

# NEWS AT BUT

2023/2024

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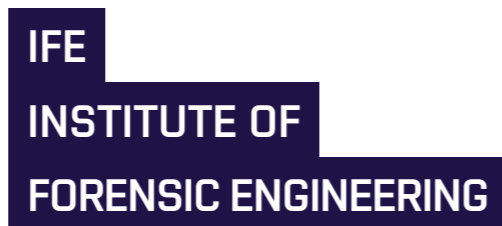
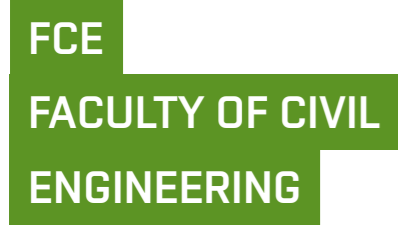
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TOPIC:  
LOOKING BACK

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## NEWS AT BUT

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NOT FOR SALE!



## FOREWORD



Dear readers,

The management of our university has reached the middle of its term of office, so it is natural and appropriate to pause and reflect on the past events, the results achieved and also the experience gained as a starting point for reflection on the future direction of the university. Half of the term of office came to a close at the end of January 2024, and on 1 February 2024 the management entered the second half of its term of office. The time has thus come to look back and outline the future ideas and intentions of the university's leadership.

But surely the purpose of looking back should not be simply to list the events and all that the management has accomplished so far on its journey through its term of office - after all, we did this on various occasions at the 2022 and 2023 Annual Academic Assemblies, described it in more detail in the 2022 Annual Report, and reviewed it at the beginning of the 2022 and 2023 calendar years as well. Rather, the content of the mid-term report should be an assessment of the meaning and significance of past events in the context of developments in the external environment, recognition of the internal environment, and reflection on where the university should be heading in the time ahead. We would like to present a vision that the university's management intends to focus on and thus outline the perspective of its future development.

The content of the issue you are currently holding in your hands is therefore devoted to an assessment of the meaning and significance of the events during the past period of the University and reflections on its future direction as seen by the Rector, as well as interviews in which individual management members look back on the past two years in their respective agendas and reflect on their future direction in the coming time.

Ladislav Janíček



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# RECTOR'S REPORT ON THE BUT MID-TERM MANAGEMENT AND OUTLOOK FOR THE NEXT PERIOD

LADISLAV JANÍČEK / PHOTO BY JAN PROKOPIUS AND ARCHIVE OF THE BUT PRESS DEPARTMENT

We have stepped into the second half of the term of the elected management of the university. We started our term of office with a programme that we have significantly developed. With dedication, we have embarked on a journey that we would like to report on, which we hereby submit to our academic community, as well as to all those who are associated with, collaborate with and support our university. Our aim is to show where we have come on this journey and to assure them that we are doing everything we can to fulfil the programme presented conscientiously and responsibly.

At the outset, it is essential to express great appreciation and thanks to all academic and research staff and all other employees who contribute to the development of our university through their work. Without their efforts, the university would not be where it is today and even the best visions and goals of the management would be mere paper constructions without their commitment and daily work. It is to their credit that in the last two years, our University of Technology has moved up 200 places in the global university rankings in both the international THE (Times Higher Education) and the Shanghai ARWU (Academic Ranking of World Universities) rankings and almost 100 places in the QS (Quacquarelli Symonds) rankings. We even ranked fourth among Czech universities in 2024 and are 216<sup>th</sup> in the top third of the best universities in Europe. Its ranking puts our school in the top 3-5% of the top-ranked universities in the world, estimated at 25,000 in total, and in the area of engineering and technology it has shown a significant improvement in 2024, being ranked 281<sup>st</sup> in the world. In addition to this, in 2023 we became a registered European

University along with 9 other universities in Europe which we work with as part of the EULIST University Alliance. However, it is also our students, graduates and alumni who represent our university through both their studies and creative or other activities, including the representation of our school during their studies and later in their employment, and thus contribute to the creation of its favourable image and good name in the society. Our partners, whether they are companies and institutions, employers of our graduates and students or commissioners of contract research or collaborators in projects, other universities and colleges or institutes of the Academy of Sciences, research organisations that we have active cooperation with, also help us to build and develop a successful university. We are also supported by the Ministry of Education, Youth and Sports and other ministries, grant agencies and last but not least by the South Moravian Region and the City of Brno, in whose jurisdiction we are located.

We are aware of the immeasurable richness which our university is endowed with and we feel responsible for its development. This richness is not only the technology and know-how that our university undoubtedly possesses and that covers the entire knowledge spectrum of technical disciplines complemented by the arts, but above all it is our people, academic and research staff, who are the bearers of this knowledge and technological know-how. In conjunction with our students and their creative potential, a unique knowledge community emerges, developing knowledge and producing results that are the source of our university's competitiveness. Over the past period, we have not only been able to

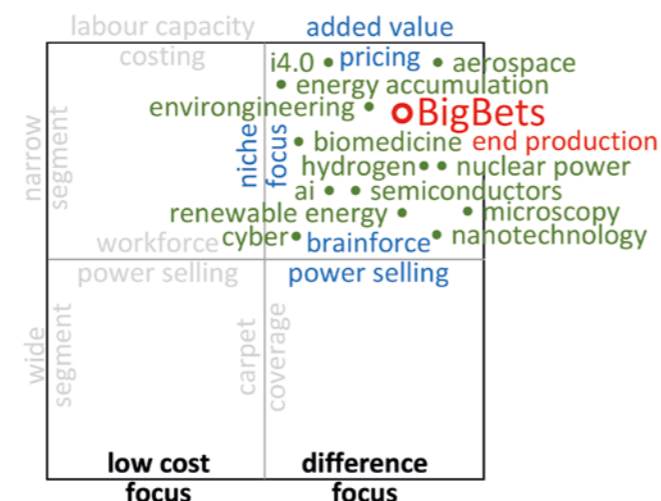
witness this richness of the BUT, but more importantly, we have gained a secure foundation to build on and create a vision for further development and an image of our university that adequately reflects the current times and its needs. From the very beginning, we perceived the responsibility to strive to create favourable conditions for the development of the potential of the university, our employees and students. We are aware of our responsibility to provide our people with the necessary support and of the need to build awareness and respect towards the university from the external, national and international environment. Therefore, through the personal commitment of the entire university management, the results achieved and their communication, we aim to strengthen the confidence of our people and their belief in the correctness of the chosen path and in the successful future of our university.



The building of the BUT Rector's Office in the year of the 125<sup>th</sup> anniversary of the foundation of the school

We have entered what can be called, with a degree of exaggeration, the "technological age". Under the influence of the complex geopolitical situation and the crises triggered in particular by the war conflict in Ukraine and the escalating tensions in other parts of the world, the European Union is realising the need to strengthen its independence from territories at risk. We are talking not only about independence in terms of energy and raw materials, which undoubtedly started this realisation, but above all about economic independence and related technological independence as a prerequisite for political independence. In addition, environmental and climate issues have dominated the society. Sustainability and environmental responsibility have become a social issue and a priority, particularly for technological development. At the same time, security has filled the social space, starting with geopolitics and certainly not ending with cybersecurity. Unfortunately, the events before Christmas 2023 at Charles University in Prague show the need to seriously address security also in terms of the resilience and readiness of our society to cope with completely unexpected emergencies and security incidents that few in our country could even imagine until recently. Last but not least, there must be no let-up in attention to epidemic issues, as it was not so long ago that we all faced a very dramatic health threat that gripped the world and exposed challenges that we need to be mindful of. The European Union is calling for technologies that will make it possible to address these priorities and to deal with various risks. It is therefore seeking applied and

applicable research and development results, strengthening knowledge transfer and building a European economy based on knowledge and innovation as a basis for competitiveness but also for resilience to dependencies. In this sense, the Czech Republic is also pursuing its place. Strategic documents, such as the "Czechia at the Crossroads" (Česko na Křižovatce) presented by the Prime Minister in 2022, outline the government's development vision for the Czech Republic, which, among other things, builds on the awareness of the importance of technology for the independence and competitiveness of the Czech economy and talks about the need to develop strategic areas in which Czech industry has a tradition and competitive advantage. The concept of "Big Bets" has a privileged position among the strategic considerations about industry in the Czech Republic, which can also be mentioned at meetings with our industrial partners. It emphasises the path of priority investment in strategic, especially hi-tech technologies and related research and development, in which the Czech Republic has potential and can thus contribute to the renaissance of the Czech industrial production tradition and the strength of the Czech economy. This is a "big bet" for the Czech Republic in terms of the opportunity to take a competitive position in certain industrial areas both in Europe and globally. According to EuroSTAT statistics, Czech industry accounts for 31% of GDP, making the Czech Republic the second most industrialised country in Europe after Ireland (38%). In Germany, the share is less than 27%. Of course, this is a nominal GDP figure, which is incomparable to that of Germany, but it is also a matter of the economic structure, which should optimally build GDP and economic productivity on value-added industry, i.e. primarily on knowledge and innovation. However, this requires a technologically skilled workforce, which industry is calling for. Unfortunately, here, as all over Europe, but clearly in the USA as well, we are witnessing, according to OECD and EuroSTAT 2023 statistics, rather



stagnation and, in many places, a decline in interest in technical or STEM studies at universities. The 26% share of STEM studies (Science-Technology-Engineering-Mathematics) in the total number of students in the Czech Republic is below the EU average (27%), and even significantly below the average in Germany (37%).

A much more systematic reflection of societal needs than in the past has become not only a challenge for universities, but a necessity and a reference for their development. Excellence as an integrated expression of the university quality is an essential attribute of evaluation and a measure of university competitiveness in the national and international environment. It incorporates the parameters by which universities assert themselves in the academic world as well as in society and compete with each other. With this in mind, from the very beginning of our term of office as the university's management, we have approached building the image of our university as:

1. a university with a historical tradition strengthening traditional, historic, strategic partnerships and forging new partnerships that build on
  - academic and research cooperation with partner universities and
  - links and cooperation with industry
2. a full-spectrum technical university, which builds its competitive advantage on the interdisciplinary synergy of a full technological profile and the combination of
  - education and research
  - technologies and arts
3. a research university
4. an international university
5. a business university
6. a sustainable university
7. a digital university
8. a university of equal opportunities and finally
9. an administratively friendly university.

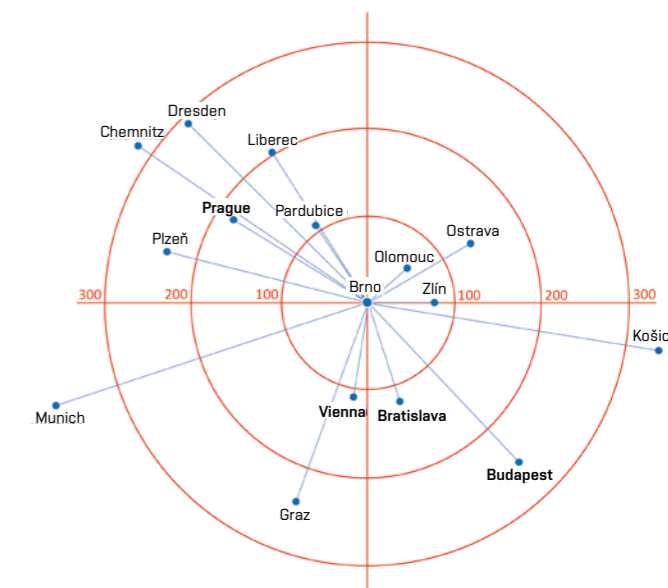
### UNIVERSITY WITH A HISTORICAL TRADITION

The year 2024 marks the 125<sup>th</sup> anniversary of the founding of the original Czech Technical University, the first in Moravia, of which the BUT is a successor. The BUT represents and builds on the traditions of technical education in the city of Brno, which began to develop here with the establishment of the Czech-German Polytechnic School in 1849. Its transformation into a German technical university in 1873 and the establishment of the first independent Czech technical university in 1899 brought technical education in Brno to university level. As the university's management, we have made efforts to commemorate this legacy and tradition and to renew the traditional partnerships on which technical education in Brno has always been built. We are developing two major areas of partnership. The first one is to strengthen institutional cooperation with traditional partner universities in the surrounding Central European area, especially with the oldest technical universities in the immediate neighbourhood in Vienna, Graz and Budapest, which together with the technical universities in Prague and Ostrava, but also more distant Košice or other Czech technical universities in Pardubice, Pilsen and Liberec, make Brno their natural strategic centre of technical education. The second area is the effort to significantly strengthen institutional cooperation with industry and industrial partners.

In addition to the natural links with the Czech Technical University in Prague (founded in 1716, QS 454), this is especially the establishment of close cooperation with Technische Universität Wien (founded in 1815, QS 184), with which we have an institutional partnership in the European University Alliance EULiST, and with Technische Universität Graz (founded in 1815, QS 184). 1811, QS 421), with which we renewed our institutional cooperation and whose relations with the German and later with the Czech Brno Technical University have existed practically from the very beginning. The university management paid special attention to these connections in the past period, as it gives the cooperation with these universities a historical and cultural framework and highlights the Central European character of our university. By linking with the Slovak Technical University in Bratislava (founded in 1939) through the European University Alliance EULiST, as well as through membership in the scientific councils of the university and the faculties, as well as with the Technical University in Košice (founded in 1937), we strengthen the traditional Czech-Slovak ties.

On a broader scale, we have developed closer cooperation with Leibniz Universität Hannover (founded in 1831, QS 481) in Germany, a leading partner of the European University Alliance EULiST. Inspiration and references for some structural and development plans can be found, for example, at the Technische Universität München (founded in 1868, QS 37) or the Technische Universität Chemnitz (founded in 1836), which, like our university, are surrounded by technology parks. At the institutional level, we also have a partnership with Technische Universität Dresden (founded in 1828, QS 186). These cooperations reflect the historical belonging and adherence to the Czech-German-Austrian circle of traditions of technical education in Brno.

The BUT management actively participated in the wider cooperation of European technical universities at their annual meetings in Vienna in 2022 and in Dublin in 2023 and took the opportunity to present their ideas and development plans. We have actively started to take advantage of our membership in the European network





of research and technical universities CESAER, including opportunities of presenting ourselves at the annual meetings or in the newsletter of this association. Thus, in the anniversary year 2024, the BUT will host a meeting of the CESAER Network Task Force on Technical Education in Europe in April. We have also significantly increased our activity within the European University Alliance EUA. In addition to the successful completion of the fourth EUA Institutional Evaluation Programme in November 2022, we are negotiating to host one of the upcoming EUA Annual International Conferences at the BUT in Brno. At the same time, we have offered EUA our long-standing experience in the field of higher education financing and we are now represented in the EUA Advisory Group on Financially Sustainable Universities in Europe.

Cooperation with industry is an equally important tradition to which we as the university management pay particular attention. We have resumed regular meetings with industrial partners who are employers of our graduates and students, partners in grant research projects and also commissioners of contract research. We have established a new BUT Industry Council, both to support knowledge transfer and commercialisation of our intellectual property, but also as a discussion platform on the educational needs of industry and as an evaluation platform for the assessment of study programmes. We have held a number of meetings with chambers of commerce. A number of meetings with the US AmCham have led to the initiation and contracting of qualitatively new strategic partnerships during 2023, in addition to shifting mutual understanding of the educational needs of modern graduates and the needs in collaborative research settings. We can mention, for example, Honeywell or Onsemi, with which we are also developing a qualitatively new model of industrial doctorates inspired by the Danish or Norwegian experience and motivated by the upcoming reform of doctoral studies funding. We are currently preparing a pilot run of a few such doctorates. We are developing a traditional strategic partnership with Thermo Fisher Scientific, which runs an extensive student internship programme, and we are also cooperating with Hitachi Energo and Tescan. With Siemens, among other things, we cooperate in the Werner von Siemens Prize competition, where we lead the largest section of the competition for the best master's thesis. An important asset for our development considerations is the closer connection and cooperation with the Brno Technology Park, in which we own one premium share. We are gradually looking for ways to expand active cooperation, especially in the area of knowledge transfer, e.g. within the ContriBUTe project.

### FULL-SPECTRUM TECHNICAL UNIVERSITY

Technical education and its support, stagnant or declining interest in STEM studies, optimal number of study programmes and fragmentation of studies vs. their economic sustainability, dilemma around professional vs. academic study programmes and their interpretation, optimal level of electivity of courses in study programmes, need for unification, standardization

and recalculation of crediting of courses, renaissance of postgraduate forms of studies in the form of former postgraduates as qualification training programmes for further professional development, e.g. MBAs and their equivalents, MSc programmes as an alternative to professional degree programmes and professional education, reform of doctoral studies. These are just some selected current topics related to the field of education, which we have dealt with in the first half of the term at the management meetings in the Rector's colleges or at the meetings of the Internal Evaluation Council.



In October, the BUT hosted a roundtable on technical education

Linking professional areas across faculties and institutes, identification of strategic interfaculty areas, the uniqueness of the connection between technology and art, the development of new study programmes in progressive areas, interdisciplinarity of studies, interfaculty studies as a perspective for competitive advantage, internationalisation of studies or teaching reflecting cutting-edge research, knowledge transfer - these are the trends we have set in motion at our university. In our work to date, we have also paid continuous attention to efforts to ensure an adequate level of normative financing of educational activities and to change the rules in the system of distribution of the contribution to educational activities within the university budget.

### Promoting technical education and STEM studies

We have made the promotion of technical education and STEM studies a central theme of interest and communication for the university at national and international level. We have chosen this theme for 2024 as the main theme for the celebration of the 125<sup>th</sup> anniversary of our university. In October 2023, we held a roundtable on technical education at the Brno University of Technology with the participation of the rectors of eight technical and science universities, representatives of hi-tech companies, industry representatives and chambers of commerce at the highest level, and above all the Ministry of Education represented by three deputy ministers, as well as the South Moravian Region headed by its regional council president. It was attended by Prime Minister Petr Fiala with whom we discussed the need for technical education and ways to promote interest in STEM studies. On the one hand, this initiative reflected the industry's call for technologically qualified university graduates, including an indication of the specific needs of individual industries, e.g. in the field of semiconductor technology

or nuclear energy. On the other hand, the discussion was directed towards the reflection on possible forms of support for technical education by the state, but also on the need for changes carried out by universities, especially in their approach to attracting applicants for studies and taking into account their psychographic characteristics and, unfortunately, their level of education from secondary schools. This certainly leads to a reflection on the need to reform the teaching of exact subjects in primary and secondary schools, but also on the need to look at the actual study programmes in universities, their number, structure, form and content, and possible changes that would better reflect the interest and level and quality of knowledge readiness of the applicants for technical studies.

At the international level, we received the trust to organize a meeting of the Task Force of the European network CESAER on the topic of technical education and its support in April 2024 at our university and in October 2024 we are planning to organize an international conference in Brno on this topic. We would like to provide the state represented by the Ministry of Education with an argumentation on possible measures which, if we do not accept the implementation of tuition fees, could be an appropriate form of support for technical education, e.g. in the form of tax relief for companies providing scholarships or bursary programmes for students in state-preferred study programmes, etc. However, universities also need to reflect on their study programmes as the products they offer, whether they sufficiently reflect the educational needs, psychographic preferences and expectations of applicants, as well as international trends, such as strengthening the focus on the development of soft skills, in particular critical thinking, creativity and imagination, creative engineering problem solving, teamwork and project thinking skills. These skills are increasingly called for by employers, who now prefer a more general competence profile of a graduate rather than a narrow specialisation, with graduates being able to acquire the specialisation afterwards in practice or through postgraduate vocational training programmes (if universities renew their offer).

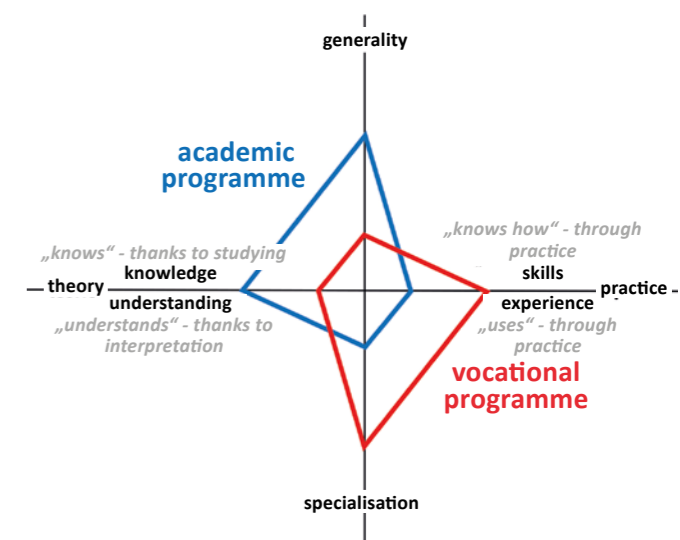
### Academic and professional study programmes

We have a discussion on academic and professional degree programmes at the Internal Evaluation Council and at national level. We are asking the question whether it is possible, and in particular compatible, for there to be a two-track educational model within a single university, such as the BUT, which generates two different types of graduates, whether at bachelor's or master's level, i.e. professional and academic? Is it at all possible to admit a dual quality of graduates, masters or bachelors, coming out of one university? Unfortunately, this is how the interpretation of professional and academic programmes has been established at the national level. On the contrary, referring to the German system of Fachhochschulen, now Universities of Applied Sciences, rather confirms the institutional incompatibility of this concept within a single university institution such as the BUT. Moreover, from the point of view of applicants themselves, this

division into academic and professional study programmes is completely irrelevant and difficult to distinguish. And so we actively discuss and speak about this at national conferences, such as the Educational Activity Days 2022.

I would like to clarify that this reflection is in no way intended to diminish the importance of professional studies, which intuitively build more on the development of practical skills and experience. Nor are we in any way questioning the need for regulated vocational qualifications or the more skill-oriented nature of study programmes in certain areas. Our dilemma lies primarily in the interpretation of the accepted division of university studies in the Czech Republic.

