RESEARCH, DEVELOPMENT AND INNOVATION, BUT WILL:**

- provide by 2020, in accordance with the amended Higher Education Institutions Act and other provisions, methodological assistance to the faculties and component parts to support accreditation of the habilitation procedure and the procedure to attain professorship, pursuant to the approved BUT Rules of Habilitation Procedure and Procedure to Attain Professorship and the relevant BUT Guideline governing appointment procedure at BUT;
- create conditions and specify responsibility for the individual research and development (“R&D”) modules in the Apollo information system to keep them updated; BUT will also define the parts within the purview of the Research and Development Department, Project Support Department and Technology Transfer Department at the BUT Rectorate and within the component parts;
- innovate the current incentives system for publication activities at BUT in order to improve BUT international and domestic competitiveness, also with respect to excellence in publishing and obtaining higher institutional support (Long-term Conceptual Development of Research Institutions); evaluation will transition away from the impact factor (“IF”) towards Article Influence Score (“AIS”);
- continue providing methodological assistance in proposing, investigating and reporting materials in projects falling under project calls within the Operational Programme Research, Development and Education (“OP RDE”) and will actively participate in preparation of projects submitted in OP RDE calls; BUT will also take care to maintain gender balance among project investigators;
- start creating materials for methodological support of projects as part of Horizon Europe 2021 calls in order to ensure a better success rate and reduce administrative burden on BUT researchers in consortium projects;
- prepare (in co-operation with the chairs of faculty boards of the Student Grant Agency) a BUT project for the “Improving Quality of Internal Grant Schemes at Higher Education Institutions” call and modify existing rules of the Internal Grant Agency (“IGA”) associated with implementation of projects from this call;
- prepare steps towards implementation of all modules of the M17+ methodology for evaluation of research organisations;
- organise seminars for the academic community in co-operation with vice-deans for R&D to share information on the individual modules and M17+ implementation steps;
- co-operate with faculties and component parts to participate in the evaluation of results, which will be sent from BUT level to Module M1 – Quality of Selected Results;
- gradually update the procedures and the outline of justification for the contents and quantity of submitted results in order to help research workers obtain excellent score in M1;
- prepare and update the manual for inputting publication results in the Apollo information system in order to contain all required attributes for inclusion in the Results Information Register (“RIR”) and R&D Council Module M2 evaluation;
- create, in co-operation with faculties and component parts, a field-based analysis of publication outputs, comparing them with other national and international universities of similar focus; the

results will be used as recommendations to increase publications in the first deciles of scientific journals;

- create, as part of Module M2, analyses of research outputs of the individual workplaces and fields of study;
- focus on consistent communication and co-ordination with all component parts with regard to the process of preparing the self-evaluation report for Modules M3 to M5 and their international evaluation;
- act with respect to other parties in the implementation of M17+ in order to remedy the shortcomings identified by the representatives of higher education institutions and the technical universities group; if these shortcomings have not been remedied already, BUT will take account of these facts in order to prevent damage to BUT research caused by adopting these shortcomings;
- diligently comment on all remaining shortcomings in the evaluations of higher education institutions, especially in the area of R&D and innovation, building on experience from 2019;
- initiate creation and co-ordination of new rules for annual internal evaluations of R&D results prior to their inclusion in RIR at the individual component parts.

## **Priority goal 6: Data and information-based decision-making and development**

**IN THE AREA OF DATA AND INFORMATION-BASED DECISION-MAKING AND DEVELOPMENT, BUT WILL:**

- pay increased attention to supporting collection of data and statistical and expert methods of their evaluation in relation to the preparation of strategic documents for the 2021–2025 period in order to contribute to the accuracy of description of the situation at BUT in all important areas of development;
- emphasise deeper strategic approaches at the component parts in comparison to currently prevailing operative approaches in relation to the distribution of competences in preparation of strategic documents;
- continue modifying, improving and supplementing the BUT information system based on an analysis of its current condition in order to significantly improve decision-making support at BUT and component part level;
- ensure a higher degree of consistence in work with data among the individual faculties and centrally, greater use of shared comprehensive tools and information systems enabling transparent decision-making based on objective materials and support the use of advanced approaches to support strategic decision-making in the conditions of significant external uncertainty influencing BUT;
- improve software support for the records system of the activities of BUT academic staff, which will be part of the BUT IS, and prepare a methodology of its use;
- co-operate with MEYS on surveying doctoral programmes within the Doktorandi 2020 scheme, which will focus on social and study conditions and will follow up on the previous Doktorandi 2014 survey.