Unfortunately, it seems that what may have been a good idea at the beginning has not been adequately grasped or understood, has not been properly implemented or the impact of this concept on the institutional profile of educational institutions has not been sufficiently taken into account. Leaving aside the fact that, in particular, the concepts of "practical training" in master's programmes and "practice" in bachelor's vocational programmes have not been explained in an acceptable way, even after many years, the reputation of professional study programmes has not been helped, especially by the interpretation that has developed in the meantime that they are supposed to be "less challenging" for, let's say, "less demanding" students, and therefore somewhat inferior or of lower quality. While this interpretation will certainly be refuted by some, it has unfortunately become rooted in perception in this way. There has even been a subsequent interpretation that, for example, technical degree programmes are a priori vocational programmes, since they lead to a particular profession or perhaps specialisation. This is notwithstanding the fact that the demanding nature of technical studies as a category of STEM education is one of the reasons for the not entirely dominant interest in these studies. In this way, we might in time even see the absurd interpretation that graduates of academic programmes are actually useless for professional practice. On the other hand, for some purely academic programmes, typically medical or teaching programmes, which clearly meet the classification criteria of professional programmes, the parent



universities offering them reject the “professional” label in principle. Similarly, technical universities must reject such a designation for studies leading to the degree of master, which are, after all, also specialised in certain professional fields or areas of expertise. However, profession and specialisation are two entirely different concepts. At most, we could perhaps explicitly regard as professional only those study programmes which are intended to lead to a particular regulated qualification, e.g. nurse. However, this debate is only the result of the introduction of inappropriate classifications. When one adds to this the discussion that perhaps academic and professional programmes might be funded differently over time, to the detriment of professional (or perhaps academic?) programmes, it is quite understandable that many universities have taken a reticent or even dismissive attitude to the proliferation of professional degree programmes.



Panel discussion during the Conference of Academic Senators

We therefore feel that some of the classifying attributes are rather harmful and confusing and in this sense the classification of study programmes at professional or academic level is unnecessary and misleading and should preferably be eliminated. If this classification should remain, then with a cool head there is only one aspect to consider and that is the distinction between university and higher education institution. While professional programmes can be quite interesting for higher education institutions that set out to provide application-oriented education, universities should at least consider whether the generation of dual-profile graduates in programmes apparently interpreted and constructed as programmes of different difficulty but finishing with the same degree is even acceptable at one university. And the fact that this is a dilemma is also evident in the very reticent attitude taken by the classical universities in Germany in relation to the ‘Fachhochschulen’ there as professional universities.

In general, however, a number of those who think about the matter at the level of school management and, one can assume, at the level of the National Accreditation Bureau, have gradually agreed that it would probably be best to cancel this classification of study programmes. But this certainly does not mean cancelling the “professional” programmes that have emerged, which are clearly only more skill- or application-oriented. As is usually the case, it is very likely that the establishment of professional degree programmes may have been

driven by the need to meet a formal commitment to some of the priorities that justified some of the funding frameworks, such as the National Recovery Plan. If this was the case, there has clearly been a completely unnecessary confusion of terms. Just as the system of post-secondary vocational schools was once established and has now become a rather problematic appendix to the Czech education system, the division of study programmes into academic and professional may suffer the same fate. There are only two criteria for judging the quality of a study programme - good or bad in the sense of quality or poor quality, regardless of whether they are more knowledge-oriented or skill-oriented, or perhaps more research-oriented or application-oriented. Whether a study programme is more practice-oriented or more theory-oriented, whether it is more skill-oriented or more knowledge-oriented, whether it is more general or more specialised, all this should be the subject of its purpose and definition, the analysis of educational needs, of labour market needs, and not the subject of a more than controversial classification.

However, this is certainly not the fault of those who have tended and go on tending to create such professional study programmes at universities. Unfortunately, there have been and still are project calls in the Operational Programmes or in the National Recovery Plan, which condition the acceptability of submitted projects on the development of new professional programmes. Some project submitters then succumb to the lure of these project calls, often as a pragmatic way of securing funding, without further reflection. In this sense, the proposition is whether the availability of project calls should be an excuse and reason for accepting them if their motive is only the financial yield of the project opportunity? This is a thought-provoking question that we cannot avoid even in our university in relation to professional degree programmes.

Our mission is to strive for study programmes that are of high quality, or, if you like, effective, in the sense of producing quality graduates who are successful in the labour market, but above all programmes without attributes and labels, which, after all, the study applicant is not able to identify at all.

#### **Number, structure and economic sustainability of study programmes**

Another topic we are addressing in relation to the educational profile of the university is the question of the optimal number of study programmes. Compared to European universities, including those closest to us, e.g. in Germany or Austria, the number of study programmes at Czech universities is disproportionately high. If we compare, for example, the number of study programmes at the Technische Universität Wien, which has 47 study programmes with 26,000 students and practically the same structure of faculties, to the 173 study programmes at our university with 18,000 students, this raises a number of questions that we need to address. A comparison to the Leibniz Universität Hannover, with a total of 80 study programmes and around 28,000

students in 11 faculties, which in addition to the technical ones have a much broader profile in the existence of faculties of humanities, law, education and science at that university, will also have the same effect. We have about 80 doctoral programmes at the BUT alone. This issue has a pedagogical, marketing and economic aspect. From an economic point of view, it is the issue of the financial sustainability of study programmes. The high fragmentation of studies due to the large number of study programmes and the related need for high diversification of pedagogical and infrastructural support increases fixed costs and, compared to the research field, in the end widens the gap at the level of remuneration of academic and research university staff converted into teaching and research rates, to the detriment of teaching rates. The fragmentation of studies is ultimately reflected in the quality assurance of studies and logically leads only to a more general, formal and superficial application of quality management tools at universities.

In addition, it is becoming clear that “blanket” marketing is no longer sufficient in terms of the effectiveness of marketing communication. The large number and fragmentation of study programmes does not even allow for a focus on the design of specific programmes in order to adequately reflect the preferences and expectations of applicants in order to attract them to study. It is economically counterproductive and misleading to believe that by creating specialisations that attract even fewer than 20 students a year, we can hope to increase interest in technical studies. Not to mention the fact that the high fragmentation of studies rather worsens the clarity of the study offer. Too many options have the opposite effect and reduce the ability of applicants to make choices, plus the need to deal with the distinction between academic and professional programmes. It is also necessary to ask how many graduates actually end up in the specialisations they have studied, on average across faculties, but also on a programme-by-programme basis? On average, it is less than 50% at the BUT.

These questions are certainly not intended to give the impression that the development of new study programmes at our university will be restricted or perhaps stopped. They are only meant to emphasize that it is necessary to consistently conduct high-quality analyses of educational needs supported by adequate surveys of the educational and competence needs of employers and the labour market. Furthermore, reflection on standards and setting of study programmes is necessary with knowledge of national or international trends, limiting conditions given by the standards of study programmes defined by the National Accreditation Bureau as well as consistent consideration of their economic sustainability.

#### **Rate of electivity of courses**

We also need to reflect on the course structure and the rate of electivity of courses by learners. In Europe, the rate of elective courses in study programmes ranges from 25-40%, while in our country it is between 10-20%.

By elective courses in our terminology we mean both elective courses from a compulsory group of courses as well as elective courses. The question is whether there is any choice at all in the case of a limited range of elective courses from a compulsory group of courses.

#### **Course duplication, redundancy and interfaculty cooperation in teaching**

It is very desirable to reflect not only on the fragmentation of study programmes, but also on duplications and redundancies in the course structure of study programmes, to compare the content of courses and the justification of their specifics of the field and the need for a “different” approach in terms of the actually needed learning outcomes and competences. It is also desirable to reflect on the possibilities and expansion of closer inter-faculty cooperation, to consider the structure of studies, duplications in the course structure especially in the overview or general part of the competence profile of study programmes even within individual faculties, let alone in the inter-faculty dimension.

#### **Competence study profile and graduate profile**

In order to address the lack of interest in technical studies or the high failure rate after the first year, which is certainly not a motivating factor for applicants to technical studies, it is necessary to reflect on the structure, content and form of studies. The quality or intensity of studies cannot be reduced. After all, the qualification of a holder of a master’s degree is and must remain linked to the reliability of technical solutions and the responsibility for them, and this cannot be achieved without a certain degree of demanding study, but the course of study, its pace and the method of teaching must be adapted to the quality of the candidates’ initial competences and their psychographic characteristics. Psychography is understood as the perception, thinking, ideas, decision-making and motives, attitudes, motivation, values, needs, preferences, expectations, lifestyle and other behavioural characteristics that determine the decisions and choices of applicants.



Graduate profile is discussed in collaboration with industrial partners of the university

These input characteristics of applicants are objective and we have to work with them. They will not adapt to us, they will simply study elsewhere. So it’s up to us to find our way



to the applicants. This cannot be done without quality and targeted marketing, but also, for example, without insisting on higher pedagogical preparedness of our teachers. We must look not only at the number of study programmes, but also at their content and the competence profile they are intended to develop in students. We need to discuss how to do this, perhaps even experiment, be inspired and look for optimal solutions. Universities in other countries, for example in Germany, are facing the same issues. There, however, there are 10% more students studying STEM courses than in the Czech Republic. We need to ask why this is so. What is the difference, since the exposure to industry and to exact disciplines is about the same? Perhaps it is precisely because, given the number of study programmes there, universities have clearly generalised the graduate profile and shifted the professional specialisation more into postgraduate forms of education according to the specific needs of employers.

Certainly, not everyone may agree with the above reasoning and there may be other views, but in principle, in a situation where the number of applicants for technical studies and the selectivity is stagnant or declining, where the failure rate after the first year is, among other things, due to the decreasing selectivity in the admission of applicants to study is high and the normative budget of the university, and thus the faculties as well, is still largely based on the number of studies, the question of the economic sustainability of study programmes, especially those with small numbers of students and, in sum, of the faculties themselves, is quite relevant. With regard to the significant share of normative funds - contributions received for educational activities - perhaps everyone can already understand the economic arguments for raising the issue of the number and structure of study programmes and that it is undoubtedly a fundamentally strategic issue in this context. These considerations about studies are the first crucial point for strategic planning at university and faculty level, as they involve existential issues.

At the university, we are aiming to distribute the normative funds, the contribution to educational and creative activities, according to the actual number of studies, 80% in 2024 and fully 100% in 2025. However, without further comment, we shall not yet mention one more fact that is beginning to resonate at state level and which we must take into account, namely the release of the fixation of the allocation of funds to universities in indicator A. From 2026 at the latest, the allocation of normative funds should no longer be based on a ratio derived from the 2016 profile of the number of studies, as is currently the case, but on the real current situation of the recalculated number of studies. It is therefore necessary to prepare and reflect the situation. Fortunately, we know the funding mechanisms and can argue for a rational and workable setup. But to be influential, we need to be a respected player, which we will only remain if we are among the best ones.

### **Postgraduate and continuing vocational education**

A major challenge for the BUT as a technical university is continuing vocational education and postgraduate

studies for vocational education. If the trend towards a more general competency-based profile of studies is becoming increasingly strong today, would it not be more effective to move professional specialisation, for example, into forms of postgraduate studies? These are also paid studies, i.e. a source of potentially non-negligible additional income, which can improve the economic balance of faculties and the income of our academic staff, but also increase the non-subsidised share of the funding of Czech higher education.



The proCyber program offers cybersecurity education

Postgraduate studies, especially in the form of postgraduate qualification programmes, are very welcome forms of education by employers. These are, of course, educational products with a shorter life cycle, the length of which is determined by the speed of technological development in a given field. We are pleased to say that we have taken this route at our university in the form of developing the concept of MSc (Master of Science) studies. We have accredited the first "postgraduate" courses. This is the Master of Science in Cyber Security programme at FEEC BUT, followed by two MSc programmes at FCE BUT, MSc in Civil Engineering for non-construction graduates and MSc in Environmental Engineering. We draw on more than 20 years of experience in validating MBA programmes transferred from England and the USA to our university and MSc programmes implemented in cooperation with Nottingham Trent University in England.

Often, such vocationally oriented education programmes involve highly specialised and practical teaching requiring the practical competences of teachers. This entails the necessity of continuous professional development of teachers. However, there is certainly an opportunity to involve practitioners in such teaching. In this sense, we have implemented the institution of both visiting and adjunct professors at the university. The institute of adjunct professors is designed for outstanding practitioners who may not have academic qualifications but possess exceptional professional experience in a particular field. We already have our first representatives at the University, namely at the FEEC and the FA.

It is also a course that uses much more work with the experience of the participants in these studies, participatory and activation methods of teaching than

in undergraduate studies. This also requires the development of relevant pedagogical skills of our academic staff.

We are convinced that this, i.e. the path of postgraduate forms of education, is the optimal path of vocational education, which allows already employed university graduates to broaden, deepen or increase their qualifications if they find themselves in a different professional field than the one they originally studied, or if they just need to update their knowledge, skills, understanding or experience in a particular field. Not to mention that it is also a source of valuable income for universities. In addition, it is also a path that has been taken by, for example, the Technische Universität Graz or the Leibniz Universität Hannover, which can be a good inspiration for us.

### **Crediting of courses and microcredentials**

Another topic that we see as important and needs to be addressed is crediting of studies. Credit is intended to be a measure of the learning intensity of a course for learners, but also a tool for comparing the learning intensity of courses in the recognition of prior learning, for the nostrification of qualifications, and for ensuring the transparency of studies and the transferability of prior learning between study and credit-bearing educational programmes. The standardisation of crediting of courses within study or educational programmes proves to be necessary, among other things, for international cooperation, for example within European university alliances, in our case EULiST, where it is necessary to ensure the compatibility of crediting for the transferability of learning intensity and the recognition of prior learning within joint educational projects.

In addition, the crediting of courses is also gaining importance in the context of the recognition of education acquired through lifelong learning or continuing vocational education. This is where we have so far focused on the application of another of the many trends, namely the modularisation of education and the crediting of certain professionally coherent blocks of learning through the introduction of microcredentials. Thus, it is not vocational "study" programmes as opposed to academic ones, but vocational "education" programmes as postgraduate continuing vocational education programmes that can become a more effective form of vocational education and a natural alternative to vocational study programmes. Our Higher Education Act then allows for the recognition of up to 60% of the credits obtained in lifelong learning programmes for those who, after completing such educational programmes, decide to continue their studies in a regular study programme. This, however, presupposes the establishment of a crediting system and compatible measurement of the study intensity, in addition to the various forms of study through which postgraduate continuing education is implemented, e.g. in combined form, weekend executive or, for example, in a truly distance learning form, which are much more common in postgraduate continuing vocational education due to the time constraints of already employed students.

### **Reform of doctoral studies and their funding**

With the expected amendment to the Higher Education Act comes another crucial topic, namely the reform of doctoral studies. The amendment is currently being discussed in the Chamber of Deputies (April 2024) and is expected to come into effect in the academic year 2025/2026. Strengthening the emphasis on the fulfilment of study obligations in doctoral studies, freeing doctoral students from other, secondary or supplementary obligations and their possible transfer to an employment relationship, and finally ensuring adequate doctoral study income are among the main propositions of the reform. The main aim of the reform is to increase the success rate in completing doctoral studies within the standard timeframe and to create conditions for students to concentrate on their studies.

This is another crucial strategic topic that our university and its faculties and university institutes are facing in the coming period, as the reform is expected to include a change in the system of financing doctoral studies by the Ministry of Education. It is envisaged that the current indicator C, under which funding for doctoral scholarships is currently provided, will be removed and the provision of this funding will be transferred to indicators A and K. In addition to the fact that this will be a real and literal "contribution", as the university will have to provide students with a guaranteed doctoral income, which, according to the current set-up, should be double the current average amount of the scholarship (CZK 12,000/month), this will mean a major economic consideration of how much we will be able to finance full-time PhD students. At the same time, the number of Ph.D. students is an important criterion of the research character of the university and enters international rankings. A possible decline in their number could therefore have a major impact not only on the university's research capacity but also on its international ranking.



The amendment to the Higher Education Act was presented by the Deputy of the Ministry of Education at the Rector's College of the BUT

To verify the status, parameters and quality of doctoral studies, we thus launched an evaluation of doctoral studies in 2023, which will continue in parallel with the research evaluation in 2024.



At the same time, it should be taken into account that the state allowance provided by the Ministry of Education will be derived from the quality of research at the university expressed in terms of its rating based on the so-called scaling, which currently categorises universities into categories A, B, C and D. It is therefore in the sole interest of our university to be rated A in the forthcoming round of scaling. This is because this will also be decisive for the amount of contribution received to guarantee the doctoral student's income. That is why we have devoted and will continue to devote all our efforts to achieving the highest university rating in the scaling round planned for 2025. One of the prepared measures that could at least partially resolve the issue of financing doctoral studies is the so-called industrial doctorates, the concept of which we have prepared and are currently working on their implementation in some faculties.

### Quality of education and its provision

Without in any way overusing the word "quality" in the above-mentioned text, all the topics, reflecting on them, setting them up and dealing with them through an internal agreement or standard actually represent elements of the quality management system of education at the university. And we certainly did not use the word ISO even once and we did not say a word about the bureaucratic mechanisms with which quality management systems in universities are often associated. We talked about the value setting that determines the concept of our approach to university management, in this case educational activities. It is the principal role of the Internal Evaluation Board, one of the university bodies required by the Higher Education Act, to address these issues, to discuss them, to recommend appropriate settings and to ensure that the set standards are adhered to. And it is this profiling of the role of the Internal Evaluation Board that we will continue to strive



BUT underwent the fourth international EUA evaluation

for in the second half of the term. We will certainly remain a full-spectrum technical university, but we will focus more on the consolidation of the offer of studies, on the purposeful design of the development of study programmes, including the development of new ones, with the aim of striving to increase the interest in technical studies at our university while maintaining the

parameters of the quality of education by adequately setting the content, form and standards.

It was the need to grasp the area of continuing vocational education and the development of professional training programmes on the platform of paid lifelong learning, microcredentials, crediting or perhaps industrial doctorates, as well as the system of quality management, especially in education, that led to the strengthening of the management team for the second half of the term of office by the Vice-Rector for Continuing Education and Quality. The restructuring of the system of continuing or lifelong learning, the coordination of the evaluation of study programmes, including doctoral programmes, as well as the development of the university's counselling system will be the responsibility of this new Vice-Rector.

### RESEARCH UNIVERSITY

We are a research university. This is evidenced by the quality of the research results, which according to the structure of the results are of a basic research nature (56%) and of an applied research nature (44%). This is also evidenced by the structure of the university's total income, which is more than 50% represented by research income composed of normative and special purpose grant sources as well as contract research. In contract research, we rank second among universities in the country with less than CZK 200 million/year, which represents about 10% of research income. At the very beginning of the term of office, we secured our university's membership in the Association of Research Universities AVUni.

We became signatories to ARRA, the European Agreement on Reforming Research Assessment, which was the impetus for the creation of CoARA, the European Coalition for Advancing Research Assessment, of which we became members. In doing so, we committed ourselves to the principles by which research assessment should prioritise the quality of research results as well as their applicability. Assessment should reject schematic algorithmic converters of results into money and succumbing to formalism and economic calculation.

Above all, we have directed all our efforts towards a path that will lead us to improve our university's rating to grade A in the forthcoming scaling round in 2025. We are also actively involved in the Government's Research, Development and Innovation Council in promoting the setting of an RDI assessment that is as transparent as possible and reasonably equitable in reflecting the nature of the outcomes at different types of research organisations, including technical universities. We are in the process of setting up the 17+/25+ Methodology. In April 2023, we hosted the RVVI national annual conference on the 17+ Methodology. We have focused on improving the reporting of results as a prerequisite for their successful assessment under Methodology 17+ in Module M1. We have made significant progress in this and have clearly moved above average in the published

assessment of results in Module M1 submitted for 2022. We have provided our faculties and university institutes with the necessary incentives to focus their efforts on improving the structure of publication results in Module M2, focusing on the production of publications assessed in quartiles Q1 and Q2 or decile D1. Unfortunately, the production of publications and results of lower quality does not contribute in any way to improving the university's assessment profile. We are taking organisational and budgetary measures to focus on adequate production of results, including the financial volumes of dedicated grants for applied research, knowledge transfer and contract research entering the M3 assessment. We are implementing the necessary systemic adjustments at the level of strategic management and budgeting, e.g. in the allocation of DKRVO Institutional Support, which will be crucial to obtaining a good quality assessment in Modules M4 and M5.



The International Scientific Council is an important advisory body of the university

We have started the process of research evaluation, which will take place in parallel with the evaluation of doctoral studies this year. In November 2023, we launched the International Scientific Council as an advisory body to help us set up the evaluation process in a good and pragmatic way and to ensure its transparency and objectivity thanks to the experience of its members. So we are doing all this to ensure that as a university we rise in the scaling of research organisations from B to A level in 2025.

Thus, it will be up to each faculty and university institute to contribute to this scaling. Meanwhile, 2024 is the last year in which the results will influence the assessment, and the new scaling will take place in 2025. This represents a strategic objective for research, development and innovation that must be appropriately reflected in the strategic documents of the university, as well as individual faculties and units. However, the systemic settings of the research environment and strategic management of research at the university level, which are the subject of assessment in modules M4 and M5, must also find their reflection at the level of faculties and institutes.

Much more than in the past it is necessary to deal with the coordination of project activities in the sense of preparing strong competitive project applications built on inter-faculty links and synergy of top know-how within



BUT conference looks back at five years of Methodology 17+

the university or built on strong partner consortia. It turns out that the coordination of project preparation significantly increases the success rate of competing for grants and projects in terms of expertise and enables the identification of truly relevant topics. Above all, it provides an opportunity to concentrate the capacities necessary for the successful implementation of projects. Thanks to this approach, we have recently been awarded the top-ranked research project at FME in the Czech Republic in the competition for one of the last research and infrastructure projects under the Jan Amos Komenský Operational Programme. At the same time, we have become one of the most successful partner universities among universities in this call, as measured by our shares in the other projects selected for funding. We have coordinated and selected five promising project proposals for the OP JAK call focused on projects of intersectoral cooperation between public research organisations and industry, the so-called "industry-academia" cooperation. The results for the past period can be accompanied by the following statistics. From the Technology Agency of the Czech Republic we have only since November 2022 acquired 2 new national competence centres as lead partner and 13 of them are currently being implemented, we have 82 new TA CR projects out of 198 in implementation, 27 GACR projects out of 104 in implementation and 14 new Horizon Europe projects out of 28 currently in implementation.

As one of the key factors in the assessment of research organisations is and will be research capacity in terms of staffing and competence, we have paid attention to the search for disciplinary synergies across the university. We have identified 21 cross-faculty areas of expertise that have common potential for research and teaching in different faculties and university institutes, identified their coordinators, and are developing a model to activate and support these cross-faculty cooperations. These are generally strategic areas with high competitive potential. We believe that this inter-faculty coordination will contribute to increasing the university's visibility to external partners and will allow them to easily find their way around and get in touch with the university through the coordinator of these areas when looking for cooperation. At the same time, this will allow for the preparation and submission of strong, professionally comprehensive and capacity-assured project proposals, whether grant or contract research projects.

In addition to research, however, the prerequisite for cooperation in the educational field is also being created, especially in the creation of joint interfaculty study or educational programmes. Such collaborative programmes are, for example, the programme "Space Applications", which is implemented by the FEEC in cooperation with the FME in English, or two newly prepared programmes under the name "Semiconductor Technologies" developed in cooperation between the FEEC, FME and CEITEC and the programme "Nuclear Energetics" in cooperation between the FEEC, FME, FCE and FCH. These new study programmes not only reflect the currently very urgent industrial demand for graduates in these areas, but also allow to pool capacities for teaching, research and ultimately for competitive and effective cooperation with industry.

Moving towards differentiation of universities and research organisations on the basis of excellence criteria at the national level poses another challenge to us - to create adequate conditions and systematic support for submitting applications for prestigious grants, which are ERC projects, including ERC CZ, or TEAMING and MSCA within the HORIZON EUROPE programme, as well as other selected programme frameworks included in the Excellence programme, such as in particular GAČR EXPRO or JUNIOR STAR. Although these projects are an acknowledgement of the quality of research results achieved by an institution or a particular researcher by their provider and are intended primarily as a means to further improve the results and development of research in a research organisation, their acquisition and existence at the university is also a criterion by which the so-called excellence will be measured.

However, in order to support the submission and implementation of these projects on the way to the university's A-level assessment, the appropriate infrastructural and budgetary conditions need to be created, which have become the subject of the setting of the new university budget allocation methodology for 2024. In general, in the budgetary area, we need to demonstrate a systematic approach to promoting excellence and to systematically developing the research environment, among other things, for successful assessment in modules M4 and M5. Thus, in line with the criteria for assessment of research organisations according to Methodology 17+ for university budgeting, we have, for example, made a fundamental change in the way we allocate institutional support to DKRVO. This distribution takes into account three main criteria: the capacity of research in the so-called development component, and in the so-called qualitative component, qualitative parameters of research are also evaluated, reflecting the achieved results in the M1 module, citation feedback of publications, internationalisation, perspective expressed by the number of doctoral students or achieved incomes from knowledge transfer, which reflect the quality of research results as a measure of their applicability. Finally, the third, so-called performance component takes into consideration the number of publication results based on their classification in the first decile and the first two quartiles according to the assessment of research organisations in Module M2 of the Methodology 17+, as well

as the financial performance of research measured by the volume of non-investment funds obtained in R&D projects and the financial performance in contract research, which enter together with the volume of knowledge transfer in Module M3 of the Methodology 17+.



Representatives of the Faculty of Mechanical Engineering dominated the scoring of the OP JAK Excellent Research Call

In addition to our standard grant activities, we continue to face the challenge of creating conditions for participation in industrial research projects within the framework of so-called collaborative research. In particular, it is important to have the opportunity to participate together with industrial partners in calls launched, for example, by the European Commission, seeking to develop corporate research and development in certain priority areas of the national economy. One such area is, for example, semiconductor technology, which has now become a pan-European priority. We have started preparing the National Competence Centre for Semiconductors in cooperation with the Czech Technical University in Prague, the National Semiconductor Cluster, Onsemi and Codasip and the South Moravian Innovation Centre.

Participation of the university in these projects can be an interesting opportunity to show the university as a professional competence centre and, of course, to provide it with interesting financial resources. However, this also requires adequate internal processes to be set up in relation to the protection of the intellectual property and trade secrets generated and to guarantee competitive reliability. This requires, for example, the certification of a managed security system such as the TISAX standard. The certification verifies the provision of process and information security and at our university, for example, some departments at FME have already adopted it. Although this is an area of contract research, its volume, even though it is an economic activity, also figures in performance indicators, e.g. both in indicator K and in the M3 module of Methodology 17+. One of the ways in which university and business research can be linked is through collaborative doctoral studies, known as industrial doctorates.

Alongside research, artistic activity is an increasingly significant and equally important segment of creative activity at our university. Although we are neither an art academy nor an independent art school, the Register of

Artistic Performances ranks the BUT as the university with the second highest number of points for its artistic activity thanks to the excellent results of our Faculty of Arts, as well as other faculties - FA, FCE, FME in the field of art, architecture and design. It is the combination of artistic and technical fields that is one of the competitive advantages and also a source of competitiveness of our university. A great challenge for the art fields is the so-called artistic research, which is gradually developing at our university.

In order to declare the importance we attach to artistic activity at the university and its connection with the technical disciplines, we are entering the second half of the term of office with the responsibility for this area explicitly secured at the level of the Vice-Rector for Artistic Activity, expanded to include the area of sustainability.

## INTERNATIONAL UNIVERSITY

The fundamental challenge of modern universities is internationalisation. After years of hard work within the European University Alliance EULIST, we became a registered European University at the end of 2023 together with 9 other European, mainly technical ones. Territorially, this alliance, whose credo is "linking society and technology", covers 10 European countries, has 20,000 employees and 200,000 students. Some of these universities are also linked to us through traditional partnerships, such as the Technische Universität Wien, the Slovak University of Technology in Bratislava or the Lappeenranta-Lahti University of Technology in Finland. With some of them, we have developed active cooperation over the last two years, in particular with Leibniz Universität Hannover in Germany, which has been the coordinator of the alliance so far, but also with other member universities, in particular the Jönköping University in Sweden, the University of L'Aquila in Italy, the IMT in France, the Institut Mines-Télécom based in Lyon, which brings together several graduate schools across France, the Rey Juan Carlos University in Madrid in Spain and the National Technical University of Athens in Greece. The development of cooperation with the universities in the EULIST alliance will be a strategic issue and will be strongly promoted alongside existing partnerships, respecting the usefulness and purpose of the cooperation, in order to ensure the functions of the European University.

We have already mentioned our significant involvement in the activities of the EUA, the European University Alliance, where, among other things, we consider it appropriate to maintain participation in its Institutional Evaluation Programme, which gives us the opportunity to obtain valuable international feedback on the setting and direction of the university on a regular basis. In November 2022, we completed our fourth evaluation, repeated several years apart (2004–2011–2018–2022). Likewise, the already mentioned increase in activity in the association of universities of science and technology in Europe CESAER or in the regular annual meetings of the club of more than 40 European technical universities are further results of our university's international

involvement. Other recent achievements of the university management in terms of internationalisation are the aforementioned accession to the European Coalition for Advancing Research Assessment CoARA, as well as the establishment and launch of the International Scientific Advisory Board (ISAB), which, by carrying out a technical evaluation in November 2023, has joined the ongoing research evaluation, which is an important part of the preparation for the planned national evaluation of universities in research in the framework of the so-called scaling.

In our international activities, we consider it important, especially with regard to geographical proximity, to develop closer cooperation with universities in Central Europe, be they the Technical University of Vienna, Graz, or Budapest, or, within the framework of Czech-Slovak cooperation, technical universities in Slovakia in Bratislava, Žilina and Košice.

With regard to internationalisation, the number of foreign students and the two-way international mobility of students and staff is a crucial aspect for us, as is the offer of study programmes in a foreign language, which has almost exclusively become English.

With almost one quarter, i.e. 25%, of international students, we are one of the leading international universities in Europe and the Czech Republic in international rankings. It is true that one fifth, i.e. 20%, of international students are from Slovakia, which we highly appreciate. The remaining roughly 5%, i.e. about 1,000 students, come from about 50 countries around the world. However, the proportion of self-pay students is only 1%, i.e. around 200, although there are many more applicants.

A significant step in the internationalisation process for us right at the beginning of the term of office was the necessary restriction on the arrival of students from Russia and Belarus in the context of the unfortunately still ongoing inexcusable Russian invasion of Ukraine, supported by Belarus. We had to deal with the restrictions and European sanctions on these two countries, identify the so-called critical programmes, and ensure the termination or transfer of students from Russia and Belarus enrolled in these programmes to other study programmes in the context of the need to exclude so-called technical assistance. We actively negotiated with the Financial Analysis Office, which administers the agenda at the state level, to proceed rationally and, most importantly, correctly. However, we offered an adequate alternative to virtually all the affected students from these countries in active study and stood up for them as if they were our students.

On the other hand, from the very beginning of the invasion we provided support to students from Ukraine. In addition, at the most critical moments of the beginning of the war, we offered asylum accommodation and support to war immigrants by allocating about 130 beds in our Mánes Residence Hall for family members of our Ukrainian students and, in cooperation with the City of Brno and the South Moravian Region, for other groups



and families with children coming from the war zone. In this sense, it is necessary to highlight the active and helpful approach of the management of our Halls of Residence and Dining Services. A lot of attention was also paid to ensure fair and completely equal conditions for residence and further studies for all our students, including Russian and Belarusian ones. We are very proud to state that, despite the critical situation, the atmosphere at the University in those difficult moments was permeated with a high level of participation, understanding, support and mutual solidarity of our Russian and Belarusian students towards those from Ukraine, and thus they rightly deserve our great appreciation and support.

Today, due to the war situation, the arrival of students from Russia and Belarus, which was quite significant for the proportion of foreign students, has been significantly reduced. However, despite the support, the arrival of students from Ukraine has also been reduced, which is unfortunately hampered by, among other things, their conscription. The total number of students from these three countries before the war was about 1,000, of whom about 700 were from Russia and Belarus.

Another highly debated topic has emerged in the context of the war in Ukraine and, unfortunately, rising tensions in the world. This is the need to face security risks as well as disinformation and other unwanted influences from countries that directly or indirectly support Russian aggression, or, in short, unwanted influences from high-risk countries due to their undemocratic nature. This classification of high-risk countries for the Czech Republic was made by the Ministry of the Interior of the Czech Republic. Among other things, the Ministry has significantly tightened the conditions of the so-called Student regime, through which the limits of visas from high-risk countries are regulated. Under it, visas for applicants and students from countries with identified security risks are granted under a simplified regime, if they are granted at all. This tightening of conditions builds on the obligation of universities to ensure that admissions procedures are rigorously carried out and, in particular, that language proficiency is verified, whether for study in English or in Czech. Unfortunately, among the identified high-risk countries there are now also some countries with which the Czech Republic and our university used to have strong cooperation and study mobility in the past.

During the first half of the term of office, and aware of the complications with the above-mentioned classification of high-risk countries, we have carried out a detailed analysis of the territories of interest and expect to strengthen marketing in them. We have set ourselves the goal of creating conditions for strengthening the influx of students who do not find it difficult to master the Czech language and to study in Czech. We have generally accepted the proposition that it does not matter for foreign students whether they pay for their studies in a foreign language or, in accordance with the Higher Education Act, study without a fee if they master

the Czech language and study in Czech. The tuition fees for studying in a foreign language are quite insignificant in relation to the low number of self-funded students and the transaction costs associated with the organisation of the study units for foreign students compared to the benefits that foreign applicants to STEM and especially technical studies can bring, as many of them will stay in the Czech Republic after graduation. It is expected that the tuition fees for studying in a foreign language under the wording of the pending amendment to the Higher Education Act are likely to be in the mode that a university "may", not "must" assess them, which will depend on the discretion of individual faculties.



**BUT joined the EULiST network of European universities**

However, this proposition does not fundamentally change the importance of the existence of studies in English and the acceptance of English as a second language at the university. We will continue to strive to ensure that each faculty has at least one comprehensive study programme, especially at the Bachelor's level, available entirely in English, both for ERASMUS students and for foreign applicants. Inspiration for this can be seen, for example, in Germany, where universities offer English programmes for foreign students, who can study free of charge just like German students. Just as in Germany, these students can subsequently bring significant economic benefits to the Czech Republic, as many of them will find employment with employers in the Czech Republic after graduation.

A specific type of English studies is represented by the so-called joint-degree, or double or multiple diploma study programmes. Currently, there are 15 joint-degree programmes at the BUT. Among other things, covid restrictions have negatively affected the interest in these studies, so only 4 of them are currently active. Despite the relatively small number of students in them, these programmes are an important internationalisation element of the university. At the same time, the university also has two MBA programmes, Master of Business Administration, with one of them being carried out for a long time in cooperation with St. Francis University in Chicago, USA.

The challenge that we need to grasp is the European trend towards offering shorter but thematically comprehensive studies or modules within continuing vocational training programmes, finishing with the aforementioned microcredentials. This is a progressively expanding

opportunity to create and offer comprehensive training modules that are credit-bearing as standard, and to provide them in the form of continuing or postgraduate education. They provide an opportunity to combine various modules thus created with partner universities in the Czech Republic, but especially abroad. This is a concept that we are jointly striving for within the European University Alliance, now the European University, EULiST. It seems that this concept can be a kind of substitute for joint-degree programmes, which are often too cumbersome in connection with the often complex accreditation conditions and their coordination, including the legislative diversity of conditions in different countries.

These modular studies have begun to gain ground in neighbouring Germany, for example. Thanks to their professionally coherent and shorter form, they are relatively easy to develop and accredit as lifelong learning programmes. Universities can incorporate their specific know-how into them and offer them for sharing with other universities, which can then accept the knowledge gained in them in their own accredited programmes. The Czech Higher Education Act, according to Section 60a, allows up to 60% of the credits thus gained in lifelong learning programmes to be accepted in a regular study programme. These modules can then be easily combined with other modules developed and provided, for example, by our partner universities and internationally. Entire distributed international studies can be created from individual modules and their completion can then be accepted as part of standard study programmes. And they have one advantage - an economic one. As lifelong learning programmes, they could be paid.

We are pleased to state that we have already started to prepare modules ended with microcertificates within the framework of professional postgraduate studies and to group individual modules into comprehensive educational programmes. These are the aforementioned MSc and Master of Science programmes, which use the provisions of the Higher Education Act in Section 60a on the authorization of universities to implement and certify programmes "carried out in an internationally recognized course", similarly to the MBA or LL.M programmes. In addition, some partner universities in our EULiST alliance, e.g. Leibniz Universität Hannover, have already expressed interest in cooperating with the BUT in developing modules for further vocational training, specifically in the field of renewable energy. It will be up to us to exploit the potential of this form of education.

In foreign marketing, we will significantly strengthen our initiative in natural catchment areas, especially in Slavic countries or countries where one of the Slavic languages is an official or communicative language, to attract applicants to study in Czech. We build on the tradition of the natural catchment area of the city of Brno and the Czech Republic for students from the Balkan countries and other territories of Central and Eastern Europe, including the Visegrad Four countries. This also applies to some countries of the former Soviet Union where Russian is still one of the languages used. However,

these can only be countries that base their social set-up on democracy and profess values compatible with those of the Czech Republic and the EU. In foreign policy, in any case, we also fully respect the influence and security constraints in relation to certain countries identified by the Ministry of the Interior in connection with the geopolitical situation.

Some African countries, many of which are listed as critical by the Ministry of the Interior, should be treated with respect for similar risks.

We are currently focusing on selected countries in Southeast Asia. Specifically, we are targeting countries such as South Korea, where we now have two students in the master's programme in nuclear energy and even one graduate from the KINGS, Kepco International Nuclear Graduate School in Seoul. In July 2023, we participated in a meeting of the Visegrad Four universities at rector level in Seoul in connection with the development of nuclear energy organised by this school. Taiwan in particular is an important technological partner for us in Southeast Asia, with whom we are developing a partnership especially in the field of semiconductor technology, both in the area of staff and especially student mobility, including study scholarships. In 2022, visits of Taiwanese representatives to the BUT took place in connection with planned Taiwanese investments in the semiconductor industry in Europe, which continued during 2023. In January 2024, a visit of representatives of Taiwanese universities and research institutes to the BUT took place.

Further visits of Taiwanese universities are planned for April and May 2024. India also remains an area of interest for the BUT. However, with the exception of Japan, which has not yet been one of the BUT's major foreign partners in the Asian territory, the other countries of the Far East and Southeast Asia are considered by the Ministry of the Interior to be more or less risky, and a stricter regime of screening for influence and security risks must be considered if further or new cooperation is to be established. The Ministry of the Interior's approach to the



**EULiST alliance meeting at Leibniz University Hannover**

Asian countries of the former Soviet Union is also very cautious.

However, despite the simplified “Student” regime, the influx of students from abroad, even from risk-free countries, is limited in time and procedures by visa policy. In this sense, and with full respect for security and influence constraints, we appeal especially through the Czech Rectors Conference to the state to simplify these visa procedures especially for applicants from safe countries.

Student and employee mobility is an important part of internationalisation. In 2020, programmes that supported both types of mobility quite massively came to an end. The 2020 and 2021 Covid years significantly reduced travel. The return of normal conditions for mobility in 2022, despite the expected euphoria after the easing of the epidemic measures, meant only a gradual ramp-up at first. It is only in 2023 that we can state free movement again. However, funding for mobility support, such as the MEMOV I and II projects, which meant a relatively large contribution for students, academic and non-academic staff, has been reduced. Nevertheless, the management has succeeded in ensuring relatively sufficient funding through ERASMUS for 2023, reflecting the renewed interest in mobility. However, it was necessary to appeal to our faculties to use the allocated funds. The university management, under the guidance of the Vice-Rector for Internationalisation, has created a transparent system for allocating and managing mobility, which now provides opportunities for travel within the scope of what the faculties and institutes can plan and manage. Over the last two years, approximately 750 students have travelled annually, while 900 have visited us from abroad. In terms of staff mobility, there are on average around 500 employees going abroad and around 250 coming to us from abroad each year.

An organizational reform was carried out at the Rector’s Office, which led to the consolidation of the activities of the Internationalization Department in terms of personnel and function, and the foundations were laid for a functional “welcome and admission office”, which started its activities within the capacity of the Rector’s Office. Discussions will certainly continue with the faculties as to how far these central functions for promoting internationalisation should be developed and budgeted to be effective and appropriately complementary to the faculty settings for these processes in terms of their optimal centralisation and decentralisation.

We also pay considerable attention to the internationalisation of the internal environment. We perceive a fundamental need to redesign the university’s website, especially in its English version and structure, in order to improve the visibility of the university for website visitors from abroad. We also understand the essential role of social networks for communication with the environment. At the same time, as part of our development projects, we are working on bilingual versions of forms, contracts and documentation with which foreign students and/or staff may come into contact. We have concentrated financial support for internal language training for all staff

primarily on English, with other languages being budgeted centrally only when required by job responsibilities.

A fundamental challenge for us is to work on internationalisation not only in the sense of attracting foreign students, but also in the sense of attracting foreign employees. At the moment, about 10% of our full-time employees come from abroad. That is about 300 employees, of whom half, about 150, are from Slovakia.

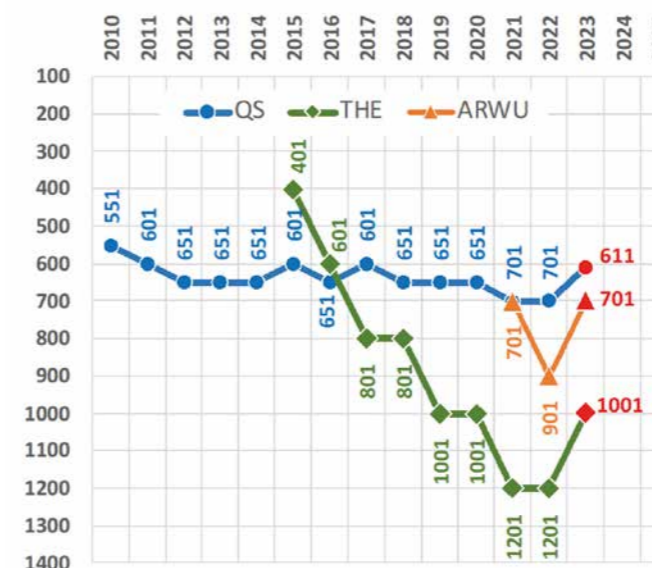
We are the recipient of the HR Award, which we received for the first time in 2021 and again for the next three years in 2023. An essential prerequisite for the award is to create conditions for transparent recruitment and selection procedures for research and academic staff internationally. Despite the fact that teaching is mainly in Czech, which is a limitation for foreign academic and research staff, we need to think about how to attract more of them. This is, by the way, an important evaluation criterion in international rankings. While it is certainly easier to recruit foreign staff in research, in teaching it is a question of expanding the range of English studies. One way to involve foreign English-speaking staff in teaching is to make it compulsory to have some courses taught in English in the Czech study programmes as well. In 2023, we issued a directive on so-called visiting professors, and the first of them are already being recruited, e.g. at FEEC. Recruiting postdocs for research also remains a challenge for us.

At the end of the chapter on internationalisation, we focus on international rankings. Thanks to a significant improvement in communication with the representatives of the international rankings and in working with the data, we have been able to advance significantly within these rankings. We have moved up almost 100 places in the QS World University Rankings for 2024: from 701-750<sup>th</sup> place to 611-620<sup>th</sup> place among the 1,500 universities selected for ranking from around the world. In QS Europe, we ranked 216<sup>th</sup> among 688 European universities, and in the Czech Republic we moved up to 4<sup>th</sup> place among Czech universities. We have risen to 281<sup>st</sup> in the QS Engineering and Technology sector rankings for 2024.