**The Computer and Information Services Centre (CVIC) will:**

- continue strengthening the mechanisms of co-ordination within the development of the BUT IS and the conceptual development of the IS in terms of providing information to support decision-making and development of research, development and innovation;
- continue re-engineering of the economic parts of the BUT IS and their corresponding models and processes;
- with relation to information systems:
  - completely move the BUT Internal Grant Agency (IGA) to a web application;
  - introduce mobile applications for BUT students comprising timetables and an electronic report book;
  - create a web application for a signature book to approve projects, monitoring reports, leaves of absence and electronic orders in compliance with the electronic signature plan within the internal control system;
  - prepare nominations of students for trips abroad;
  - rework the payroll slip so that it is available through the unified Intraportal web interface;
  - create an electronic records system of working time using data on leaves, business trips, timetables and the access system;
  - prepare a framework for personal evaluation of employees;
  - consolidate the statistical outputs for indicators of quality;
  - implement power of attorney records;
  - provide a unified support using a request system and training for EIS SAP and all parts of the BUT IS;
  - adjust the BUT IS and EIS SAP according to the applicable legislation, especially in relation to the new implementation wave of the Czech Electronic Records of Sales (ERS) system;
- in terms of infrastructure:
  - complete replacement of the 2<sup>nd</sup> backup disk array of the BUT data core;
  - implement the Kolejní data hall project;
  - procure new servers for the web cluster;
  - provide a server for the EIS SAP S/4HANA development environment;
  - replace backup servers;
  - check and transition to a new virtualised BUT telephone switchboard;
- in terms of KolejNet:
  - complete dense wavelength division multiplexing of optical routes;
  - replace servers (ESX, backup server), necessary hardware and active elements;
  - invest in purchasing support for the current disk array;
  - supplement new WiFi active elements;
- in terms of the backbone computer network:
  - verify next-gen backbone elements (100Gbps);
  - renew servers for the administration of backbone network;
  - build and reinforce existing optical cable routes in relation to BUT's construction activities;
- in terms of operations:
  - replace all BUT employee cards;



- change the technology for printing diplomas, duplicates, certificates and diploma supplements.

**The BUT Central Library will:**

- systematically create conditions for implementing the strategy for open publishing of the research results of the BUT staff in accordance with the National Open Access Strategy, including the development of technical infrastructure supporting the presentation of R&D results to the expert community;
- support the excellence of BUT research and development activities by means of ensuring access to key electronic information resources; in this regard, BUT will provide methodological support to enable effective use of available sources and analytical tools;
- continue checking BUT publication outputs included in international rankings in order to reduce the error rate in published outputs (especially with regard to correct indication of Brno University of Technology affiliation);
- create suitable infrastructure for accessing the union library catalogue and the conditions for study in all BUT libraries;
- methodologically manage the provision of library services at BUT, support provision of research services and carry out comparative analyses for the purposes of evaluation of publication results and their citations.

**The VUTIUM publishing house will:**

- support publications meeting high standards of quality presenting BUT's excellent outcomes to the expert community;
- improve the efficiency of the processes of the publishing house and their linkage to the BUT IS;
- look for new ways of promoting and selling BUT publications and finish developing a fully functional online shop.

## **Priority goal 7: Effective management**

**IN THE AREA OF ECONOMIC MANAGEMENT, BUT WILL:**

- strive to reduce the academic staff's administrative burden in all activities while protecting the academic staff from the consequences of inspection findings of superior authorities;
- in the area of budgets and funding, BUT will:
  - adapt its budgeting methodology to new directions of funding of public higher education institutions (linkage to the actual number of studies, M17+ methodology, etc.); within the agreed scope, BUT will take into account the motivational mechanisms to stimulate desirable economic behaviour at BUT;
  - revise and propose an adequate approach to claiming indirect costs in subsidy projects in response to the high variability of requirements on the part of providers;
  - provide co-operation on the part of economic departments and support in the implementation of new rules in reporting project costs/expenses (especially salaries, including the H2020 salary concept, including indirect costs in projects);