We moved up 200 places in the Times Higher Education ranking for 2024 to 1,001<sup>st</sup>-1,200<sup>th</sup> among 1,800 ranked universities worldwide, and finally, in the so-called Shanghai ARWU ranking, we moved up 200 places again to 701<sup>st</sup>-900<sup>th</sup> among 2,500 ranked universities worldwide.

It is estimated that there are at least 25,000 universities in the world. Our international ranking puts us in the top 3-5% of universities in the world. It is the result of the work of our academic and research staff, as well as the non-academic staff who support their work, and last but not least, it is a reflection of the quality of our students, both doctoral and undergraduate, who create a favourable image of our university through their achievements, creative work and ultimately their employment after graduation.

## International BUT Rankings 2010–2023



### BUSINESS UNIVERSITY

One of our main focuses in the past period was the setting up of a new knowledge transfer system. We see knowledge transfer as a logical business or entrepreneurial interface between research and development, as well as education. Transfer is an expression of the relevance and applicability of the results and knowledge achieved by the university. At the same time, transfer has become an important parameter for the evaluation and competitiveness of research and the quality of modern European research universities, not only technical ones. For this reason, we at the university have proceeded to change the system after the experience of several waves of transfer settings in the past. First of all, we have decentralised responsibility for the management and results of transfer to the faculties and university institutes. We started from the proposition that it is quite logical that the management of knowledge, results and intellectual property should be carried out at the management level, where employment relationships are established with those who are the originators and bearers of this knowledge and results. This is logical, among other things, in relation to the sectoral diversity of the various results linked to the respective industry or sectoral segment, including the specific needs, behaviour and nature of business relationships in these segments. At the same time, we have liberalized the transfer system, made transfer and business with results a legitimate and desirable part of the university’s competences, and moreover, for motivational reasons, declared that the entire 100% of the effects of transfer, especially the economic results, will remain with the faculties and university institutes. However, logically, the faculties and institutes must, of course, accept the risks of doing business in return, including the responsibility for the management of intellectual property, its registration, including decisions on the manner and extent of its protection and the coverage of related

costs, as well as its adequate valuation for sale and licensing. Except perhaps for registration, which has been central up to now, these activities have been carried out virtually autonomously by faculties and institutes anyway, with only formal signing of contracts and funding at the centre level. Until now, funding has been centralised, which will logically disappear with decentralisation. The reform, which came into force in January 2024 after a transition period of several months, strengthens the powers of faculties and institutes while creating direct involvement of faculties and institutes in the achievement and care of results.

At the same time, the transfer to the faculties and institutes was merely a logical reflection of how the activities actually took place, linking the competences and responsibilities for them at the management level where the results are produced, or where the employment relationships with their originators are established. Thus, the decentralisation merely brought the factual situation into line. It is also advisable to conduct the related business negotiations with knowledge and awareness of the practices of the relevant market segment associated with the industry to which the faculties or institutes are professionally linked.

We are convinced that it is through this setting that motivation can be awakened and interest in pursuing the commercialisation of the results achieved can be encouraged. However, methodological support and legal services will, of course, continue to be provided centrally, as well as support for faculties and units with a small volume of such activities.

In addition to commercialising the results of creative activity by selling or licensing them, an integral transfer tool is the establishment of start-up or spin-off companies based on the use of intellectual property created by our people. We support and want to strengthen their establishment. We are also talking about so-called spin-out companies,

	economic transfer	non-economic transfer
research	<ul style="list-style-type: none"> <li>contract research</li> <li>expert studies</li> <li>measurement and sale of available research infrastructure capacities</li> </ul>	<ul style="list-style-type: none"> <li>research in effective cooperation §§ 28-31 RSpSPVval</li> <li>licensing and sale of R&amp;D results</li> <li>revenues from start-ups and spin-offs</li> </ul>
expertise	<ul style="list-style-type: none"> <li>expert activities (opinions, assessments)</li> </ul>	<ul style="list-style-type: none"> <li>consultancy for the public</li> </ul>
education	<ul style="list-style-type: none"> <li>continuing vocational education - postgraduate studies, courses</li> </ul>	<ul style="list-style-type: none"> <li>education for the public</li> </ul>
	<ul style="list-style-type: none"> <li>publishing activity</li> </ul>	<ul style="list-style-type: none"> <li>publishing one’s own know-how</li> </ul>



i.e. those that have been created on the basis of know-how originating at our university and those that have existed for a long time but are anonymous. We are also offering these companies the opportunity to declare their origin. It will be primarily up to the faculties and institutes to negotiate economic conditions with their employees who are interested in founding such companies. Of course, in encouraging the formation of such companies, the restrictions associated with the general regulation of so-called state aid must be respected. At central level, we consider it important to create favourable conditions, particularly for the establishment of start-ups or spin-offs, by simplifying procedures and practices. We will achieve this by adjusting the internal legislative conditions for their approval, providing methodological support and guidance to those interested, and helping to process business plans in cooperation with appropriate entities, such as the South Moravian Innovation Centre and the Brno Technology Park, but also through the chambers of commerce. We can also arrange start-up capital or provide space for incubation and ongoing business. At the same time, we strive to ensure that entrepreneurship at and with the university is not a hidden secret, but a positively valued activity, which will also be based on setting and respecting mutually fair conditions from the other side. We would like to reach the point where we as a university are establishing on average at least 3–5 spin-offs or start-ups per year.



National Transfer Conference at the BUT

Knowledge transfer is generally understood in a broader economic context in two dimensions. It is an economic transfer based on economic activity, typical forms of which are e.g. contract research, expert activities or continuing education provided in return for payment. The second dimension is the non-economic transfer, which is defined in the General Block Exemption Regulation (GBER) No 651/2014 of the European Parliament and of the Council or in the RSPVVal i.e. the Community Framework for State Aid for Research, Development and Innovation No 2022/C 414/01. These are activities which, by their nature, must not distort the EU internal market and do not involve state aid. These are so-called non-economic activities, which in universities are considered to be educational activities in accredited study programmes and research in so-called effective cooperation and certain other activities. The basic condition for non-economic activities is that the profits from

them must be reinvested back into the primary activities of the university.

Both forms of transfer are included in the evaluation of the university, although for the evaluation of the university, e.g. in Methodology 17+, the share of non-economic transfer is more significant.

But it is not just research as a source of marketable results. Educational activities provided in return for payment, as well as expert or publishing activities, are also important areas that are classified as economic transfers. We have paid particular attention to the revival of continuing professional education in the form of paid forms of lifelong learning. For example, we have succeeded in developing the already mentioned accredited postgraduate studies in the form of postgraduate training programmes, e.g. Master of Science. An opportunity is the possibility of creating educational modules in which so-called micro-certificates can be obtained. These programmes, formerly known as 'postgraduates', represent a potentially important tool for linking the university to applied practice through vocational training and undoubtedly a valuable source of additional funding for the university.

The two main directions for the development of knowledge transfer at the university are to strengthen the share of non-economic transfer from research in the revenues depending on the volume of funds received in applied research projects, especially TA CR and MIT, and to increase the share of funds received from lifelong learning. In the area of non-economic transfer from research and creative activities, it would be desirable to target at least a 10% share of the volume of funds obtained and consumed annually by faculties and university institutes in applied research projects, i.e. mainly from TA CR and MIT projects - today this share is only about 1%.

Expertise is also an important resource that can improve the university's transfer performance. This has been largely paralysed by the not entirely beneficial amendment of the law and the reimbursement decree. We have been able to adjust some of the settings through the nomination of our representatives to the relevant working committees of the Ministry of Justice. Although in the meantime it has been possible to achieve at least a partially reasonable regulation of the expert costs, we are currently striving, also through the Czech Rectors Conference, to modify the Expertise Act so that expertise is once again an attractive form of professional activity.

We consider entrepreneurship in the sense of valorisation of know-how resulting from the work of our academic and research staff to be a legitimate and desirable activity of the university, and creating conditions for its development is an important strategic goal of the university. Successful entrepreneurship allows, among other things, to verify the usefulness of the results achieved in practice. Therefore, in cooperation with the Faculty of Business and Management, we have launched the ContriBUTE project with the aim of spreading awareness of the possibilities of entrepreneurship development

at the university and the opportunities arising from knowledge transfer. We intend to build an entrepreneurial ecosystem at the university and, in the spirit of the Entrepreneurial University concept, continue to support the creation of start-up and spin-off companies. We also create conditions for entrepreneurship of our students. An integral part of this concept is the traditional competition "Go to business!", where students have the opportunity to submit business plans, which we evaluate. Each year, we provide the ten best and most elaborate ones with a grant to complete their business plans and support them on their way to implementation. Student creative activity is an important incubator of potential entrepreneurship. Examples of this are Formula Student, Chicken Wings, StrojLab, as well as the newly established Y-Space and others. These creative activities are a calling card for the quality of teaching at our university and a demonstration of the top professional skills of our students. In European universities, activities of this type are even becoming a creditable part of studies, referred to as "challenge-based learning". We will definitely support students' technological initiatives and such student associations in the next term of office, including by increasing the laboratory facilities for these activities in the Pod Palackého vrchem campus. Currently, a project is being prepared to expand the laboratory space for students' creative activities under the JAK Operational Programme.

We cooperate with the South Moravian Innovation Centre (JIC) in mentoring and possible incubation of start-up or spin-off companies within two technology incubators, which are directly part of the university campus and which are managed by the JIC. In addition to the technology incubators, together with the JIC, we participate in the operation of the KUMST Creative Incubator focused on the development of creative entrepreneurship, which is operated by the JIC in the building of our university in Údolní 19.

Our competitive advantage is provided by the Brno Technology Park, the first ever technology park in the Czech Republic, of which we are co-owners with the City of Brno through a premium share. In cooperation with the city, we are striving to find the optimal form of active cooperation between our university and the Technology Park in order to make the most of the synergies arising from the immediate neighbourhood. In this sense, we have been significantly inspired by, for example, Technische Universität München or Technische Universität Chemnitz in Germany, which are also surrounded by technology parks. We are negotiating with the city of Brno on the possibility of using an agreed part of the premises for the first location of start-up or spin-off companies founded by the university, including space for the creative activities of our students. Another opportunity for us is another science and technology park, VTP Brno, a. s., established in cooperation with the Regional Chamber of Commerce for Southern Moravia and built on our premises Pod Palackého vrchem, in which we own a 12% share and with which we are also looking for an optimal form of cooperation.

Our participation in technology clusters, which bring together business, research and academic interests, is also important for the development of transfer and entrepreneurship. These are in particular the National Semiconductor Cluster, which is currently a member of the European network of semiconductor clusters SILICON EUROPE and a key partner in the project aimed at building the aforementioned National Competence Semiconductor Centre in the Czech Republic. We have managed to negotiate the location of this upcoming competence centre in Brno and to make the BUT a leading partner of the project in a consortium with the CTU in Prague, the National Semiconductor Cluster, Onsemi and Codosip and the South Moravian Innovation Centre. We are founding members not only of the National Semiconductor Cluster, but also of the Czech Battery Cluster for energy storage technologies, the Brno Space Cluster for space technologies, the Moravian-Silesian Automotive Cluster and others, on the basis of which we are building partnerships between the industrial, research and academic sectors.

For the development of transfer and entrepreneurship, we consider cooperation with industrial partners to be essential, for whom we are both a source of graduates and partners in research projects. That is why we have invested considerable effort in renewing cooperation and actively establishing relationships with industrial partners and their representations, the chambers of commerce in the past period. In March 2023, we held our first major meeting with industrial partners, which continued with further meetings with their representations as AmCham in April 2023. At the same time, in October 2023, we entered into two strategic partnerships at the university level with Onsemi and Honeywell, agreeing to develop cooperation, including finding ways to engage in major industrial research projects. We are currently preparing a similar strategic agreement with Thermo Fisher Scientific.



Meeting of strategic industrial university partners at the BUT

We have also established a brand new Industry Council, effective from January 2024, composed of selected industry representatives, both to support knowledge transfer and intellectual property trading, but also to get involved in analysing training needs, providing feedback and evaluating study and training programmes.

For the next period, it is important for us to develop methodologies for valuing the results of creative activity and intellectual property, systemization of processes for the protection of intellectual property, ensuring conditions for the protection of trade secrets, including the possible extension of security management system certification such as TISAX for workplaces that have the potential to achieve large industrial research projects.

The knowledge transfer agenda belongs to the combined responsibility of the Vice-Rector for Research and Transfer, who, among other things, is in charge of the same agenda as a member of the Government Research, Development and Innovation Council. At the Rector's Office, the Knowledge Transfer Coordinator is in charge of coordinating the agenda, as well as providing legal and methodological support and support for the central intellectual property registry. In 2024, we are planning to complete the personnel and organisational stabilisation of the central level setup in securing the transfer agenda in agreement with the faculties and institutes.

## SUSTAINABLE UNIVERSITY

The beginning of the current university management's term of office has been accompanied by a growing societal emphasis on climate protection and environmental responsibility. Reflection on the European Green Deal policy and responsibility for climate and natural resources has taken a prominent place in society, in the development strategies of companies and institutions worldwide. In this sense, the BUT has also accepted the responsibility of a technical university to contribute to addressing societal challenges to environmental and climate protection, sustainability and quality of life. In addition, we perceive environmental responsibility as a technological opportunity, as technologies related to environmental protection are traditionally part of the research and development that our faculties are engaged in, and education in this field for the training of the next generation of university graduates is an integral part of our curriculum.

Besides the protection of natural resources and nature itself, the reduction of CO<sub>2</sub> emissions as a way to protect the climate in the context of a warming planet is a key theme of global efforts. Reflecting the conclusions of the 2015 Paris Climate Conference, technological solutions to reduce the climate burden are mainly focused on energy and transport. The development of technologies for the use of alternative energy sources has become an area of interest. This covers expanding and increasing the efficiency of the use of renewable energy sources such as solar, wind, water, but also the earth in the sense of geothermal energy, the development and expansion of the use of carbon-free or emission-free technologies such as hydrogen or nuclear, and finally the topics of supplementary and secondary use of residual energies (surplus of residual electricity, heat) and the development of recycling, recuperation, cogeneration or energy storage technologies. The processing of waste has become a major technological challenge, e.g. in

terms of its secondary use and conversion into secondary materials, heat or electricity.

Who else but a technical university can lay hold of these technological themes and bring them to fruition through research and development? The BUT has implemented and is implementing dozens of projects in the field of sustainability funded under the programmes of TA CR, GACR, MIT, Horizon 2020, Horizon Europe, past or current operational programmes aimed at:

- development and production of new materials based on waste recycling or use of renewable bio-resources - biomass (cellulose, lignin, etc.)
- low-energy and environmentally friendly construction
- technologies for energy, transport, construction
- green energy in the sense of technologies for the use of alternative energy sources
  - \* emission-free (or carbon-free) energy sources (electric boilers, heat pumps)
  - \* hydrogen technologies, including hydrogen production equipment, e.g. electrolyzers
  - \* technologies for nuclear power plants
  - \* renewable energy sources and power plants using sun FTE, water or wind VTE
  - \* technologies for grid management and load optimisation
  - \* other technologies, including those for energy security and independence linked to energy mix optimisation (including cybersecurity)
- electromobility
- accumulators and batteries, or battery (electrochemical) storage
- circular economy, including sectors dealing with energy and utility yield of the entire production and consumption cycle from raw materials through production, consumption to waste and waste management and optimisation in terms of usability efficiency and energy intensity
- lighting technology, light smog and environmentally friendly lighting

Our faculties, also with the support of project calls in operational programmes such as Operational Programme Jan Ámos Komenský (OP JAK) or National Recovery Plan (NPD), reflect the topic of sustainability in their bachelor's and master's study programmes, including the development of thematically new study and educational programmes. Within a number of Ph.D. studies, students get involved in sustainability-related research. Examples of these are the newly developed and launched programmes such as "e-mobility and sustainability" at FEEC, the programme "nuclear energy" in cooperation between FEEC, FME, FCE and FCH, "environmental engineering" at FCE and FCH or the programme "landscape urbanism" at FA. Within the framework of extension studies, an educational programme with the application of microcertificates was accredited for professionals in practice under the title "MSc in Environmental Engineering" at FCE. In addition, courses that strengthen students'



BUT presented technologies relating not only to Antarctica in the Senate of the Czech Republic

environmentally responsible thinking have been and will continue to be incorporated into the curriculum. Even in the internal administration of the university, especially in the area of operation, maintenance and construction investments, i.e. in renovations and in the construction of new infrastructure, the university has adopted the sustainability policy as a respected part of the university's management approach. We apply the principles of DNSH – "Do Not Significant Harm" and nZEB – "nearly Zero Energy Buildings". In energy management, we update energy audits of buildings and carry out remediation of audit findings. We have carried out a comprehensive upgrade of the BMS (Building Management System) in the main dislocation sites and premises, especially Pod Palackého vrchem and Božetěchova. All investment projects, both those planned and those under implementation, such as the Ministry of Education's Programme for the Reproduction of University Assets, within the framework of ongoing renovations and extensions, fully respect the above-mentioned principles of DNSH and nZEB. We also apply a long-term environmentally responsible approach in the public procurement of goods, services and works.

We can frankly state that the BUT has adopted the topic of sustainability as part of its strategic priorities at the level of research, education and in its internal processes and has made a major shift in the last two years. It has committed itself to the relevant ESG goals (Environment, Sustainability, Governance). It has consolidated its research, development and educational activities so that it is possible to declare with a clear conscience that we are an environmentally minded university. We see environmental responsibility as a technological opportunity. We had the opportunity to report on our approach to sustainability to Senators and Members of Parliament in the Senate at the end of November 2023, when we held a meeting on the occasion of Antarctic Day. This last continent unencumbered by human habitation is a symbol of international efforts to preserve the integrity of natural resources. The BUT is, by the way, a technology partner of the Antarctic Research Programme and provides technological support to Czech Antarctic bases through the Czech Antarctic Foundation.

The topic of sustainability has also become an important criterion for evaluation in international rankings, both QS and THE. Our university entered the QS World University Ranking for the first time in 2023: we are 921<sup>st</sup>-940<sup>th</sup> in the Sustainability category, with an

environmental impact position of 839<sup>th</sup>. The BUT is also aiming for the international Sustainable University award. For the second half of the term of office, the importance of the topic of sustainability for the university will be strengthened by the extension of the Vice-Rector's level of responsibility, whereby the Vice-Rector for Arts and Sustainability will be academically responsible for the topic of sustainability in cooperation with the University Bursar.

## DIGITAL UNIVERSITY

In the last few years, the term digitalization has entered the lexicon, replacing some older terms such as automation, computerization, etc. In the Czech Republic, digitisation has become one of the primary objectives of the so-called National Renewal Programme, one of the last frameworks for systemic funding from EU resources for the renewal and development of the country's infrastructure. This programme links the renewal of infrastructure both with the digitisation of production and processes in general and with sustainability and Green Deal policies. The penetration of information technology into all areas of human activity is now being intensified, among other things, by the emergence of artificial intelligence. Digitisation brings with it the increasingly pressing issue of cyber-security, as well as a whole range of social and cultural issues. Universities are not exempt from this trend, and digitisation in the areas of education and research and the associated administrative support processes is transforming the university environment. The Covid era has become an important test of both the readiness and the ability to use ICT to support university processes.

The search for appropriate solutions and the sharing of experience and good practice in the field of digitisation is supported by many conferences organised by, for example, the European University Association or by universities among themselves. One example is the recent European Technical Universities meeting in Dublin 2023, which we attended. Digitisation in the form of the computerisation of processes, including the development of infrastructure, is also supported by a number of programmes in the field of higher education, and we have also got involved in it at our university.

These trends, as well as the need to change the current practice in the field of management and development of the information system at the BUT, have led us to an extensive and conceptual change of the information services system. We have proceeded to a major organisational reconstruction of CIS, the Computer and Information Services centre, mapping the information system in terms of its status and development needs. We have introduced a project and product management system based on planning the management, maintenance and development of the university's information system in the form of product management and development projects with a clear budget and schedule. We have established an independent position of Information Systems Administrator to oversee the integrity of the information



system. We have newly appointed an Information System Council and a Technology Council as a closer advisory committee to the Rector to ensure the planning of the development of the information system in all its parts, and in particular the prioritisation of investments. We have found that neither the human capacity nor the financial capacity in IT will probably ever be sufficient to ensure an operational response to all needs, which are almost always and all acute and permanent. We have therefore identified strategic priorities, conducted a major review of the requirements system, and divided development needs into those where we will provide development in-house, those where we will purchase development, and those where we will simply purchase and implement appropriate and available existing solutions.

We are building an information-secure, ICT-connected university with a strategic priority focused on providing quality information support for both our students and staff. We are expanding our integrated information environment with the following priorities:

- real-time data reliability and availability
- electronic circulation and electronic approval of documents
- digitisation of processes and provision of digital assistance
- cybersecurity

We are defining and seeking the role and effective use of artificial intelligence to support teaching and learning. We invest in:

- digitisation of learning resources and creation of online teaching and learning environments supporting remote or distance learning methods with elements of adaptive and cooperative learning
- information support for project management, research, development, arts and creative activities

We are heading towards:

- a comprehensive integration of information support for learning agendas
- the consolidation of databases and data management systems for decision support
- the systematisation of the organisational structure in information systems
- an integrated management system for buildings, teaching and research infrastructure
- the digitisation of energy management

In this term of office, we have focused on three cross-cutting and at the same time fundamental priorities in the area of management and decision-making on the development of the university's information system:

- consolidation of databases in terms of integration of data from sub-applications and semantic revisions of data to ensure unambiguous interpretation of data
- unification of the image of the university's organisational structure in the information systems to computerise document circulation and ensure approval processes

- digitisation of both administrative and academic processes, including the move towards the unification of application platforms, e.g. the student information system, as well as the user interface of web-based applications, etc.