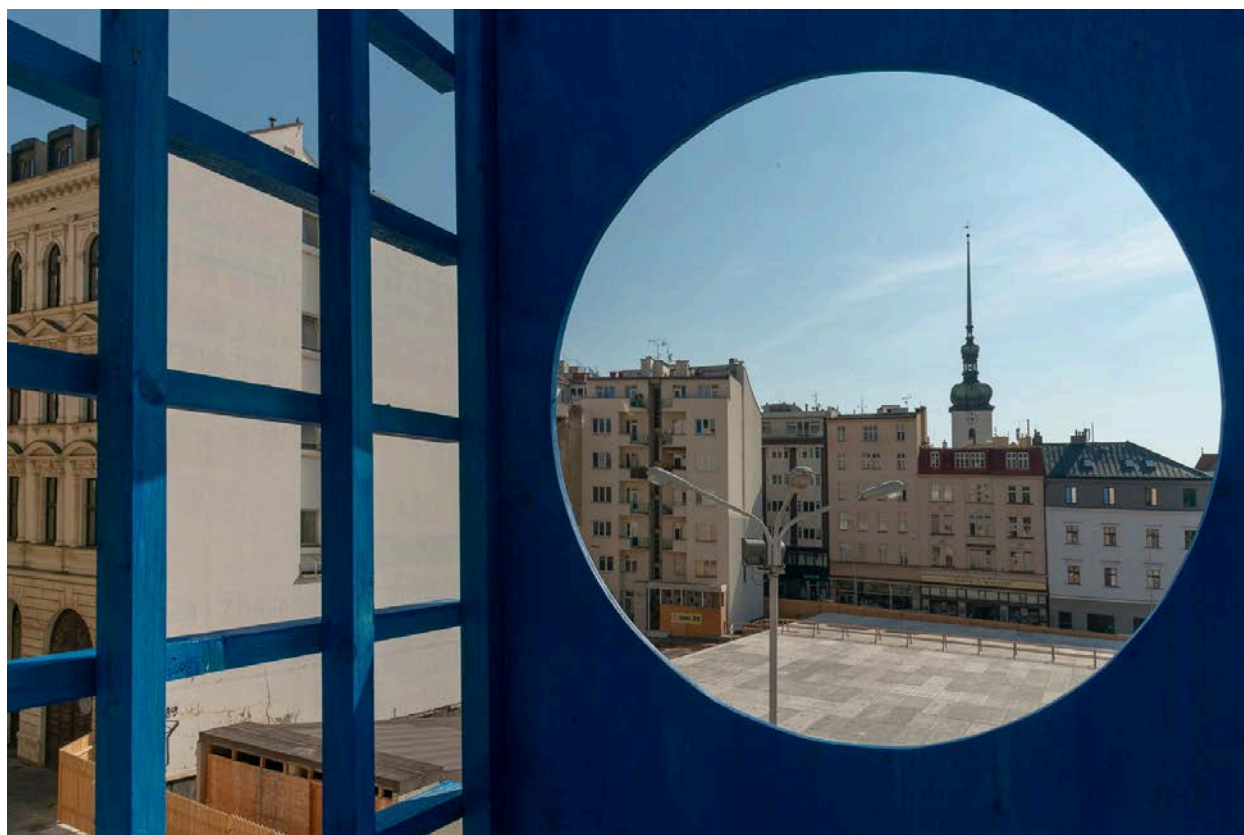
- continue in the preparation for re-implementation of the economic information system and the personal information system and the upgrade thereof as concerns the analytical part;
- ensure co-financing of MEYS Asset Renewal Programme for Public Higher Education Institutions in a scope corresponding to the state of its implementation;
- in the area of economy and accounting, BUT will:
  - adapt to the revised system of claiming VAT deductions pursuant to the amended Value Added Tax Act (No. 80/2019 Coll.) and adjust the EIS accordingly;
  - continue deploying digital accounting documents circulation including financial control in accordance with Act No. 320/2001 Coll.; in relation to the development of the CVIC program application, BUT will optimise the system of administration of bank accounts having regard of the developments on the banking market in order to maximise the yields of administration of funds;
- in the area of law, BUT will:
  - adjust the procedure of administration of interests in companies in accordance with the amended guideline;
  - continue resolving property issues involving the city of Brno (land swaps) and the South Moravian Region, VTP Brno, a.s., etc. in accordance with the progress of the associated negotiations;
  - complete the proposed BUT Organisational Rules and start discussing and implementing it, and clarify signing rules in accordance with the organisational structure and division of competences between the central BUT administration and component parts;
  - introduce adjusted procedures for claiming damages in accordance with the new concept based on the amended guideline;
- in the area of public procurement, BUT will:
  - experiment with the new concept of procurement using the BEST VALUE method;
  - continue in the implementation of elements of the FIDIC (Fédération Internationale Des Ingénieurs-Conseils) system; optimise the procurement method for the function and performance in relation to individual types of structures;
  - proceed with pilot deployment of the “BUT Shopping Centre” electronic application; the application is expected to be further linked to electronic document circulation;
- in the construction and technical area, BUT will:
  - initiate (aside from routine maintenance) preparations for the implementation of a new programme of renewal of the assets of public higher education institutions (studies, projects, initiation of construction, etc.) in accordance to the administrative development of MEYS calls; project work will be initiated, including the necessary co-funding, especially with regard to the reconstructions at Údolní 53, premises of the Faculty of Mechanical Engineering, Pod Palackého Vrchem, and BUT Accommodation and Catering Services;
  - continue co-operation with MEYS on the system of documentation of buildings owned by higher education institutions;

- look for funding resources for the prepared additional projects used by VUT to apply for additional funding under the previous asset renewal programme (laboratories for Formula Student, the Faculty of Electrical Engineering, and the Faculty of Chemistry);
- continue in the process of consolidation of property affairs in accordance with the progress of negotiations on land swaps with the city of Brno;
- propose the Construction Rules based on the obtained experience to serve as principles for building and construction activities at BUT;
- in the area of human resources, BUT will:
  - reward BUT staff, students and co-workers for their contribution towards improving BUT activities and fully use and supplement the current database of awards granted by BUT and the selected external awards granted to BUT employees;
  - openly discuss within the academic community the rules of the system of internal evaluation of academic staff, including the proposed implementation guidelines;
  - develop the proposed system of records of the activities of academic staff so that it encompasses all activities of academic workers in the areas of education, research and creative activities, as well as with respect to the “third role” of universities (e.g. popularisation of BUT research results and educational activities, estimation of socioeconomic impact, and co-operation with schools), and becomes a basis for internal evaluation and rewarding of employees’ performance;
  - discuss and agree on the scope of an amendment to the Salary Rules and initiate preparations for its use;
  - gradually introduce the “one contract concept” in order to optimise the labour-law structure of the university at its individual economic centres, also in relation to Sections 34 and 39 of the Labour Code;
  - optimise the system of recording working time within BUT component parts, including the relevant technical infrastructure, in accordance with the applicable legal regulations (especially Section 70a of the Higher Education Institutions Act) and based on shared experience of the academic community;
  - adjust the system of employee benefits in accordance with the expansions introduced in 2019;
  - provide co-operation in relation to the planned review of the implementation of the SAP personal information system;
  - provide co-operation and methodological guidance for setting up funding and reporting of salaries in projects in accordance to the conditions pursuant to subsidy rules;
  - implement activities in the framework of the “HR Centre” in the MOST OP3V project, including organisation of the related events (summer school);
  - carry out capacity modelling in relation to the procedural model of the university’s internal processes with the aim of optimising labour-law structure and capacity of administrative processes in particular;
- in the area of operations, BUT will:
  - continue pursuing legal and technical resolution of property relations concerning BUT premises (Technology Incubator II, CEITEC Science Park etc.) in relation to agreements concluded with the South Moravian Region;

- pursue optimised use of unused premises through lease, especially with regard to the following BUT structures: Ú19, R13/15, K67a, G13 and Ú53.



## **Annex 1: BUT Plan of Investment Activities for 2020**



The BUT Plan of Investment Activities for 2020 as Annex 1 of the BUT Strategic Plan for Educational, Research, Development, Artistic and other Creative Activities in 2020 briefly summarises the investment projects included in the BUT Plan of Investment Activities for 2020, including the estimated progress of implementation.

The BUT Plan of Investment Activities for 2020 includes the individual investment projects planned for 2020 with the planned cost exceeding CZK 10 million (except for machines and instruments), regardless of whether the project is initiated prior to 2020 or will continue after 2020. Investment projects are also included individually with costs exceeding CZK 1 million in 2020, if MEYS funding is expected to cover the costs (Development and Renewal of Material and Technical Base of Public Higher Education Institutions). Investment activities with the planned costs equal to and lower than CZK 1 million are indicated in aggregate under “Other Investment Activities”. All indicated investment projects are related to the individual priorities of the BUT Long-Term Plan for the 2016–2020 Period and the BUT Strategic Plan for 2020.

In accordance with the main goals and visions of the Long-Term Plan for the 2016–2020 Period, Brno University of Technology strives for stable, transparent and effective financing and economic management at all levels of BUT management. In the area of investments and property administration, it responsibly approaches the planning and implementation of investment and non-investment activities pursuant to current needs of faculties and component parts (see BUT Long-Term Plan, Priority goal 7: Effective management). Implementation of projects is decided by the construction commission (advisory body to the Rector of BUT), which annually evaluates and





recommends projects for implementation in the following period. The planned investment plans and projects are part of long-term and systematic effort on the part of BUT to modernise the technical infrastructure for education and research.

**Annex 1a: BUT Plan of Investment Activities for 2020 – Costs exceeding CZK 10 million**

**Annex 1b: BUT Plan of Investment Activities for 2020 – Repairs**

**Annex 1c: BUT Plan of Investment Activities for 2020 – BUT Accommodation and Catering Services**

**Annex 1d: BUT Plan of Investment Activities for 2020 – Other investments and equipment**

**Annex 1a: BUT Plan of Investment Activities for 2020 – Costs exceeding CZK 10 million**

No.	Compon	Name – Construction investments in 2020	Brief description of investment	A						Deadlines for preparation and implementation	Description of the current state of implementation	Work plan for 2020	Expected costs in 2020
				Costs (in CZK thous.)									
				total	centralised resources		F/S resource	other resources					
sum	FRIM	invP	FRIM F/S	programme 133210*	programme 133220								
				<b>48 130,00</b>	<b>13 000,00</b>	<b>29 410,00</b>	<b>5 720,00</b>	<b>0,00</b>	<b>0,00</b>				
1	BUT	Programme co-funding 133 220	Costs of project for reconstruction of Údolní 53 and FME in 2020.	10 000,00	10 000,00					01-Dec/2020	plan	study	10 000,00
2	BUT	Other investments		38 130,00	3 000,00	29 410,00	5 720,00			01-Dec/2020			38 130,00