In particular, we have completed the unification of student information systems into a single one, we have embarked on the upgrade of the economic and personnel information system, we have completed the upgrade of the BMS (Building Management System), after years we have completed and introduced electronic order approval and with this we have fully ensured the process of computerization of purchasing of consumer goods in the application "Shopping House". We are continuing to digitise our administrative processes. We are preparing the computerization of payment, which will enable us to make and receive payments for conferences, educational programs and other services, as well as for books published by our VUTIUM Publishing House or for promotional items electronically. Following the unexpected reduction of cloud data storage capacity by Google and Microsoft, we are actively developing an adequate central data storage solution. To support decision-making, we are gradually expanding the management information system based on data cubes that allow us to compile information in the required semantics from data stored in databases.

We have replaced the term information services with the term information support to reflect a change in the understanding of the role of the information system and the support approach to users. In response to the increasing quality and availability of generative AI tools, we have set rules and limits for their ethical use in educational and creative activities. Last but not least, in response to the increasing risks, we pay considerable attention to cybersecurity and have set up adequate organizational and staffing arrangements to protect data and information systems from external attack.

## UNIVERSITY OF EQUAL OPPORTUNITIES

We see our academic, research and creative staff as a key source of success, richness and competitive advantage in fulfilling the university's mission. Together with students at all study levels, we all form a unique community, an academic community whose potential we strive to promote and make visible to the outside world. However, we must not forget the role of our administrative and technical staff, to whom we are grateful for their support, without



HR EXCELLENCE IN RESEARCH

whom achieving our goals would hardly be possible. The qualities that we consider to be decisive for our successful development are, above all, responsibility and professionalism in terms of expertise and approach to work. The Brno University of Technology is the recipient of the European HR Award, first in 2021 and then again in 2023. We are a university whose culture is built on respect for the principles of academic freedom, democracy and equal opportunities. We value performance and its quality as a natural and universally accepted principle of fair evaluation and distribution.

Mindful of the duty to uphold the moral purity and independence of the academic environment as well as to be a pillar of knowledge and values in society:

We respect and protect

- academic independence
- democracy and its general values
- freedom of opinion

We strive and care for

- gender equality, fairness and tolerance
- social security for its students and staff

In disputes

- we respect the right to protection and due process for all parties

In decision-making and management

- we apply the principle of equal opportunities and equal treatment
- we create conditions and provide support that adequately compensate for the objective limitations of our students and staff

We see the need to target marketing in the field of studies to encourage a greater proportion of girls to join our study programmes. We believe that the current average of around 25% of girls studying has the potential to be higher and can reach the average shown by our partner universities, for example in Germany or Austria, where the proportion of women in technical studies reaches up to one third of all students. It turns out that girls are even more successful in their studies at our university, since despite their lower proportion in studies, the number of female graduates is 33%. It is clear that the disciplinary structure of studies, where girls are thriving, certainly plays a role here, but showing them the prospect of studying in technical fields is undoubtedly a challenge that we, as a management, will address intensively, also in the context of reflecting on the overall trend in the development of interest in technical education.

We also consider it important to pay attention to the employment of women. Out of the 40% of women in employment at our university, only 28% are in academic or research positions. In line with society-wide trends, we support the creation of equal conditions and conditions for the reconciliation of work and family life, so that women can occupy academic and research positions to a greater extent. We offer opportunities for flexible working hours, working from home and providing financial support for children placed by their parents in nursery schools.

As one of our social fund benefits, we have introduced a nursery allowance for parents of each child up to the age of six. We will also support, where possible, the expansion of capacity for the placement of children in our own facilities, such as the "Edisonka" nursery run by FEEC. We only hope that the new measures taken by the state in connection with the consolidation of public finances and the new rules for taxing benefits will not make these plans more difficult, as is now happening, although we certainly have no intention of giving up these plans either way. We also need to pay close attention to foreign employees. Only 10% of our employees are foreign, half of whom come from Slovakia. This proportion is a monitored parameter for assessing the level of university internationalisation in international rankings. Opening the university to foreign staff is therefore an important element of the staffing strategy. However, in addition to creating employment opportunities, there is also a need to ensure adequate conditions and support for foreign staff at the university, including the internationalisation of the university's environment and communication interface.



Vice-rector for Human Resources from TU Wien gave a lecture at the BUT in February 2023

Another major challenge for us is the further development of the incentive system, the core of which is the evaluation system. In the context of the university's commitment to excellence, evaluation and its motivational potential is one of the important tools supporting the personal and career development of our employees. But above all, it is intended to be a tool to reveal the potential, strengths and opportunities of our employees for their optimal placement, for more effective use of their skills and, above all, to support their career development. Of course, the evaluation system is supposed to stimulate the subsequent activity of employees and their interest in their personal development, but it is certainly not meant to be a tool that is designed to demotivate or cause concern. We envisage extending it to the evaluation of administrative staff as well.

In the past period, we have focused significantly on building the academic and scientific integrity of our staff. We have revised the related standards of ethical conduct and embodied them in an amendment to the Code of Ethics. We have newly established an Ethics Committee, which has been expanded to include the voice of students. One of the important themes of the last period in particular is social security, both for our students and staff. In this sense, we have established the position of Gender Equality Coordinator with competences equivalent to ombudsmen. We have set up an organisation, staffing and communication mechanisms that allow us

to respond adequately to any manifestations of violations of personal freedom or individual rights. Following the unfortunate pre-Christmas event at Charles University, we have also established a Security Coordinator, an organisation and system of crisis communication in the event of security incidents or emergencies that could threaten the lives of students or staff. In this sense, we have also called for awareness of non-standard behaviour and the plight of others in our surroundings. We have strengthened psychological counselling to support students in particular, but also staff in difficult personal situations, although we perceive that counselling capacities are limited by resources and the availability of professionals in these sectors.

Especially in the past year 2023, we strived to compensate as much as possible for the high rate of inflation, which affected us mainly as a result of the external geopolitical situation and energy price developments. We increased tariffs by 10% in 2023, to which we contributed one-third from central funds. At the same time, we paid attention to employee benefits, in which we invested an interesting amount from the social fund, among other things, at the end of 2023 in response to high inflation. Unfortunately, these measures were somewhat hampered by the ongoing public finance reform at the state level, which brought about the taxation of some established benefits, and so we will have to continue to look for ways to support our employees. Nevertheless, we will definitely keep looking for ways and resources to remunerate them adequately.

Currently, the topic of so-called wage cohesion is being discussed, calling for sustainability and comparability of wages, especially in the tariff setting, so that their level, especially in the lower tariff classes for academic, research and non-academic workers, corresponds adequately to external economic conditions. The Ministry of Education's contribution to ensure such cohesion is sure to attract a great deal of attention this year and an interesting rationale for its distribution.

We strive to create not only a favourable working and study environment for our students and employees, but also conditions for non-working and extra-curricular activities. We have ensured that our sports facilities are accessible to students and employees in the sports area of the BUT campus Pod Palackého vrchem. They can also take advantage of the free capacity of the sports facilities in their free time. We are convinced that sport contributes to a healthy lifestyle, which is an important condition for work or study performance and its quality.

Students are then offered physical education and sport as an elective course throughout their studies. We stick to the motto that sport should be an integral part of students' lives at universities. Perhaps that is why we are able to maintain a relatively broad base of quality student athletes at the university, who represent us in individual and team sports at many academic as well as professional national and international sports competitions at home and abroad. The success of our students is evidenced by a number of medal placings. Student sports are in the

spirit of the "Study and Play" concept, which was brought by our Cavaliers, the national ice hockey team, and has become a general challenge for all our students.

We make sure that our employees and students are appreciated and their achievements are made visible, even outside the BUT. In addition to university awards and medals, our employees and students can also receive awards from various external organisations, a list of which we have put together. There are indeed a number of them, so we also take advantage of this opportunity and nominate employees and students for awards. In the last two years we have awarded 12 gold, 20 silver and 18 commemorative medals of the BUT to our employees, as well as 7 Rector's awards. Based on our nomination, our employees have received 5 Awards of the City of Brno, 2 Awards of the South Moravian Region and 1 Award of the Ministry of Education. We are delighted with the success of our students who regularly rank among the best in various competitions, for example in the Werner von Siemens Prize for outstanding diploma or doctoral theses in various categories. We greatly appreciate the prizes awarded to our students by the Josef, Maria and Zdeňka Hlávka Foundation, today the oldest foundation in the Czech Republic, founded in 1904 to support Czech universities, which included, in addition to the universities in Prague, the Brno University of Technology, at that time the only Czech university in Moravia. In the last two years, our students have won 1 award from the Ministry of Education, 11 awards from the Hlávka Foundation, 4 Werner von Siemens Prizes and 16 awards in the Brno Ph.D. Talent competition held annually by the City of Brno.

We are proud of our students' achievements in creative activities and their placings in international competitions such as Formula Student and others. Last but not least, we are also proud of our students' achievements, victories and medal placings in sports competitions, including international representations. However, we are also grateful for their active participation in these competitions at home and abroad, and even if our representatives do not take the top places, we appreciate any results they achieve, as participation in itself is an achievement for us.

Although we are a technical university, we are extremely proud to have our own student and alumni choir, Vox Iuvenalis, which provides opportunities for musically talented students and alumni to enjoy cultural and artistic activities.

### ADMINISTRATIVELY FRIENDLY UNIVERSITY

Administration and bureaucracy, and especially their constant increase, are undoubtedly a source of criticism in all areas of human activity. Recognizing their burdensome nature, which drains capacity and energy for productive activity, we are constantly seeking ways to eliminate administrative burdens, or at least to remove them from those who produce results that fulfill the mission of the university. Basically, this can be done in three ways:

- by having our knowledgeable representatives

at the source of bureaucracy to eliminate unnecessary, ill-conceived and ignorant regulations, rules and regulations created by outside bodies

- by professionalising the performance and competence of the administrative and technical apparatus within the university at all levels of management, and by active and knowledgeable administrative support for academic, research and creative staff by administrative and technical staff
- by digitising processes, in particular document circulation and approval processes, as well as high-quality information support

But it is a never-ending struggle. First and foremost, we are trying to change the culture and mindset within our university. From the very beginning of our term of office, we have embarked on an organisational change of the Rector's Office in addition to the renovation of the Computer and Information Services Centre. From the original 24 departments, we now have only 14 departments in the Rector's Office. In addition to the elimination of some departments and the functional positions accumulated over time and projects, the renovation of the Rector's office was mainly aimed at pooling capacities, eliminating unproductive activities, increasing the competence and professional level of activities, simplifying approval processes and obtaining signatures, as well as transferring competences to where decision-making is most effective. This has optimised the centralisation and decentralisation of activities also between the Rector's Office and the university departments. Overall, the change has been aimed at transforming the Rector's Office's approach to the departments into effective administrative support. At the same time, we have set up an internal staff evaluation system in the Rector's Office to improve the efficiency and quality of work performance. However, we all now know how difficult it is to recruit quality staff, so an important conclusion is that we will continue to systematically monitor the effectiveness of the Rector's Office and feedback on the quality of the services it provides.

In order to balance responsibility and competences and to ensure effective decision-making, we have decided to decentralise certain activities to faculties, university institutes and other units. This has greatly simplified the circulation of documents for approval and signing. This concerns in particular the management of project applications and projects, especially for Technology Agency of the Czech Republic (TA CR) and Ministry of Industry and Trade (MIT) projects, which for some reason were still being approved by the Rector's Office in addition to the faculties and university institutes, including the related contracts for the use of the results.

We have also moved to decentralization of knowledge transfer to faculties and university institutes, as we believe that the management of results and related intellectual property that originate as employee works should be handled where employment relationships are established. This simplifies processes and the associated administration and makes approval procedures more

efficient. As we have already stated elsewhere, we have decided that 100% of the effects, especially the financial ones, that arise in the context of knowledge transfer remain with the faculties and their use is entirely the responsibility of the faculties and university institutes.

The faculties will only be obliged to record the results in a central database, which is still managed by the Rector's Office. The Rector's Office will, of course, provide central methodological support for knowledge transfer, and central legal services will also be available to the faculties and institutes. The faculties and institutes will then set up the necessary internal processes, the distribution of results and the remuneration of the originators themselves, respecting a minimum number of rules that are given centrally. Knowledge transfer services will then remain centrally provided for small departments where it would not be efficient to create their facilities. After years of experience, we are convinced that this is the best way to strengthen incentives to produce transferable results and to sell them or to establish spin-off and start-up companies. We have also significantly liberalised the approach to entrepreneurship with the results of creative activity at the university. Entrepreneurship is seen as a wholly desirable and encouraged activity. At the same time, it is an appeal towards our staff to make the entrepreneurial activities that they may pursue at the university more visible and help the university to strengthen its performance in knowledge transfer, which enters into the assessment. We also encourage entrepreneurial activities of students, including the establishment of student spin-off and start-up companies.

We continue to digitise administrative processes to simplify and facilitate the circulation and approval of documents, particularly in the areas of economics and HR. The project to digitise financial control in the area of purchase orders has been completed and we are continuing to extend it further to the area of accounts payable and property records. In the area of administration, we have fully computerised the procurement process and completed the computerisation of the purchase of consumer goods and small assets in the "Shopping House" application. We are preparing a project to computerise payments, upgrade the functionality of the system for electronic approval of travel orders, etc.

We have been paying great attention to strengthening the representation of our university in bodies, advisory boards, working and evaluation committees at national and international level. We have nominated our representatives to national bodies and grant agencies, especially in the field of research. We fully respect the independence of such bodies. However, we are aware of the importance of not just being a passive recipient of information, but rather to actively participate in the events, to be at the source of information, to participate in the search for rational solutions and to set different rules with knowledge of the breadth, depth, variability and complexity of the context and links arising from the experience of a large university. In this sense, it was possible to recommend a new member, the Vice-Rector for Research and Transfer, to the Research,



Development and Innovation Council of the Government. In the person of the Vice-Rector for Artistic Activities and Sustainability, we have representation on the Council of the AOR (Artistic Output Register) at the Ministry of Education, Youth and Sports. We have strengthened our representation in the bodies of the Czech Science Foundation (GACR). We have increased the number of our representatives in the bodies of the Technology Agency of the Czech Republic (TA CR). At the same time, we consider it important to promote the participation of our representatives in the working commissions and committees preparing various grant programmes and calls. We would also like to motivate our academic and research staff to actively participate and join as evaluators in the evaluation commissions of various providers in order to promote competent evaluation of projects in the project calls announced by them. The experience gained from such cooperation and the information obtained has undeniable added value for our university. They enable us to adequately adjust the internal system and rules, to improve the quality of the documents prepared, to make the preparation of projects more specific and the argumentation more effective. All this ultimately facilitates decision-making and reduces the time and administrative burden resulting from the high degree of behavioural uncertainty and uncertainty if such experience and information were not available.

And finally, let's mention one more fact. We have changed the strategic planning system. We want the strategic plans of the university, individual faculties and university institutes, as well as its updates, to be more than just formal documents prepared to fulfil a formal obligation. On the contrary, we aim for the strategic plan and its annual updates to be useful documents focused on planning and addressing truly strategic issues. In doing so, each faculty, university institute and unit has its own strategic needs and themes. These are developmental themes that seek to develop the faculty or institute in a particular area and themes that are related to adapting, implementing and addressing the impact of changes that come with external or internal influences or changes and have a major impact on the fulfillment of the roles of individual faculties and institutes. Therefore, we have changed our approach to the use of development funds received under the Ministry of Education's Programme to Support the Strategic Management of HEIs (PPSR), allocating 50% of these funds according to an agreed key to faculties and university institutes specifically for the implementation of their strategic plans. The remaining 50% is then used to ensure and implement development and to reflect influences and changes and are implemented at a central management level with a cross-cutting effect on the whole university. We have introduced a system of so-called evaluation visits intended for consultations of these strategic plans and their updates between the university management and the management of the faculties and university institutes, and only on the basis of their discussion and approval or their possible correction are these development funds forwarded to the faculties and institutes. Of course, the structure of the allocation of PPSR funds to individual priorities approved by the Ministry of Education is respected.

## CONCLUSION

We have certainly not covered everything that has happened in the last two years in the overview above. In particular, we wanted to highlight what we consider to be important for the conceptual development of our university in reflection of the developing external environment, and to explain the reasons that led us to our decisions and conceptual direction.

All that we have achieved and described in order to evaluate the results of the university management so far would not have been possible without close cooperation with the faculties, university institutes and other units, but also with the self-governing university bodies, in particular the Academic Senate. I would like to express my gratitude to the Deans, Directors of the university institutes and other units, and especially to the Director of the Halls of Residence and Dining Services for the successful management of their departments. My thanks go to all the directors of institutes and centres, academic, research and creative staff and doctoral students who contribute to building the prestigious position of our technical university in Europe through their work, performance and quality. I also thank all non-academic, administrative and technical staff who support the work of our academics and scientists. A big thank goes to all our representatives in external bodies, in representations at universities, ministries, grant agencies and their boards, working groups and committees, including evaluation committees.

We would like to highlight the cooperation with the university's self-governing bodies. We appreciate the constructive and partnership behaviour of the Academic Senate, its committees and individual members in discussions and in finding the necessary solutions. We greatly appreciate the support and interest we receive from the University's Board of Trustees and its individual members, and we are very grateful for the active participation and support of the Scientific Council and Internal Evaluation Board members. Many thanks go to the chairs and members of these bodies.

Last but not least, I would also like to thank the students who represent and support the good name of our University of Technology through their activities. I appreciate the commitment, dedication, responsibility and professionalism with which our students participate in the daily life and events of our university. It is not only their creative activities or sports representations, but also their professional activity in the university bodies and their involvement in working positions in which they take on the organization and hosting of not only student events, but also a number of university-wide events, either as individuals or as members of various student associations and initiatives. The activity and organisation of the Academic Senate Student Chamber and its members is absolutely exemplary, including inter-university activities, involvement in the University Council and other inter-university initiatives.

## STUDENT AFFAIRS



I AM FIRST  
AND FOREMOST AN  
EDUCATOR

**Miroslav Doupovec has been Vice-Rector for Student Affairs for ten years, but his teaching career is much longer. It is education that holds a privileged position in his life. Thanks to him, thousands of students of the Faculty of Mechanical Engineering have found and are still finding their interest in mathematics. To this day, he still meets some of them outside the university.**

JANA FRANCHI / PHOTO BY JAN PROKOPIUS

**Professor, it has been two years since you became vice-rector in the team of Rector Ladislav Janíček. How would you briefly describe this period?**

In my function as vice-rector, I have been mainly involved in the issues of study legislation, accreditation and, lately, the unification of the study agenda in the information system. In each of these areas, we have certainly managed to move a number of things forward. Especially in the area of legislation, it is often a long way to go, but we should not be discouraged. It may seem that some solutions are not coming quickly enough, but that is very subjective. The important thing is to get started and find a way to implement the planned changes in time. It is not worth waiting.

**Can you be specific about what kind of problems you are currently facing?**

We are mainly waiting for an amendment to the Higher Education Act, which is supposed to bring substantial changes in the area of doctoral studies. The planned reform envisages the cancellation of the state doctoral examination, the introduction of a doctoral income or a supervisor standard. However, this amendment is constantly being postponed and I personally no longer believe that it will be implemented by the end of the current rector's term of office.

**What steps are you taking in this direction at the BUT?**

We have decided not to wait for the constantly postponed amendment of the Higher Education Act and to proceed already now to a complete amendment of the study regulations, especially the Study and Examination Rules of the BUT. We also want to start the reform of doctoral studies. In this area, we were interested in a comparison with renowned universities of similar focus in Europe. The analysis was prepared for us by the National Training Fund, which came up with a number of interesting suggestions and recommendations. So, we certainly have a lot to build on. We mainly aim to strengthen the research component of the studies and the soft skills of doctoral students, including their pedagogical competences, the work

of supervisors and, last but not least, the elimination of some of the duties of doctoral students that make them feel like "cheap labour force".

**You bring me to another question concerning the BUT information system. As far as I know, until last year two faculties operated their own information system.**

Yes, that is another thing I would like to see brought to a successful conclusion. Although all faculties and departments now use a central information system, we can by no means consider it to be unified. Indeed, some faculties use the Teacher interface in the study area, others use Apollo or a combination of both. The result is that the BUT information system consists of a number of specific faculty versions. Keeping such a system running is, of course, confusing and expensive. That is why I am a bit envious of the university next door, where many years ago the then rector introduced a unified information system. The BUT is now also heading toward this goal, but it is much more difficult to unify existing systems and procedures than to build a completely new system from scratch. Faculties have already got used to their own methodologies and their information support.

**The implementation of the THESES anti-plagiarism system can undoubtedly be counted among the successes.**

You are right, originally, we had our own system, but it was not able to cover the outputs of other public universities. By law, all theses are equally accessible on the Internet; so, the thesis supervisors must, in my opinion, be careful that no undesirable phenomena of this kind appear in the theses they methodically supervise. I am glad that the BUT has managed to enforce this intention, even though the anti-plagiarism system is only an auxiliary means that cannot detect everything. Moreover, the phenomenon of artificial intelligence has recently emerged, which has brought completely new possibilities and challenges to this area.

**To what extent are you involved in distance learning at the BUT?**

The BUT has initiated steps to systematically promote distance learning. We have published a methodological sheet on distance learning in study programmes, and we have also launched a website dedicated to this topic, which is accessible to all employees. We have a working group "I teach BUT" in Teams. This is designed to innovate teaching and share best practice among BUT teachers. It aims to introduce and share current trends in distance learning, online learning, blended learning, learning design, as well as any innovative elements in teaching. We plan regular meetings and discussions. Some faculties are even considering accrediting selected distance learning programmes, but we are at the very beginning here. In this context, I would like to note that this is one of the activities of the new Vice-Rector for Continuing Education and Quality (ed. note: Vítězslav Máša).