No.	Compon	Project name – Construction investments carried over	Brief description of investment	A						Deadlines for preparation and implementation	Description of the current state of implementation	Work plan for 2020	Expected costs in 2020
				Costs									
				total	centralised resources		F/S resource	other resources					
sum	FRIM	invP	FRIM F/S	programme 133210	programme 133220								
				<b>42 355,00</b>	<b>15 000,00</b>	<b>27 355,00</b>	<b>0,00</b>	<b>0,00</b>	<b>0,00</b>				
1	FME	High-voltage substation reconstruction at PPV	Reconstruction of high-voltage substation in T2 premises. High-voltage manipulation equipment is in a state of disrepair.	15 000,00	15 000,00					01-Dec/2020	plan	study, construction documents, partial	15 000,00
2	BUT	Other investments– carried over from 2019		27 355,00		27 355,00				01-Dec/2020			27 355,00

\* Planned investments approved and recommended for further approval at the Construction Commission meeting to be held on 10 September 2019



**Annex 1b: BUT Plan of Investment Activities for 2020 – Repairs**

No.	component pa	Name – Non-investments (repairs) for 2020	Brief description of investment	A		deadlines for preparation and implementation	B		
				Costs (in CZK thous.)			Description of the current state of implementation	Work plan for 2020	Expected costs in 2020
				Total	centralised resources				
				12 960,00	12 960,00				
1	BUT	Other activities – non-investment (repairs)		12 960,00	12 960,00	01-Dec/2020			12 960,00

No.	component pa	Name – Carried over from 2019	Brief description of investment	A		deadlines for preparation and implementation	B		
				Costs (in CZK thous.)			Description of the current state of implementation	Work plan for 2020	Expected costs in 2020
				Total	centralised resources				
				11 240,00	11 240,00				
1	BUT	Other projects – non-investment (repairs) carried over from 2019		11 240,00	11 240,00	01-Dec/2020			11 240,00

\* Planned investments approved and recommended for further approval at the Construction Commission meeting to be held on 10 September 2019

**Annex 1c: BUT Plan of Investment Activities for 2020 – BUT Accommodation and Catering Services \***

No.	Compon	Name – Construction investments in Accommodation	Brief description of investment	A					B			
				Costs (in CZK thous.)					Deadlines for preparation and implementation	Description of the current state of implementation	Work plan for 2020	Expected costs in 2020
				total	resources		other resources					
				sum	Accommod	centre	programme 133210*	programme 133220**				
				<b>118 649,00</b>	<b>76 392,00</b>	<b>1 450,00</b>	<b>0,00</b>	<b>40 807,00</b>				
1	Accomm	Reconstruction of sanitation units in 9-floor accommodation building A03	Full reconstruction of sanitation units (service cores) in the entire 9-floor accommodation building A03 at the PPV dormitories, including connections and all distribution networks in the building.	<b>102 018,00</b>	61 211,00			40 807,00	05-Sept/2020	construction documents	actual implementation	102 018,00
2	Accomm	Other investment activities (Accommodation and Catering Services)		<b>16 631,00</b>	15 181,00	1 450,00			01-Dec/2020			16 631,00

\* Planned investments approved and recommended for further approval at the Construction Commission meeting to be held on 10 September 2019

**Annex 1d: BUT Plan of Investment Activities for 2020 – Other investments and equipment; requirements as of 10 September 2019 \*\***

No.	Compon	Name – Construction investments in 2019	Brief description of investment	A					B			
				Costs (in CZK thous.)					Deadlines for preparation and implementation	Description of the current state of implementation	Work plan for 2020	Expected costs in 2020
				total	centralised resources		other resources					
sum	FRIM	invP	programme 133210*	programme 133220								
				85 701,00	45 000,00	40 701,00	0,00	0,00				
1	BUT	Loan repayment		45 000,00	45 000,00				01-Dec/2020			45 000,00
2	BUT	Other investments (non-construction)		40 701,00		40 701,00			01-Dec/2020			40 701,00

\*\* Costs of acquisition of equipment following from the collection of requirements; not discussed by the Academic Senate and other self-government bodies as of yet

## Annex 2: Medium-term Plan for National and International Surveys among University Students and Graduates



### BUT surveys planned for 2020

Survey among applicants for study: starts already in autumn 2019 and will continue until September 2020; results are processed at the end of 2020.

Survey among students in the last year of Bachelor's studies: over the whole year of 2020.

Survey among students in the last year of follow-up Master's studies: starts at the end of 2019, but the main part and processing of results will take place in 2020.

Survey among employers of BUT graduates: over the whole year of 2020.