**Do faculties and units have the same perception of the things that the Centre considers successful?**

So, of course, it's relative; what we, the university management, think may not be what the faculty management thinks. So, I, in my work as vice-rector, look at everything through the lens of the faculties, how I would perceive this or that as a dean. I myself worked as Dean of the Faculty of Mechanical Engineering for eight years and I must say that I was critical of the then Rector's Office. That's why I'm very careful to assign only reasonable numbers of reasonable tasks. It is the faculties that generate results, the role of the Rector's Office is coordinating and methodological, and we are certainly not here to "command" the faculties. As a former dean, I once told the Rector's College that the faculties are the ones that make money, and the Rector's Office should behave accordingly. I wouldn't change that in principle, even today.

**Does the BUT take inspiration in the field of education from its colleagues abroad?**

Certainly, the BUT responds to progressive educational trends in Europe. That is why we are also part of the network of European universities within the international alliance of universities EULIST, so we can work together with foreign partners on a number of interesting projects.

**Is there anything you are particularly proud of during your time at the BUT?**

In my opinion, the biggest achievement was obtaining institutional accreditation, the BUT was the first technical university in the country to achieve such a feat. This allows the BUT to independently approve study programmes in the relevant areas of education, but on the other hand it has to ensure all the processes related to the evaluation of study programme proposals, including their assessment by external evaluators, and regular evaluation of the quality of

study programmes. We were later able to extend this accreditation to two more areas: arts education and architecture and urban planning.

**Sure, but you're not alone.**

I'm not. In all my academic positions in the past, I have been lucky to have good collaborators, and it is no different now: there is a Head of Department in the Rector's Office on whom I can thoroughly rely. This is very important and it also makes my work easier. I also think it is important to say that I am not in the Rector's Office to pursue a career. At my age, I should only do what is meaningful and what I enjoy at least a little bit. This category includes, in particular, the unification of student information system agendas and also student legislation - because these two things are very much related.

**Vice-Rector, is mathematics also what you enjoy?**

Mathematics is my life, which I have not abandoned even in academic positions. I find teaching fulfilling, I don't want to give up that feeling of being in a lecture and perceiving the students' interest. It's always a bit of a "show", too. I stream and upload my teaching to e-learning so that students can watch my classes in retrospect. You see, I see myself primarily as a professor, the position of vice-rector is just something extra. There is no substitute for personal examining, correcting mistakes together with students, or having them come to me for consultations. Many of them do so regularly, which makes me happy. I believe it is important to gain the trust of the students. Especially for first-year students, for whom everything is new, it seems to them harder to find their way around and they have difficulties with the transition from high school to university. I often meet my former students informally, usually in a restaurant.

**So, you have a number of tasks ahead of you, and those that didn't go quite to your liking will hopefully not discourage you...**

As Churchill said, "This is not the end. It is not even the beginning of the end..."



# BUT SHOULDN'T BE A B-RANKED UNIVERSITY

**It all starts and ends with people. At least that is how Martin Weiter perceives it after two years as Vice-Rector for Research. This year, he has added knowledge transfer to his agenda, which is an integral part of research. Together, we looked not only at the evaluation of quality science, but also at “grumbling”, bubble closure or inbreeding.**

TEREZA CINKA / PHOTO BY JAN PROKOPIUS

## **What did the BUT look like when you joined its management?**

The position of the BUT was not entirely favourable, but it was obvious that our university certainly had the potential to be an A-ranked university in the evaluation of research universities. At the moment we are rated as a B university, but I don't think this corresponds to our potential. This was one of our tasks, although it is, of course, a long-term task that cannot be achieved in one or two years. A university is a community of people and it's all about people. You can issue a new methodology or a directive, but unless people adopt it in some way, the methodology is useless. We all have inertia in our perceptions, which is good on the one hand because it prevents excesses, but on the other hand it slows down the processes.

## **What makes the difference between an A and B research university?**

A university should have a clear research strategy and know which areas it intends to specialise in. And then it must have the tools to develop that strategy and to monitor its implementation. The university must have its own mechanisms for evaluating the quality of research and not just rely on external evaluations, for example within the framework of Methodology 17+. We did not have an international research council and now we do. I do not think that we have B-scientists or B-researchers. Certainly not, and we don't have B-pedagogues, but we need to set up a system. And that was a significant problem here.

## **So, does this mean putting more emphasis on quality over quantity?**

Yes, there was a prevailing mindset from the past referred to as the “kafemlejnec” (“coffee grinder”), which counted and evaluated results without regard to quality, and hence the financial evaluation. These are mechanisms that ended in 2015 or so, but the approach has survived in many places to this day.

## **And is there any pressure for change from above?**

Today, the number of publications is no longer important. For example, the Grant Agency of the Czech Republic says that it does not matter how many publications a person produces under a grant, but it is important that they have fulfilled the described task and that they have documented it. Preferably with top-quality publications, but it is the content that matters, not the number.

The perception of what science is supposed to be for is also changing. There is a strong emphasis on relevance, on science meeting the needs of society, because ultimately it is society that pays for science. So, science needs to give it back to society. And not only in applied research, but also in basic research, where new ideas and knowledge are developed.

## **So, what did the BUT do last year to be a top-level research university?**

We have benchmarked and evaluated the quality of our published results with those published by other local and foreign universities, especially those we want to compare ourselves with. This comparison is important for us as a feedback and above all as a preparation for further evaluation in the framework of Methodology 17+, where bibliometric indicators still play an essential role.

The external evaluation is largely based on the results we report, so we have rethought a lot about how we report. We used to be one of the lowest ranked technical universities, and by saying how the results should be described, by paying more attention to the selection of results, we have moved up a lot, not only among technical universities. We no longer show redundant results, we were national champions in that by the way. But that goes back to the fact that it's essential not only to change the rules but also to change people's mindsets. You need to somehow motivate and guide people to make science produce what society expects it to produce. And, as I said, it is also very important to have a system, which we are trying to set up through a number of measures.





### **So, quality over quantity.**

Quality and relevance. So, it's not just science for science. We often study issues here that, I'm sure, for very good reasons, started to be studied, say, twenty or thirty years ago. There may still be some room for research, but it is probably no longer something that will make any significant contribution to society.

### **So, the BUT is now trying to focus on research areas that have a future. Can you name them?**

I would not like to recite a list here, there are many priority areas and certainly each faculty has its own priority areas that it wants to develop. From a university perspective, we are trying to coordinate and link areas that are being developed in multiple faculties and units to take advantage of synergies. Examples include semiconductor technologies, cybersecurity, artificial intelligence, space and aerospace technologies, circular economy, materials research. But these are just examples, and there are many others.

### **What about the BUT and PhD students?**

PhD students are of course one of the pillars of science. I think that in terms of the number of students our university is doing pretty well, but we are talking about statistical data. There is a lot of discussion today about the issue of the failure rate of students and the length of studies. Most students cannot complete it in four years. And here we certainly have a chance to do something about it. The reform of doctoral studies is now being prepared at national level.

### **And how do you assess the level of scientific staff at the university?**

From a structural point of view, I think we are severely lacking post-doctoral positions. In the West, these are well-established positions that are sort of transitional jobs where people often come from other universities and research organisations to gain experience. And then they stay at the university, or they don't. That's one of the things we need to work on.

### **A student graduates from the BUT, goes on to a doctoral programme, starts full-time employment and stays until retirement. That's probably not ideal.**

The issue of inbreeding is, of course, very important. On the one hand, there are relatively few people in science, some areas are very specialised, and when a person gains some experience, it is clear that the institution wants to employ them, because they cannot find such a person elsewhere. However, I still think that it is almost a necessity - not almost, but certainly - for a person to go abroad for a period of time. At least for one year. There are many universities that won't hire a graduate for a permanent position unless they have some significant experience from abroad.

### **Is there any change on the horizon?**

I think it is the reform of doctoral studies that will help. The state will not provide money for all PhD students, this will

lead to increased competition and I believe it could open up space for recruitment from other universities. The worst thing that can happen to us is that we get locked into our own bubble boasting to ourselves about our results.

### **And aren't you afraid that the scientists will go out into the world and not come back?**

I don't think we're not competitive at all. A PhD student of mine has just come back from Oxford after six months. If you look at CEITEC, for example, it shows that we can create an attractive environment for scientists, even foreign ones. It is true that we are not as rich a country as the Western countries, but even we can now access European money. For example, one of the outcomes of the meeting of the International Council for Science was the statement that we have a cutting-edge research infrastructure. When a former Vice-Rector of ETH Zurich or a former Rector of the Technical University of Vienna says this, it carries some weight. On the other hand, the International Council for Science has stated that it sees a problem in the intensity and efficiency of the use and sharing of this infrastructure.

### **What do you think is the reputation of science in the Czech Republic?**

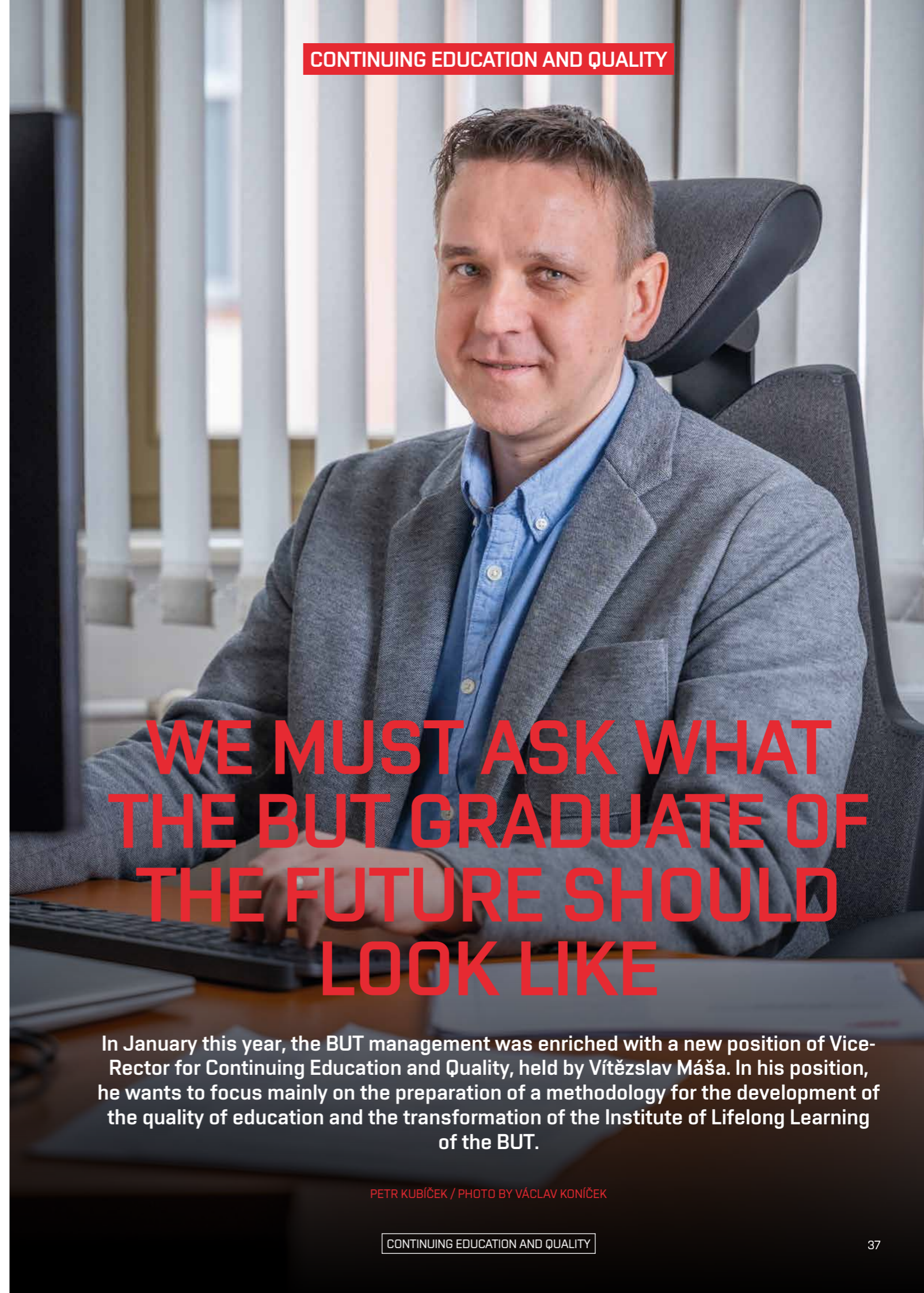
We make our own reputation worse, I think, because we can't show off the results. We are at the international top in many fields, but when I look at how we communicate, it's such "grumbling". We tell each other what we are doing wrong, what we are bad at. But we should be proud of ourselves.

The scientific work, you know, is just sitting in a study room or a lab. And not in a day or a week, but in months or even years, I'll come up with something. It's mostly small but hard work every day. And if I'm hard-working, and I should be, I'll move that area forward every day. And when that hard work comes together, it will produce a result that society will appreciate.

### **What does the BUT expect in the field of science this year?**

We have submitted to the Academic Senate a proposal for new rules according to which we would like to distribute research funding. They include metrics that say "yes, these are quality results".

But we also want to know what the situation is really like here. So, we want to complete the evaluation of creative activity at the BUT with the involvement of foreign evaluators. Because we can say whatever we want within the university, but it is important to look at it with outside eyes and get honest feedback. Teams and results, even internationally, can then be considered high quality, or as it is said today, excellent. And then we can more easily demonstrate our research quality with those results and use them as an argumentation, for example, in the evaluation of the 17+ Methodology. Because we will no longer be the ones boasting about our own results, but will be able to refer to the findings of international evaluators and highly reputable members of the International Scientific Council. I am convinced that we have countless such teams and results.



# WE MUST ASK WHAT THE BUT GRADUATE OF THE FUTURE SHOULD LOOK LIKE

In January this year, the BUT management was enriched with a new position of Vice-Rector for Continuing Education and Quality, held by Vítězslav Máša. In his position, he wants to focus mainly on the preparation of a methodology for the development of the quality of education and the transformation of the Institute of Lifelong Learning of the BUT.

PETR KUBÍČEK / PHOTO BY VÁCLAV KONÍČEK



The new vice-rector has spent most of his career at the BUT. He graduated from the Faculty of Mechanical Engineering (FME) with a master's degree in Informatics and Automation. A key contribution to his current role was a PhD and an associate lectureship in Design and Process Engineering at the same faculty. Through these, he has mastered process techniques that are universally applicable and enable him to deal with complex problems effectively.

Due to this expertise, three years ago he was approached by the Dean of FME Jiří Hlinka with an offer to focus on the study processes at the faculty and find a way to make them more efficient as vice-dean for master's studies. During his two years in office, he dealt with the areas of quality of education, its verification and the transfer of motivation to students and teachers. He also managed to innovate the student survey for evaluation of teaching.

### Enthusiasm for endless immensity of the sea

After two years at the FME, he was approached by the Rector of the BUT Ladislav Janíček with an offer to develop the quality of education from the newly created position of vice-rector.

"At one point, I realised that my patent application or three new scientific articles did not have as much potential to move the world forward as the well-managed quality of education at a university with 18,000 students. This is just something I want to be a part of, something I want to support," he explains his motivation for accepting the offer, illustrating it with an experience from his recent past.

"It was a coincidence when I heard a lecture at an industry conference last October, in which it was said that if you want to build a ship, it is not enough to just send guys to get tools and wood, but you have to get them excited about the endless immensity of the sea," Máša paraphrases a quote by Antoine de Saint-Exupéry. "That's something that, in my opinion, has to drive your work anywhere. And if a university rector is able to communicate in this way with people around him, then he is in the right place. It means he has a vision. And I like working with people who have a vision. That's my drive."

But the key question is how to pass on the enthusiasm and vision to all parts of the organisation. In this context, Máša mentions the importance of internal communication and the need for the explanation of individual management actions to get through university and faculty panels to people in research and teaching.

### Systematic and professional support for PhD students as agents of change

He considers PhD students and young researchers to be the most important target group, who will be the carriers of qualitative changes at the BUT and to whom it is therefore necessary to communicate the vision and mission of the university.

"A large study by the National Training Fund found that the vast majority of PhD students want to be seen as a researcher and colleague. Imagine having 900 holders of a master's degree and artistically talented graduates in great fields such as engineering, mechanical engineering, IT, electrical engineering, chemistry, business, creative fields and more. With a team like this and their skills, moreover highly motivated, you could change half the country, and we have these people here. Additionally, every year there are another 200 graduates, the best ones, entering the doctoral program, and we place them somewhere, whether they are doing research or carrying papers between offices," Máša describes the unsatisfactory situation and also offers a solution, which responds in particular to the lack of systematic support for doctoral students at the BUT.

"Within the framework of the new directive, which is being prepared by the Vice-Rector for Studies Miroslav Doupovec, we are completing the Basic Course of Pedagogical Competences for PhD students. We want to ensure that the content of the upcoming 26-hour course is motivational and that the future generation of pedagogues comes internally prepared as a generation with a mission and vision. In addition to basic competences, they should also gain a sense of seriousness about teaching at the university and be passionate about their work," Máša explains his goals.

The course should be part of the so-called doctoral school, a programme for the development of doctoral students and their PhD thesis supervisors, the quality of which would be guaranteed by the already functioning Institute of Lifelong Learning of the BUT (ILL). This currently does not fulfil the function of lifelong learning and career development in a sufficient way. The strengths of the ILL lie rather in supporting students with special needs through the Alfons Counselling Centre, in psychological counselling, in commercial Czech language courses for foreigners, or in offering courses for the University of the Third Age. The new name of the ILL has been changed to the Centre for Continuing Education and Counselling (CCEC).

"While maintaining these functions, I am planning to expand the offer of this centre specifically for PhD students. It will provide them with a package that I call 'PhD in a nutshell' for the time being. In addition to pedagogical competences, this would include the basics of scientific work, selected managerial skills, project management and IT competences, especially in the field of AI. In the future I am considering courses in soft skills, social skills or ethics. This will quickly bring the aspiring PhD students into the game," states the vice-rector.

According to him, there is also untapped potential in the area of cooperation of PhD students across the BUT. "I would like to organize weekend courses outside Brno under the auspices of the ILL, where PhD students with similar expertise from different faculties of the BUT would come. The idea is to make them aware of each other and to start cooperating," the vice-rector plans. As an example of interdisciplinary and interfaculty

cooperation, he mentions the TU Brno Racing student team participating in international Formula Student competitions.

The ILL is also supposed to develop in the area of employee training, which is being given particular impetus by the new Vice-Rector for Human Resources Management, Vlasta Sedláková.

### Methodology for developing the quality of education is intended to encourage a desire for improvement

Vítězslav Máša emphasises that education is still the top priority for most people at the BUT. "And that's right. After all, we are a university. However, teachers lack the time to develop themselves and to keep up with what is happening in the field."

In this regard, he is planning to support the quality of education with practical tools at the ILL (now CCEC): "I can imagine that there will be a team of people who can advise those interested on how to better design lectures, study materials or how to supplement them with Kahoot-type interaction, distance elements and so on. In short, they will advise on how to make the course more attractive or more effective without the professors having to do it themselves."

The basis of the new methodology should be mutual support and sharing of good practices in the field of education, which Máša sees as a team game. He definitely does not want to go down the road of measuring quality. "The parameters of study programmes that we can measure and rank programmes as A or B according to it will never ensure real quality and would be more of a bureaucratic burden. Instead, we need to show good examples, encourage the desire to improve and then just set checkpoints that we are moving in the right direction," Máša believes.

He plans to analyse study programmes abroad and ways of their continuous modernisation before taking particular steps in the field of education quality. Examples are the universities in Hannover or Vienna, the BUT's partners in the European alliance EULiST, where they have more experience and staff capacity in this regard.

Before putting them into practice, he wants to test the already existing methods of quality development of education on the aforementioned courses for PhD students and newly emerging commercial courses ended with micro-credentials. Although these courses will not be subject to accreditation, their benefits to participants must be clear and it will be important to monitor their satisfaction.

The current dynamic technological development and the evolution of the total body of knowledge of the mankind cannot be ignored. Training methods must respond to this. "The body of human knowledge has increased about one million times between the hippie era and the smartphone era. It's called the information explosion. We have to acknowledge that we no longer cover even the narrower fields in a master's degree today. Choose any study programme at the BUT. The amount of information simply can't be transmitted. Developed universities are moving towards consolidation of study programmes and focusing more on the output competencies of the graduate than on the depth of their knowledge."

And what should the BUT graduate of the future look like in this perspective? "I imagine him or her as a person with the prerequisites to cope with the various contemporary challenges using modern procedures and software tools. A person who finds it essential to develop throughout his or her entire life. But above all, this person should be fair and a team player with enthusiasm for endless immensity of the sea," concludes Vice-Rector Máša with a smile.

## SHORT NEWS



### THE BUT HAS JOINED THE EUROPEAN UNIVERSITIES THROUGH THE EULIST NETWORK

As early as June 2022, the BUT joined the Association of Research Universities (ARU). Its aim is to bring together Czech universities that build their competitive advantage on cutting-edge research and thus create opportunities for the development of quality education. Inviting the BUT to the Association of Research Universities is a natural step towards connecting leading Czech universities and their research potential. This creates an opportunity for cooperation between top research teams, increases international competitiveness in winning prestigious research grants and raises the visibility of the Czech higher education sector in Europe and internationally.

In July 2023, the EULiST Alliance, of which the BUT is a member, succeeded in the European Commission's call for support for European University Alliances. The European Commission's financial support will significantly strengthen international cooperation with EULiST partners and offer new opportunities. The BUT has thus become a legal part of the European Universities and the successful EULiST project will increase the number of European Universities in the Czech Republic to nine. The European Universities represent a unique form of international cooperation that leads to increased mobility of students and academics, the development of excellent science and research, and the increased competitiveness of European higher education at the global level.



**ART IS AN IMMERSIVE  
WAY OF EXPLORING  
THE WORLD**

**Milan Houser, who was originally Vice-Rector for External Relations in the team of Rector Ladislav Janíček, was appointed Vice-Rector for Artistic Activities and Sustainability in January this year. At the Faculty of Fine Arts, he heads the Department of Traditional Media and is an active artist in abstract painting and spatial art. His work is defined by a fascination with the physical properties of the material world and the possibilities of perceiving it.**

JANA FRANCHI / PHOTO BY VÁCLAV KONÍČEK

**Vice-Rector, what convinces an artist to become part of the management of a university that is generally perceived as more of a technical institution?**

I saw this as an opportunity to raise the profile and establish the role of the arts and the arts study programmes at the BUT, and generally make these issues more visible to people at the university. Of course, this applies not only to fine arts, but also to other fields such as design and architecture. We are unique in that we have a number of arts, design and architecture disciplines that use technology as a means of expression. This makes us significantly different from other art schools and faculties that do not have such a versatile background. This is our great asset, and this is where I see our greatest potential: taking advantage of what has long set us apart from other schools and what is already a natural part of us.

**One of your first steps was to establish the Council for Art, Architecture and Design. What is its task?**

Our first step was to map all the art courses not only within the Rector's Office but throughout all the faculties and units. The result is a comprehensive database of our collection objects. We would now like to expand this to include an overview of all BUT campuses and buildings. Similarly, we also wish to catalogue various typical items that belong to the university environment, such as our insignia or gowns, with an indication of the author, date of creation and technique or technology used. In the near future I would like to inform the management of my intention to release a publication presenting all these valuables to the public.

**The art collection should grow. Do you foresee any new acquisitions in the future?**

I definitely do. We have approached the Council members, who are, apart from external experts, mostly deans of faculties or directors of units, to send us their tips for possible acquisitions. Each year we would like to acquire a new work, either by donation or by purchase from one of our distinguished graduates or faculty members, in pursuit of our primary intent, namely that the collection

in question should reflect the interesting and important personalities that pass through our institution.

**One of the intentions of the current management was to "open up" to the general public. One of the options is to install exhibitions in the atrium of the Rector's Office. Have you taken advantage of it?**

We have managed to organise two exhibitions, which were well received by both the staff of the Rector's Office and the general public. The first one presented glass sculptures by Adam Hejduk, a graduate of FaVU and winner of the Stanislav Libensky International Award for young talented sculptors. Later, thanks to Michal Gabriel, the ground floor of the atrium turned into an infinite space for several objects floating in space with an original shell structure. This is precisely one of the activities that, in my opinion, contributes to the synergy of technology, science, research, education and art that I mentioned in the introduction.

**Roundtables are also a current trend nowadays.**

These are an integral part of the university environment. In general, all socio-cultural events easily bring the BUT to the attention of the professional and general public. At the end of last year, we managed to organise a roundtable on the topic of Technology versus Ethics on the occasion of the exhibition "Není TESLA jako Tesla" (No TESLA like Tesla) at the Technical Museum in Brno. The transformation of the social responsibility of educational institutions is a hot topic. Invited guests from the ranks of scientists, sociologists, doctors and artists asked questions about how far it is possible to go in scientific work and under what conditions. The university should be a living environment that will ask questions, no matter whether they are pleasant or not.

**To make the institution more memorable to staff, students and the public, it should be easily identifiable. Is this the case at the BUT?**

At the very beginning of my time at the then Marketing Department, we often asked this question. Every institution should know what it is and what it wants to be. In



cooperation with an external body, we started to work on a basic brainstorming to capture our identity. This is not at all easy. When we start asking questions, we find it difficult to find answers or even agree on some of the answers. This is now a crucial topic for my colleagues who work on marketing strategy. In my view, it is also closely linked to sustainability, not only energetically or economically, but also culturally and socially, in terms of science, research, studies and, for example, interpersonal relations.

**Under your management, the BUT has also launched a new campaign concept for applicants. What makes it innovative?**

Instead of one big branding campaign, which logically could never include all faculties and units, we proceeded to implement smaller parts of the campaign for applicants in the form of short videos on the theme "Here you can". The main protagonists are our people, the students, who come with their own story. It is the authenticity of the place and the people in it that, in my opinion, is something that is believable and that sends a clear signal of what we care about: people, not general goals. This year, we have expanded the campaign's claim to "You can make a difference here", with the individual presentations not just presenting the projects themselves, but explaining what they are for, how they can be beneficial to society. While practicality is important, for me personally, the underlying research remains absolutely essential.

**This year, the BUT commemorates 125 years of its existence. What output can we look forward to as part of your agenda?**

We are working on a publication regarding the history of technical education, which will be published by the university's publishing house VUTIUM this year. Its aim is to map the efforts to constitute this kind of education in Brno. It all started with the establishment of a vocational technical school, which was the brainchild of Salomon Mayer Rothschild, who obtained the authorization of the Austrian Emperor to establish a financial foundation to support the future public technical school. It went through a long development, becoming a German and later a Czech technical school with many ups and downs, and thanks to this book we will be able to get to know them better. I must also not forget the special issue of the magazine Události, which will be dedicated to the 125-year history of the BUT.

**I noticed a call for participation in a competition for a set of ceremonial fanfares for academic ceremonies of the BUT. What can you tell us about it?**

That's one of the things I'm really excited about. Twelve people entered the competition. Interestingly, the BUT has never had its own fanfares, so I hope that through this competition we will be able to select new compositions and that we will celebrate 125 years of our university's history with them.

**Vice-Rector, is there any vision that you failed to achieve when you came into office?**

One of the things that has been started, but has not been implemented yet, is the project to build a representative multifunctional BUT centre in the city centre. Not all universities have such a "point". Our management sees such a place as a meeting point suitable for organising popularisation and student events, expert panels, lectures and discussions, exhibitions, presentations of study results, events for graduates, foreign partners, etc., simply a place of interaction with the public, both lay and professional. In addition, such a centre is a place where not only students but also families with children can meet, buy publications released by the university and individual faculties, work together on various projects, etc. The university not only plays an educational and scientific role in society, but also has a fundamental social and socio-cultural significance. It took a long time to find a suitable location in the market building in Zelný trh. For me it is a great and incredibly attractive place with a huge potential for communication with the public. We started negotiations with the Brno-střed City Hall and prepared the project. Unfortunately, these efforts were temporarily interrupted by the City of Brno and other universities, but now it appears that this opportunity is opening up again for the BUT. I am therefore still hopeful that we will be able to bring this project to a successful conclusion. I look forward to the great support of the management and the vast majority of the faculties and I believe that I will not disappoint them in their expectations.

**Sustainability is a new part of your agenda.**

This is one of the fundamental issues that enters into the lives of all of us in general. This is not only based on the state of our society, the current situation in Europe and the global situation at large. We all care about sustainability, and, logically, the younger generation in particular. For me personally it is interesting that topics such as ecology, socio-ecology or financial ecology are something that visual artists have been dealing with for a long time, which confirms that it is the artists who often draw attention to topics that are still maturing in society.

**Art is supposed to be a carrier, an inspirer, a testimony between creator and recipient. All the more so if it is born in a technical environment. Are you successful?**

I believe so, although not everything is always easy and joyful. With strong programmes in fine arts, architecture and design at the BUT, our university has an undeniable advantage. Finding connections and synergies with technical disciplines brings added quality to both sides and therefore to the whole. Our knowledge and intuition are thus given a different dimension, and I think the environment of our university is complex and can be visionary.

# THE VISIBILITY OF THE BUT IS BECOMING MORE AND MORE PRONOUNCED

**As a result of the reorganisation of marketing, external relations and internationalisation management, these units were merged into a joint internationalisation and marketing department in January 2024. It is headed by former Vice-Rector for Internationalisation Iveta Šimberová, now Vice-Rector for Internationalisation and External Relations, with whom we looked back on the past two years.**

JANA NOVOTNÁ / PHOTO BY VÁCLAV KONÍČEK

When Iveta Šimberová took over the position of Vice-Rector for Internationalisation at the beginning of 2022, the war in Ukraine began, for which none of us were prepared. "It was a completely extraordinary situation. Together with the Student Chamber, the Student Affairs Department and the Halls of Residence and Dining Services, we put together a crisis team and tried to provide for the needs of almost a thousand students. In fact, from then until today, we have been clarifying our geopolitical space and looking for strategic territories. We need to know which countries we will continue to cooperate with, whether in the area of student and staff mobility or science and research," says the vice-rector.

In spite of the complexity of the situation, Iveta Šimberová considers the problems of her department to be stable today. "We have established the mobility programmes, we are setting new rules for the selection procedure so that it is transparent across the university and all applicants have the same chances. In line with national strategic interests, we are organising teaching stays and training courses with an emphasis not only on quality, but also on outcomes and the need to use them," the vice-rector describes the complex process, which affects not only areas related to foreign students and study programmes, but also internal internationalisation. In practice, this means that all key documents are now bilingual and processes are being prepared so that even selection procedures for foreign staff are also conducted in English. The HR system is thus ready for the challenges of the next period. "I'm very happy that the rector

has decided to strengthen the management in the area of personnel work, so we will have different overlaps with the Vice-Rector for Human Resource Management, as well as with the study department or the marketing department. The work is never-ending, new dimensions are opening up all the time," emphasises Šimberová.

What has been successful in recent times, she said, is work in the area of attracting foreign students. "The Admission Office has started to function and will be available to all foreign students, not only those in English study programmes, but also students from Slavic countries who can handle the admission procedure in Czech. The Welcome Service also works as an additional support for foreign staff and students," explains the vice-rector. "In addition to Erasmus, which nowadays, alongside classical mobility, also addresses, for example, credit mobility or international mobility outside EU countries, there are other mobility programmes that open doors to third world countries or to the USA, Australia and Asia, where students and employees could not previously go under the classical Erasmus programme. We have also strengthened the area of other mobility programmes, which were already offered within the Czech Republic but were dealt with at faculty level, and now they are all together and a comprehensive offer with service can be provided to students, staff and faculties. This will also give us a systematic record of departures and arrivals," Šimberová emphasizes, admitting that she is still struggling a bit with the records. "This concerns cooperation with CIS, which is undergoing a major





renovation itself, so we have to be patient. We still need to complete, for example, the Erasmus Without Paper, which supports the exchange of student data in electronic form, and we still lack electronic registration of the arrivals of foreign students and staff, which is a priority for the next period."

What Iveta Šimberová does appreciate is that mobility has been defined. "Thanks to this, we will have a record of all foreign visits to the university and we will be able to make decisions not only at the level of the university but also at the level of the faculties. We have paid great attention to data semantics, so we will speak the same language and use the same data cubes," the vice-rector points out.

In the International Relations Office, a great deal of effort was put into "sorting out" the contracts in the first two years, so that today all the MoUs are operational, have a clear owner and expiry date. "We have created a methodology to conclude MoUs at the university level and progress is also visible in communication with faculties that are trying to find common paths even when entering different territories. From the beginning, we were tasked by the rector to create a tool to evaluate strategic territories and today we are getting closer to the goal. Some markets have closed, others have complicated political relations. We are trying to develop an anti-influence manual, which is up-to-date at the national level," the vice-rector mentions the sensitive area where it is not possible to explicitly prevent people from going somewhere, but it is necessary to inform them about possible risks. This also needs to be addressed at the university level, because each faculty has slightly different interests and different target countries, and a working group has been set up at the national level, where the BUT has a representative.

Another important issue is the Student Regime, which is related to the admission of students from countries with visa requirements. "The Ministry of Foreign Affairs, the Ministry of Education and the Ministry of the Interior decided to tighten the rules at the end of 2023 and issued a statement on the migration policy of the state, where quotas for each country are determined. So, we are getting the signal that it makes no sense to invest marketing efforts in these countries. For example, until recently, we were interested in attracting students from India and Vietnam, and now they are among the risk countries," Šimberová points out.

International cooperation within university networks is important. The EULiST alliance, of which the BUT is a member, succeeded in the European Commission's call for support for European University Alliances, so thanks to the European Commission's funding it has officially joined the European Universities. The extensive network of European technical universities CESAER also has great potential. "There we have managed to gain a more active position over the last two years. We participate in its events and this April we are even organising Task-Force Learning and Teaching in Brno. In May, we are organising the EULiST General Assembly at the BUT, where representatives of all ten partners will meet, which is a great success for the university," the Vice-Rector emphasises, adding that the BUT is also a full member of one of the largest EUA university networks. "These activities have been reflected quite quickly in the rankings, because our visibility is becoming more and more prominent."

According to Iveta Šimberová, thanks to the reorganisation of the management structure, a functional unit has been created where the internationalisation department cooperates with the marketing and press department. "We have joint meetings, we have clarified who does what and what relationships they have with others. I believe that communication with the faculties will be much easier now because they will have clear information from one place. I reckon we've done a good job. Everything is driven by the external environment as well, and it's all preparation for the future because things are going to get more complex and the prepared ones will win."

SHORT NEWS



TECHNICAL EDUCATION SUPPORT WAS DISCUSSED AT THE BUT

In October 2023, the BUT organized a roundtable on technical education aimed at finding ways to increase interest in studying technical and natural sciences not only in the Czech Republic but also in Europe.

The event was opened by Prime Minister Petr Fiala by emphasising the priorities of the Czech economy and the role of industry for its competitiveness, which should be built on knowledge and innovation. To achieve this, industry needs quality graduates in technical and natural sciences, and the relevant universities play a crucial role in this respect. The discussion on how to support this role of educational organisations was attended by the highest representatives of the institutions responsible for education, and industry representatives were also given the opportunity to present their views on the issue. The invitation was accepted, among others, by members of the Board of the Confederation of Industry and Transport, the President of the American Chamber of Commerce in the Czech Republic, the representative of the British Embassy in Prague for universities and cooperation with industry, and representatives of leading hi-tech companies with research and development bases in the Czech Republic.

The October discussion at the BUT was followed in April 2024 by a meeting of the working group of the European CESAER network. The conclusions of both meetings will be presented at the International Conference on Technical Education in October 2024, which will be hosted again by the BUT in Brno. The event will focus on seeking inspiration and sharing international experience in supporting technical and science studies.



# THE MAIN TASK IS TO INTRODUCE A CAREER SYSTEM AND AN EVALUATION SYSTEM

Vlasta Sedláková seems to have a family history in the BUT. She followed in her parents' footsteps, graduated in electrical engineering and, apart from a few years in the business world, has never left the school. Since January this year, she has joined the management of the university when she was appointed Vice-Chancellor for Human Resource Management.

JANA NOVOTNÁ / PHOTO BY VÁCLAV KONÍČEK

## The family history mentioned above deserves further comment.

My mother was an associate professor in mathematics at the Faculty of Engineering (FI), where she became the first ever vice-dean of the faculty after the revolution. My dad was a professor of physics at the Faculty of Civil Engineering (FAST), and in 1998 he moved to the Faculty of Electrical Engineering and Communication Technology (FEECT), where he remained until he was 87. I have three sisters, all four of us graduated from the BUT as did some of our children. I studied microelectronics at the Faculty of Electrical Engineering (FEE). We were a revolutionary class, and midway through our studies we had a change in our curriculum. I was given the opportunity to go abroad, which I used, and did a three-month internship in Manchester.

## Where did you choose to go after school?

In the swirl of the 1990s, I worked for a private company for a while, where I gained basic economic training,

which then came in handy in project management. In the late 2000s, already a mother of two sons, I returned to school for my doctoral studies and have stayed ever since. At my home Institute of Physics, I was involved in research focusing on two areas. The first area, electronic noise in components, was closely intertwined with the collaboration with AVX Lanškroun. In 2014, we joined the research at CEITEC, where our group stayed for about six years. The projects were thematically focused on lifetime models and quality of energy storage components, mostly for space and medical applications. The Covid pandemic has severed ties with a number of companies and contacts are now being re-established. So most of my time has been spent working on research and teaching.

## But you have also found time to work in the Academic Senate.

I was elected to the Faculty Senate in 2014 and to the University Senate in 2021. At the faculty, I was the chair of the economic committee, so we communicated a

# A MATURE SENATE ALWAYS FIGHTS FOR THE INTERESTS OF THE UNIVERSITY

**Miloslav Steinbauer became the new Chairman of the Academic Senate of the BUT (AS BUT) on 31 January 2024. The former chairman Petr Hanáček resigned from his position to devote himself fully to his work as Dean of the Faculty of Information Technology. He held the position of the Chairman of the AS BUT for an incredible period of fifteen years.**

JANA NOVOTNÁ / PHOTO BY VÁCLAV KONÍČEK

Fifteen years in office have made Petr Hanáček probably the oldest serving Chairman of the AS in the Czech Republic, but he does not brag about it anywhere. He is one of those BUT graduates who never left the school, even though he formally changed his place of work several times. "When I was studying, it was the Faculty of Electrical Engineering, later the Faculty of Electrical Engineering and Informatics, and in 2002 we established the Faculty of Information Technology (FIT)," Petr Hanáček explains. At that time, there was a need to fill vacancies in the newly created Faculty Senate and two new vacancies in the University Senate. "Since there were few of us at the new faculty at that time, everyone had to do something, so I became a senator in the large senate in 2002. I started to get more involved in its functioning, especially the economic committee and the legislative committee, and in 2008 I was elected Chairman," recalls the new Dean of FIT.

He also communicated a lot with the chairmen of the university senates in the country, and under the banner of the Council of Universities (CU), the chairmen of the senates began to meet and regular meetings of chairmen from all over the country began to be held. The body of chairmen of senates is now called the Forum of Chairmen of AS (FCAS), it has its own chairman and the chairmen discuss strategic senate matters at their usually three-day meetings. "Today, the chairmen

cannot imagine the existence of the senate without regular meetings. The participants communicate various warnings to each other, so that one is then able to avoid the mistakes they made at other schools," Hanáček points out. He adds: "The importance of the FCAS has been increased even more by the fact that several former members sit on the board of the CU. There has always been some kind of cooperation with the CU: first informally, then in the form of a committee of the CU, and today there are always several people from FCAS on the board, so the importance of the academic senates has increased even more recently." According to Hanáček, the atmosphere on the board is collaborative: "It has never been characterised by conflicts or bragging, but rather an exchange of experiences, so it is useful to participate in the meetings. The senators get information from the CU, the ministry and so on."

If the former AS Chairman were to look back, he would not fail to mention that the Senate is constantly influenced by external events. "From time to time there are attempts to change the powers of the Senate, to change the decisions that the Senate has to deal with. So far, we have always dealt with them well and managed to defend the autonomy of universities, so that we are not influenced in the decision-making process and so that universities retain their autonomy,"

lot with the current rector, who was then the bursar, about the state of finances, which is perhaps why he offered me the position of vice-rector. Some time ago, I started studying finance at the Faculty of Economics and Administration at Masaryk University (MU), where part of the teaching focused on managerial skills, including human resources, so I had some knowledge of the issue and I wanted to give it a try. The fact that at my faculty I was in charge of equal opportunities, which also had an overlap with human resources, helped a bit.

## So, what is on your agenda?

It should be a comprehensive concept of HR processes and staff training. The main task is to set up a career system, which should be closely linked to the payroll and appraisal system. So far, the university has only an evaluation system for academic staff, which needs to be expanded to allow for the evaluation of doctoral students and, subsequently, the evaluation of other staff. Another area that is linked to human resource management is the HR Award, Social Security and Equal Opportunities agenda, which has hitherto fallen under the Bursar and the HR Department.

## Another part of your agenda used to fall under the Institute of Lifelong Learning (ILL)...

This applies to further training of employees. ILL is a bit confusing in its name in the sense that it is not just about lifelong learning. It covers four main areas: life-long learning, further training of employees, guidance for students with special needs and U3A. My task is to change the employee training system to meet current needs. Through training we will then communicate to employees what we require of them as an employer. This includes, for example, language skills, teaching and managerial skills or IT skills and how to use them for teaching. During the Covid pandemic, we had to learn how to use distance learning resources, which we should now be able to incorporate into face-to-face teaching. Topics in the area of social security should not be missed, along with issues such as artificial intelligence. We need to have procedures in place for integrating AI into teaching. We should know what its limits are, so that, for example, we set assignments for thesis work that go beyond these limits.

## The issue of gender equality is very topical today.

Equal opportunities are one of the topics currently being promoted both nationally and internationally. A gender audit was carried out at the BUT in 2021. On the basis of its results, the Gender Equality Plan for 2022 to 2024 was adopted, the objectives of which are gradually being implemented. Disparities persist in equal representation in management positions and project teams, in pay equity and in the promotion of work-life balance. It is also one of the EU's priorities to ensure that gender equality is reflected in research and pay equity and that examples of good practice are shared across Europe. Even though we may not admit it, inequality still persists and it will take time to find

a solution. But it is an issue that cannot be enforced by force. The rector has recently mentioned that he already has a gender-balanced team, with three male vice-rectors, two female vice-rectors and a female bursar. This is a small step in the right direction.

## Another topic mentioned is the call for more workers coming from abroad.

In this respect, from a European perspective, we are a little behind. Most of the teaching is done in Czech, and there is a considerable language barrier if a foreign worker were to be involved in teaching. A possible way would be to strengthen the number of English lessons, for example by introducing compulsory courses in English for Czech students. This would be a step towards the internationalization of our students, and would also increase the opportunities for recruiting staff from abroad. We also need to promote open selection procedures so that we are able to employ not only our graduates. Here we are somewhat behind due to the long-term settings of the university environment in most Czech universities. If we have a good student, we want to get him or her for doctoral studies, and if the doctoral student does well, we want to keep him or her on, so mobility between universities is then low. Setting up a system of post-doctoral mobility is a hot topic right now. We should reduce our dependence on our own human resources and open up more to the outside world.

## What is coming up in the near future?

We should get around to setting up a career order later in the year. The point is that the individual positions at the university are already defined in a way and the career order should set the rules on how to move between those positions. We need a system for evaluating staff in academic and non-academic positions. And we should, at the very least, start with changes in staff training. I hope that we will succeed. I started in the middle of my term, so the ambitions are high, and time is short.