Survey among Erasmus students: whole academic year 2020/2021, to be processed in 2021.

### Planned BUT participation in MEYS surveys

#### A/ Surveys in 2020

Survey among foreign students in the Czech Republic (Centre for International Co-operation): spring 2020.

"Doktorandi" national survey: autumn 2020.

#### B/ Later surveys

"Eurostudent VIII" international survey among university students: spring 2022.

"Absolvent" national survey and "Eurograduate" international survey: autumn 2022.

## Annex 3: BUT Research Framework



### Introduction

This document contains the initial draft of the fundamental principles of the BUT Research Activities Framework in the period 2020+, which is now required by MEYS as a mandatory appendix to the BUT Strategic Plan for 2020. As an important research university, BUT fully understands the need to use research results, qualities and contributions to improve the overall state of knowledge and education at both national and international level. It is expected that the proposals and ideas included in this document will be subject to further discussion within the academic community and subsequently analysed, supplemented and/or further specified. This document provides a framework for the general direction of BUT as a whole. More detailed elaboration of BUT vision will be provided in the BUT self-evaluation report and the BUT Strategic Plan for 2021+.

### Visions for research, experimental development and innovation

**BUT's vision is to:**

- act as an important research-oriented technical university competitive in both national and international context;
- be successful in applying research outcomes to the students' education in all study programmes;



- act as a research organisation with strong ties to the industry and international partners;
- be a stable and desirable employer, keep the existing academic staff motivated and attract new academic workers, and develop their research and creative potential;
- effectively use the unique, gradually modernised infrastructure for research and development, support the continuity and international reach of research teams by enabling collaboration of experienced researchers with their young colleagues and doctoral students.

**The purpose of strategic management of research and development (R&D) activities at BUT is to:**

- create a transparent and motivating environment in the area of research and development and other creative activities in order to support its further qualitative growth;
- support creative environment at the individual faculties and component parts where research and creative activities are carried out, in accordance with the “Rules of the Quality Assurance System for Education and Creative and Related Activities and Internal Evaluation of the Quality of Educational, Creative and Related Activities”;
- evaluate the performance in R&D based on results indicated in the national Results Information Register (“RIR”), the Register of Artistic Outputs (“RAO”) and the results of evaluation by the Government Council for Research, Development and Innovation (“R&D Council”) based on the currently applicable M17+ Methodology for Evaluation of Research Organisations;
- work on completing R&D infrastructure so that BUT becomes an important and sought-after partner for international and national research institutions and industrial partners.

## **Mission of research, experimental development and innovation**

BUT will establish itself as a leading research organisation contributing to developing knowledge in key areas of research such as “Nanotechnology” and “Advanced materials”, and in attractive areas of information technology such as “Recognition and presentation of information from multimedia data” and “Secure and reliable architectures, networks and protocols”, applied research in aerospace and automotive industry, the energy sector, renewables, transport systems, construction infrastructure and modern chemistry.

BUT supports innovation potential of companies with a high degree of robotisation that use smart communication, information and sensor systems in various forms, inorganic materials, transport systems for healthcare and organic semi-conductor sensors. BUT also supports further development of social sciences.

**BUT mission is in accordance with current national and international strategy documents**

- Innovation Strategy of the Czech Republic 2019–2030 prepared by the R&D Council;
- Europe 2020–A European strategy for smart, sustainable and inclusive growth;
- ERA Roadmap 2015–2020, which includes specific recommendations for member states on where to focus their national research and innovation policies; incl. the National ERA Roadmap of the Czech Republic for the years 2016–2020;
- Horizon 2020 – EU Framework Programme for Research and Innovation;





- EU cohesion policy and EU financial instruments, European Structural and Investment Funds (ESIF);
- Industry 4.0, or the fourth industrial revolution, which presents a challenge to research and innovation policies.

In a long-term context, BUT will support close linkage of academic research with companies, where significant progress has been made despite traditional differences in approach between the public and the private sector. Stronger ties between BUT and the industry will yield new possibilities in terms of collaborative projects, accelerating contractual research and objectively measured applicability of results in the form of licence agreements, spin-off companies, consultancy with the associated financial profit alongside with further growth in BUT competitiveness as an important national and international technical university.

## **The objectives and strategies in the area of R&D&I in the next strategic plan period**

Research at BUT is conducted by the individual faculties and university institutes, especially the newly created centres of research excellence:

- CEITEC (Central European Technology Institute);
  - IT4Innovations (National Supercomputing Centre);
- and regional centres pursuing applied and contractual research;
- AdMaS (Advanced Materials, Structures and Technologies);
  - MRC (Materials Research Centre);
  - CRURE (Centre for Research and Utilisation of Renewable Energy Sources);
  - NETME (New Technologies for Mechanical Engineering);
  - SIX Research Centre (Sensor, Information and Communication Systems);

created as part of the Operational Programme Research and Development for Innovation ("OP RDI").

Research centres completing or set to complete the sustainability stage in 2019 are included in the research structures of the individual faculties; in the next period, they will not reduce their activities and will continue to provide research infrastructure. Based on experience with the operation and activities of the individual centres, it is expected that in some cases there will be an optimisation of the organisational structure in relation to the relevant component parts.

### **Development objectives of research and development at BUT:**

- continue participating in applied research projects funded by the Technology Agency of the Czech Republic ("TACR") or Government departments;
- report excellent results based on the evaluation of the "Roadmap of Large Research Infrastructures of the Czech Republic" programme in research, experimental development and innovation, including CRURE in the area of sustainable energy and CEITEC in nanotechnology;
- successfully complete (in a short-term) nine projects under the "National Centres of Competence 1" call involving NETME, AdMaS, SIX Research Centre, CRURE, IT4Innovations and CEITEC and successfully continue in the consortia under the National Centres of Competence 2 call in the period from 2021 to 2025;



- join the “Machine Engineering 2030” strategic investment project, which is focused on the priority areas of machine engineering and mechatronics in perspective fields defined by the Regional Innovation Strategy and the Industry 4.0 concept;
- closely co-operate with companies and identify new research topics with high potential for relevant application in practice (national and international patents, licence agreements and contractual research);
- focus on the creation of new leading research teams to investigate current problems covering the national innovation strategy that have the potential to publish in Q1 and increase their institutional support;
- further boost the already important role of research centres at BUT in the area of applied and contractual research with a significant participation of international partners, which is positively reflected in investigations of the current 43 projects under Horizon 2020 project calls (with a funding exceeding EUR 13 million); this role will be leveraged also in the next Horizon 2020 programme period;
- use the experience obtained in investigation of two prestigious ERC projects allocated to CEITEC BUT, to further expand the number of participating international researchers and doctoral students;
- support future activities of research centres and faculty research, which will experience further growth in terms of both staff and infrastructure, which implies the need to obtain significant funding.

Another strategic objective of BUT is to significantly increase research performance, i.e. obtain better results in Module M2 based on the “M17+ Methodology for Evaluation of Research Organisations”.

**In this regard, BUT will:**

- fully implement R&D evaluation in accordance with all M17+ modules with incentives criteria;
- identify, promote and use criteria for evaluating creative activities, which will reward the most effective support for the Czech Republic’s international competitiveness for the benefit of Czech citizens in all fields pursued by BUT;
- diligently use field-specific international benchmarks and emphasise high economic return and efficiency of the evaluated activities while applying the aforementioned best experience obtained by BUT component parts with regard to evaluation of creative activities to achieve excellence; sharing of evaluation procedures among individual fields must always be properly justified;
- create, as part of allocating the Institutional Support for Long-term Conceptual Development of Research Institutions (“LCDRI”), incentives at central level applied in all faculties and component parts; the aim is to achieve a significant growth (at least 8% annually) of Q1-ranked publications;
- specify the rules of the existing Motivational System to Improve R&D Performance and Quality defined by an internal guideline in order to reflect new criteria of bibliometric evaluation;
- innovate the motivational contest for the most productive staff members in terms of research and development in the “technology” category, taking account of the criteria and results in Module M1 – Research Quality and in the “publication” category using AIS (Article Influence Score) and SJR (SCImago Journal Rank);





- consider modifying and gradually expanding the internal evaluation of research groups using CEITEC experience to other BUT component parts; the internal evaluation will:
  - reward publication results on a graduated basis, having regard to field-specific rankings, e.g. first decile, first and second quartile according to Web of Science, Scopus etc.;
  - reward successful international projects based on their funding scope, the number of outputs evaluated as “excellent” based on Module M1 of the M17+ methodology;
  - reward according to the volume of demonstrably innovative long-term contractual research – national and international patents, licence agreements and excellent publications;
  - introduce international “peer review” evaluation of research teams by an independent international research panel.
- expand existing research co-operation with, e.g., Imperial College, Lawrence Berkeley NatlLaboratory, IMEC, Technical University Vienna, AIT, ESFR Grenoble, EMBL, Fraunhofer-Gesellschaft, LUT University of Technology, Idiap Research Institute, Hebrew University of Jerusalem, and Technical University Tampere, from where talented international researchers come to BUT to teach innovative topics and share important experience with the students, thus expanding the portfolio of current research activities;
- expand evaluation of art faculties and workplaces pursuing art research and creative arts based on a fully implemented RAO methodology; further emphasise greater share in RIR of publications and monographs in the area of arts and art theory or their chapters;