Hanáček says. At the same time, he points out that attempts to limit the autonomy of universities have been made in the past and probably always will be. He also points out that attempts to limit the autonomy of universities have been made in the past and are likely to be made in the future. As far as the internal functioning of the AC BUT is concerned, he dares to say that during his chairmanship it has always worked perfectly. He can say this because he has had the opportunity to make comparisons. "Under all the rectors I have experienced, the cooperation between the Senate and the management has always been very good, I would say even unique. There have been no unnecessary fights, there has always been an effort to decide everything in favour of the school, which cannot be said of all universities. In almost all the senates, the senators acted in the interests of the school as a majority and did not favour the interests of their faculties. This shows the maturity of the senate. If senators try to promote the particular interests of individual faculties, the university may lose out," says the former chairman. The positive, collaborative atmosphere in the senate has historically continued to be shared, as only about one-third of senators are replaced each election.

Hanáček mentions the situation when efforts to significantly limit the powers of academic senates culminated as perhaps the most critical period: "It was during the time of Minister Josef Dobeš (2010–2011), who pushed for a rather fundamental amendment to the law. As chairmen, we went to the minister at the time and quite firmly refused to support the amendment, so the proposal was withdrawn."

Petr Hanáček considers the greatest satisfaction to be the fact that the Senate has worked smoothly and that it has done what it needed to do every year on time. "We always managed to pass the budget rules, the budget and all the documents without any major problems. All those years were stable and we never allowed the university to run into any problems or threats, which was not so commonplace at other schools. From this point of view, the BUT was very stable," says Petr Hanáček. This also applies to the Student Chamber of the AS. By law, 30 to 50% of the University Senate is made up of students, who can greatly influence the atmosphere in the Senate. "For me, we were lucky to have constructive student representatives who did not fight against something, but for the BUT to be better off."

The former chairman believes that he has handed over the BUT in good shape and that the new chairman will lead it in the same spirit as he did. "I was a guest at one senate but otherwise the journey is complete. For me, it ended a period in which I was happy because I felt I could be useful, but if I wanted to start working at the FIT, I had to give it up. So, I think of it as a sacrifice that I had to pay to change. In my new position, I would like to take advantage of the fact that I know the workings of the Rector's Office and the entire school well, so that the cooperation between the FIT and the school will be smooth."

Petr Hanáček has specialized in information systems security since his studies, and he once founded this field at the FIT. "I created most of the courses that are taught here today and that are still being developed. Cybersecurity, as the field is more commonly called today, is one of the important topics in this department. I was also the head of the faculty security group that operated within the Intelligent Systems Institute. Today, I have a successor there, because I will have a heavier workload now. I had to drop half of my courses at the beginning of my term, but I definitely want to keep in touch with the students. And there are some subjects that I have said I will never give up, such as cryptography."

## SHORT NEWS



## COOPERATION OF THE BUT WITH ONSEMI AND HONEYWELL

Two important memoranda of cooperation were signed by the Rector of the BUT Ladislav Janíček in autumn 2023. In October, it was a memorandum on expanding cooperation with Onsemi, which strengthens competences in research and development of semiconductor technologies, component design and semiconductor analysis. Newly, BUT students will be able to try their hand at designing silicon carbide-based chips, which, thanks to its excellent properties, is the material of the future in chip manufacturing. Onsemi is opening new analytical laboratories near its development centre in Rožnov pod Radhoštěm, which will be accessible to BUT students and researchers within the mutual cooperation.

In November of the same year, Honeywell and the BUT signed a memorandum of understanding that is based primarily on cooperation in research and development. The aim of the agreement is to better share the scientific potential of both institutions and to offer students the opportunity to join teams working at Honeywell's R&D centre in Brno. The organisations will join forces in strategic technology areas such as artificial intelligence and machine learning, advanced sensing, guidance and navigation, and sustainability. They will focus on the use of cutting-edge technologies such as advanced air mobility, unmanned aerial systems, medical technologies and telemedicine. In the area of logistics process automation, the focus will be placed on robotics, for example.





# ONE OF BUT'S GREATEST STRENGTHS IS THAT IT CAN RESPOND TO THE CHALLENGES OF THE TIMES, SAYS THE UNIVERSITY BURSAR

The position of bursar is defined by the Higher Education Act. The bursar manages the economic activities and internal administration of the university; his/her other responsibilities are determined by a measure of the rector. In simplified terms, the quaestor has been the "treasurer" since ancient Rome. And it is no different in the case of Daniela Němcová, who guards the finances of the Brno University of Technology. However, her agenda has also increased and today she is more than just the chief banker. Where does she think her position, and especially the role of the university, has shifted in two years?

JANA VYKLIČKÁ / FOTO VÁCLAV KONÍČEK

## What are you responsible for as bursar of the BUT?

I am responsible for the economy in its entirety and for asset management. I am in charge of various departments of the Rector's Office of the university, such as the Public Procurement Department, the Economic Department, the Legal Department, the Personnel Department, the Technical and Operational

Department, the Investment Department, the Records Management Department, the Archive Department and, last but not least, my office, which includes my assistant, the Chief Personnel Officer and the Chief Economist's Department. In terms of economic oversight, however, I also enter into the activities of the other departments under the responsibility of the individual deputy vice-chancellors. They, as academic



experts, are tasked with delivering the university's strategic objectives and my team and I provide support to them. In short, together we fulfil a specific vision and translate its goals from paper to reality. It is such a symbiosis because all the departments interact and one cannot exist without the other. And it's just as well, because the best results always come from teamwork.

**Is this symbiosis a prerequisite for the functioning of the university?**

I think so. The university environment has its own specifics. It is necessary to combine the academic level with the procedural and managerial level, and it is primarily a matter of balancing these components. It is our task to make all the procedural procedures as understandable and, above all, functional as possible for our academics. And I believe that this applies not only to the Bursar's Office, but to the entire Rector's Office. It should be a guide for faculties to help them streamline processes, protect them, and give them direction.

**What was the most challenging task for you when you took up the position of bursar two years ago?**

To keep up with all the changes the rector was going to introduce. He has a very clear vision, which is also related to his managerial leadership, unusual in universities, but certainly beneficial. Thanks to this, we are succeeding in creating a solid foundation on which to build. However, as it happens, it takes time for the positives and results of all the changes to come to fruition, so all the reasons for the new changes had to be well explained, which was one of the greatest challenges. I see communication and humanity as essential in this respect. I believe that we need to carefully consider the consequences and impacts of all the changes and not just hide behind an authoritative mask. I do everything with self-reflection so that the things I am responsible for are not done in a cautious and dysfunctional manner with regard to correctness. The Bursar's Office is, after all, such a university office, and I try to make this environment as friendly as possible with as little emphasis on formalism as possible. And while it's probably never going to be quite ideal, that doesn't mean we shouldn't strive for it.

**Can you see progress in this challenge at the same time?**

Definitely. The changes we have introduced are beginning to bear fruit. They all have a clear and, above all, tangible goal that they are now working towards. For example, we are currently working with my departments on a new HR strategy transforming the environmental culture, creating facilities with a social security guarantee, digitising and computerising processes and implementing changes to the budget rules. We are also looking at the area of facility management, where we are striving to make our services as efficient as

possible and to maximise the running of the university. We have also taken a huge step towards achieving the sustainable development defined in the **Green Deal concept, which I am responsible for together with Vice-Chancellor Milan Houser. We are coordinating cooperation across sectors, and above all we are trying to identify issues to address future challenges where we as a technical university could help.**

**What do you think the BUT has achieved in the last two years?**

There are many things, but if I had to highlight something, it would be that we are much more visible, and not only in the media. When I negotiate with municipalities and private companies, we have a much stronger position than we had before. We are no longer seen as a separate entity, but as an expert that can be a great team player and wants to do something for the technological development of companies, the city and society. I am proud that we are a public research university that others are interested in working with.

**So, has the third role of the BUT been strengthened?**

Significantly. Nowadays, universities do much more than just teach students and try to make advances in research. They also need to respond to the challenges of the times, and I believe we do that very well at the BUT. We perceive what is happening in the world and in society, we can discuss even more complex topics and offer solutions. We have, as it is said, open eyes and attentive ears. For example, with the advent of artificial intelligence, we now have to face its influence on education and, in addition, focus on detecting deepfakes. We are also dealing with security at the university. We are always trying to find an answer, primarily because we are not afraid of obstacles. From my point of view, we are following the lessons I found in the book *Born to Run* when dealing with problems at the BUT. Namely, that through the most extreme exhaustion and fatigue we can find a lot of ease and strength. Due to this, I started applying the thinking in terms such as easy, light, smooth and fast. The first thing to do is to start and choose what is easily manageable. Then you should work your way up to the concept of "easy" and then consistently strive for "smooth". And there's no need to worry about the fourth one, because speed will come on its own.

# KNOWING THAT I DO MY JOB WITH PRIDE IN OUR UNIVERSITY HELPS ME TAKE RESPONSIBILITY



**The position of chancellor is one of the management positions at the Brno University of Technology, but it is not defined by law. Its competences and tasks are always determined by the rector on the basis of the current strategic plans of the university. The bursar and the chancellor thus form the so-called administrative section of the university management directly subordinate to the rector. How has the role of the chancellor, now in its sixth year, changed under the current management?**

JANA VYKLIČKÁ / PHOTO BY VÍT KOVALČÍK

**How did the role of the Chancellor at the BUT evolve?**

It was a bit of a roller coaster ride. The biggest change already under the rector emeritus Petr Štěpánek was that the chancellor became a member of the management. When I take a look at it from the perspective of the workload, the work agenda has been growing rather than changing. However, there was always a common denominator, and that was responsibility, because in top management many decisions are not easy to take and one has to approach it accordingly.

**So, what does the position of chancellor entail today?**

At the moment, as chancellor, I am sitting in several chairs at once. The chancellor is a member of the rector's management and advisory bodies, and by the nature of his role he is also the rector's executive assistant, so I am responsible for coordinating and implementing the rector's decisions. This goes hand in hand with my other position, Head of Department of the Chancellor's Office, where I oversee the tasks that the department is responsible for. From February 2022, I am also responsible for coordinating activities related to the provision of information support and information services at the BUT. Since last September, I have also been in charge of the Press Department, which is responsible for the media promotion of the university. I am also the Secretary of the BUT Board of Trustees, a member of the Crisis Staff and the Chairman of the Information System Council and the Technology Council of the BUT.

**Which of these areas are you currently most involved in?**

It depends on the specific period, which usually requires slightly different priorities, but overall, I am most involved in the area of information services at the BUT, which I devote most of my efforts to. This area is linked to a number of changes we have already implemented, and many more are planned. Admittedly, the area of information support and information services is in the hands of the chancellor for the first time at the BUT, having been entrusted to vice-chancellors in the past. I was intensively involved in this area even before I took up the post of chancellor.

**So previous experience delegated you to this position?**

I believe so. The subject was close to my heart, so I found it natural to take it on, even though I'm not a technical IT expert. In the past, I managed large-scale IT projects and participated in the implementation of others, while at the same time managing the provision of information services. In addition, it is now common practice in companies to have not only IT experts in charge of information services, but also people who can bring their user perspective to the issue. Together with CIS Director Tomáš Krutiš and CIO Jiří Dobrovolný, who falls under the Rector's Office, we form an IT management triangle that, I believe, is effective - all decisions are made not only on the basis of IT expertise, but also with regard to usability in real life, so that the result is as beneficial as possible for employees and learners.

**Considering your responsibilities, is this the area where you have seen the most progress over the past two years?**

Well, we can definitely say that. There have been many issues that we have had to address and solve, sometimes in a matter of days. And although we still have a long way to go in this area, I believe that we have indeed covered a lot of ground and put a number of things in order. One of the important changes for the university is the 100% transparency of CIS, expressed by the precise overview that CIS is working on and the openness of communication. We have also made significant progress in module development, introducing exact project management and planning tools, which, together with more proactive communication, will greatly improve the services we provide our staff with.

At CIS, we have made organisational changes that are in line with the modern concept of information support and information services management. We are changing the perception so that CIS is an expert centre providing information support tools, providing services according to a defined catalogue and, of course, operating and developing the product, which is our information system VUTIS.

In managing the development process, we have included a standard feasibility study that assesses whether the desired result is best achieved using internal development capabilities or whether we should choose an external solution.

**Going back to your involvement in the management, what would you highlight in this area?**

Certainly, its managerial professionalism. You can see a move away from intuitive decisions, which of course also have their benefits in certain cases, towards strategic and analytical management - words like strategic objective or analysis are practically the most used words in most meetings. As a result, everyone can rely on the university having good governance and that everything is based on relevant data. The benefits of accurate and targeted decisions are then felt in both the short and long term. At the same time, I must also mention and appreciate the professional, open and constructive communication with the management members of our faculties and units.

**As you said, few decisions in your position are easy. What helps you deal with that?**

One of the biggest motivators for me is that our university has a very prominent position both nationally and internationally. And this is only possible if the university is staffed by hard-working, responsible and passionate people. The prestige of the BUT is constantly increasing, mainly through its educational and creative activities, but also thanks to what the Brno University of Technology does for society and how it operates within its so-called third role. I personally am very proud of the BUT and I am happy to represent the university.



**SHORT NEWS**  
**THANKS TO CHIP RESEARCH, THE BUT IS IN SILICON EUROPE**

For today's world based on modern technologies, semiconductor materials and therefore chips are indispensable. Their research is intensively conducted at the BUT, especially at the Institute of Microelectronics at the Faculty of Electrical Engineering and Computer Technology (FEEC) and CEITEC BUT, and excellent results are achieved. They not only handle contracts from the European Space Agency, but also represent the BUT as a member in the Czech National Semiconductor Cluster (CNSC), which has now also become part of Silicon Europe, a European cluster alliance for innovative electronics & software.

The CNSC aims to be a competitive cluster in the EU thanks to the Chips Act. This strengthens Europe's resilience in semiconductor technologies and facilitates the digital and green transition. The link between the CNSC and the Chips Act is crucial as the application of its principles will lead to more efficient cooperation, the creation of new know-how linked to different parts of the value chain and the emergence of new spin-offs and start-ups.

The CNSC was founded in December 2022 and the BUT became a member in April 2023. BUT researchers have met several times with representatives of the National Applied Research Laboratories (NARLABs), of which Taiwan Semiconductor Manufacturing Company, a world leader in chip manufacturing, is a member. The Taiwanese were surprised by the advanced technologies the BUT has at its disposal and by how many good graduates it has in the field of microelectronics.



**SHORT NEWS**  
**THE BUT SIGNIFICANTLY ADVANCES IN INTERNATIONAL RANKINGS**

In June 2023, the BUT was ranked 611<sup>th</sup> – 620<sup>th</sup> in the prestigious QS World University Rankings, which means a shift of 90 places compared to the previous year. This was mainly due to the indicators of the proportion of international students, the university's reputation among employers and participation in international research networks, where the BUT is among the 400 highest ranked institutions. In employer reputation we improved by 49 places and the intensity of university research is also rated very high by QS.

In last year's Shanghai Academic Ranking of World Universities (ARWU), the BUT was ranked 701<sup>th</sup> – 800<sup>th</sup>. It was thus again among the top 1,000 universities in the world and improved by a total of 200 places compared to last year. To rank universities, the ARWU uses, for example, the number of articles published in Nature and Science, the number of scientists in the Highly Cited Researches database, the number of Nobel Prize and Fields Medal winners, and the academic performance of the university converted into the number of its staff.

In the latest edition of The Times Higher Education World University Rankings in October 2023, the BUT was ranked 1001<sup>st</sup> – 1200<sup>th</sup>, again a significant shift. The university has made the biggest jump in the area of cooperation with industry, where it has the best ranking of all Czech universities. The BUT moved up in the rankings thanks to higher scores in citation rate, internationalisation and especially in the area of cooperation with industry, where it ranked first among Czech universities.



# BUT MANAGEMENT MAINTAINS AN OPEN DIALOGUE WITH STUDENTS

We talked about the work of the Student Chamber of the Academic Senate of the BUT (SCAS BUT) with its President and Vice President of the AS BUT Anna Kruljacová. In her position, she appreciates the fact that students are perceived as an integral part of the academic community at the BUT.

JANA NOVOTNÁ / PHOTO BY IGOR ŠEFR

This year marks ten years since Anna Kruljacová first became involved in student positions at the university. At that time, she joined the SCAS at the Faculty of Business, in the meantime she started cooperating with the SCAS BUT and after a year she and its then chairman Tomáš Mejzlík founded the platform Students of BUT, which brings together students from associations and senates across the university. Since 2017, it has been representing the interests of all BUT students in the Grand Senate, where Anna Kruljacová became the President of the Student Chamber in early 2020. She has thus represented students during the greatest crises of recent years, which were the coronavirus pandemic and the war in Ukraine. Through SCAS BUT, she also got into the national representation of the Student Chamber of the Council of Universities (SCCU), where she held the position of the first vice-president of the SCCU in 2019–2020. "National representation is an experience I recommend to any student who is particularly interested in university legislation, improving university self-governance, and developing inter-university collaboration," she says. "In the period 2021–2023, the position of the second highest-ranking student in the country went to "our" Martin Horváth, and from this year onwards, Katarína Rovenská succeeded him. This position is not linked to the university, it is about management and organisation, but the SCCU seems

to appreciate the organisation of BUT students, or at least we can think so," Kruljacová adds with a smile. "I think I have done my best in student positions and I look forward to passing on the baton to the next generation."

Anna Kruljacová makes no secret of her belief that students at the BUT have a great organization across faculties. She is pleased that the current management is extremely pro-student and treats students as equal partners. "In one of his speeches at the beginning of the term, the Rector uttered a sentence that I still remember, namely that students are an integral part of the academic community, and he behaves accordingly in real life. As the head of the Secretariat of the SCCU, where I am now in my fourth year, I continue to meet students from various universities who speak highly of our Rector. He is often approached for discussions, especially about economics and student support. Objectively, I have to say that SCAS has been strong at the BUT for a long time even under previous administrations, but now students are more supported and involved in advisory groups and it is a really open dialogue," highlights the Chair of SCAS. She particularly appreciates the growing support for student creative activity: "Just in the last few years a student team called YSpace has been formed, and this year a team called BUT Drones has been established, which



focuses on drones, and I hope that this will continue in this vein and more and more creative teams and student organisations will emerge where everyone will find their own thing." This trend is supported by the fact that a centre for student creativity will be expanding on campus in the near future.

Students also engage in dialogue with management in the area of university law and legislation. "The university management at the level of the rector or vice-rectors, as well as the chair of the Academic Senate, openly communicate with us all regulations or upcoming changes that have an impact on studies, and they care about the students' voice being heard. We don't have to agree on everything, but they always explain why certain changes are being prepared," Kruljácová points out. She is convinced that the Academic Senate should only include students who are ready to defend the interests of students, to deal with legislation, economics and dialogue with the management. "At the university level, I represent the students of the whole university in the senate, regardless of which faculty you are from. So, it's important to communicate with colleagues from all faculties, to keep track of regulations and to try to ensure that what works great somewhere works great everywhere. I would like to see the same conditions for everyone everywhere, but if somewhere they are satisfied with the situation, and believe me, we have had dialogues in different faculties in different areas for a really long time, we fully respect that" assures the President of the Student Chamber of the Academic Senate of the BUT.


Communication will soon be facilitated by a single information system, which is being actively developed. Although at the faculty level senators are closer to students, even from the university level they are trying to point out that there are some regulations for faculty. "One of the issues we have been dealing with for a long time, even at the national level, is the completion of course surveys by students. Through discussions, questionnaires and conferences, we have found out that students feel that no one is dealing with the surveys and their opinions are not taken into consideration, so they lose motivation to fill them in during the following years. Therefore, my colleagues and I are working to achieve greater transparency and awareness of what is happening with the results and who can comment or reflect on them. In some faculties everyone can see everything, in some it is impossible, but I understand the arguments for and against publication. Also, through dialogue with the management and in the senate, we have been able to push for verbal evaluations to be displayed to students - at least to those who are in senates. I reckon that feedback mechanisms should be more open to students and respect both sides, students and academics, in doing so. This is one of the things that can be communicated through the senate and to individual faculties," believes Anna Kruljácová.

Among the achievements he mentions, for instance, the amendment to the Higher Education Act, on which

the student senators collaborated with the Student Senate, as well as a number of events that were successfully organized. "In October 2022, it was the conference of student academic senators. Together with the SCCU, we were involved in the organisation of the General Assembly of the European Students' Union, which was held in Prague, although the organising team was composed mainly of people from Brno, at the BUT we hosted the celebration of the 30<sup>th</sup> anniversary of the national representation of students and many others," lists the SCAS President the events of which she is personally closest to the BUT Ball. It continues to be organised under the SKAS banner and has become the main social event of the university. The students have also managed to cooperate in the modification of the BUT Code of Ethics and, in agreement with the management, for the first time students are also members of the BUT Ethics Committee. "But probably what we value most is the cooperation with the faculty SCAS, student organizations and student teams and certainly with the national representation of university students. As students, whether at the university or in inter-university cooperation, we can agree on things that then have a real impact on our university," says Anna Kruljácová, also recalling the successful involvement of students in the European alliance EULiST, where she was also active. "I believe we have achieved everything we could at all levels."


Student senators had high expectations for the discussion of the amendment to the Higher Education Act, which was approved on 16 April in the first reading in the Chamber of Deputies of the Parliament of the Czech Republic. "The amendment has a big impact, there is an extensive reform of doctoral studies, there are changes to the state final exams for students, and we are currently dealing with the termination of accreditation of some study programmes," says Anna Kruljácová. She adds: "To better inform students at the BUT, we have started sending out a newsletter, which our colleagues from other schools want to be inspired by." There would surely be even more such contributions about students' activities in the senate if the outgoing chair had not already been missed elsewhere. When leaving, she concludes her reflections, "I believe that the new SCAS membership at the end of June will bring new energy and new members will come up with new ideas, like I did all those years ago, and move things forward. There is always room for improvement and I will be supporting them because it is an honour to represent such great students as we have at the BUT."

## NEW FORMULA



# Dragon 24

The fourth electric monopost from TU Brno Racing will represent the designers from the BUT in this year's Formula Student racing series, where it will try to defend its position in the world's top twenty.



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