## Institutional instruments to support quality research

**Institutional instruments to support research and development at BUT include especially:**

- gradually innovated motivational rules for improving R&D results based on R&D Council’s evaluation;
- criteria for motivating researchers to allocate Institutional Support for Long-term Conceptual Development of Research Institutions (hereinafter “Institutional Support”) provided by MEYS, which BUT obtains annually based on the results of R&D Council’s evaluation;
- criteria for allocating LCDRI; given the relatively slow growth in Institutional Support, the criteria must be innovated at BUT to support especially publications and peer-reviewed outputs, evaluation by field-specific panels and ensure growth in Institutional Support of approx. 10% (as in previous years);
- use of tools for a conclusive analysis of data from R&D activities (InCites and others) at faculties and, eventually, up to the level of individual research groups;
- support for co-operation with leading workplaces, including especially the workplaces investigating ERC projects;
- improvement of conditions for successful investigation of prestigious projects at BUT;
- more precisely defined research conditions that must be met by candidates in habilitation/professorship procedures, taking into account the difficulties in particular fields, in order to ensure better appointments;
- the International Scientific Board of BUT that is now being formed;



- creating conditions for a more attractive careers in research and development at the university, especially future use of the HR Award to improve the university's prestige and attractiveness for research staff.

BUT will continue emphasising efforts to improve the organisation and quality of doctoral studies, support other research activities of doctoral students, reward successful completion of studies in the standard period of time, involve doctoral students in R&D projects and link doctoral studies topics to applied and basic research projects. Doctoral research must lead to improvement of doctoral dissertations, publication outcomes, and good and socially relevant applied results.

**To facilitate the above, BUT will:**

- create a new detailed system of stricter minimum requirements that each doctoral student must meet in order to obtain the PhD degree;
- introduce incentives to attract more international doctoral students and postdocs to work at BUT; use existing BUT Welcome Services provided to incoming international academic staff, researchers and their family members and support them over the entire course of their stay;
- review the current number of active international programmes in doctoral studies – which is insufficient – in order to ensure that at least one such programme is open and used in each BUT component part;
- support the possibility to submit grant applications in order to improve the remuneration of doctoral students and the conditions for their international mobility;
- emphasise incentives in the area of human resources and support of excellent researchers (usually ERC grant holders) and sustainability and development of capacities of research centres and large infrastructures included in the “Roadmap of Large Research Infrastructures of the Czech Republic”.

**BUT executes the “BUT Opportunity” project, which aims to:**

- pursue commercialisation in order to boost the offer and use of BUT technologies in practice and build ties with the industry;
- engage the BDMs (Business Development Managers) in the individual faculties and co-ordinate them centrally in order to improve market research and increase the potential for using R&D results, identifying perspective research teams and their results suitable for commercial applications;
- aim to annually establish at least three spin-off companies to pursue practical applications of R&D results.

In order to effectively assess the application potential of projects within the Internal Grant Agency, BUT established the Commercialisation Council as an advisory body to the Rector; the Council usually meets every three months. In order to reduce the administrative burden and increase the success rate in obtaining grant projects, BUT continuously builds a functional structure of the project support department at both university and faculty level. The objective is to provide methodological and administrative help to research institutes and individual research groups to assist them in participating in basic, applied and contractual research projects. Each suitable call has its administrator, which applies to both international and national projects.

## National and international context of R&D&I

In the national and international context, BUT covers key areas of basic and applied research in the fields of mechanical engineering, energy, material science, information and communication technologies and sensors.

International co-operation of research teams is increasing, which is documented by the investigation of two excellent European Research Council (ERC) projects. The grants were received by the following CEITEC researchers: Petr Neugebauer in the area of “Electron Spectroscopy” and Vojtěch Adam in the area of “More Effective Treatment of Tumours”.

CEITEC BUT succeeded with its international basic research project titled “Future and Emerging Technologies”. In the Teaming Horizon 2020 call, two CEITEC BUT projects succeeded in Stage 1, specifically RICAIP and B4F. RICAIP subsequently succeeded with its business plan in Stage 2 call and progressed to full implementation.

Based on field-specific analyses, BUT evaluates the current opportunities for participation in planned national and international research calls and uses the obtained experience and supporting projects to boost team support for participation in international projects.

BUT will continue in this trend in the following period, using experience and excellent evaluation scores to join even more ambitious projects as part of the calls planned within Horizon Europe 2021 and other programmes.

On national level, BUT is proud of its participation in nine projects within the “National Centres of Competence 1” call, where BUT co-ordinates two projects in the area of mechanical engineering. We also implement the projects using new and modern infrastructure. BUT will use the experience in the following period.

The “Roadmap of Large Research Infrastructures of the Czech Republic” includes two of our centres, i.e. CEITEC and FEEC, and their activities aid new co-operative projects pursued by other BUT component parts.

Highly qualified academic staff, workplaces with modern infrastructure, good doctoral programmes and proven research centres are prerequisites for further development of R&D at BUT. Our objective is to increase the number of international R&D projects at BUT, which will be supported by a concept project for further support from the university and its individual component parts.

