

ÓBUDA UNIVERSITY



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RECTOR'S WELCOME



Dear Reader,

On January 1st, 2010 Óbuda University was established as the legal successor of Budapest Tech. Óbuda University is characterized by nurturing traditions and monitoring progress and development. As an active higher education market player, Óbuda University provides quality and competitive service, people-oriented, lifelong engagement and education in the fields of engineering, information technology, science, economics, and teacher training. As a practice-based university, it offers a full range of academic programs in both Hungarian and English. The program includes 4 higher education vocational trainings, 17 undergraduate programs, 11 master programs, 3 doctoral programs as well

as specialization in full-time, evening and distant learning.

ÓU students have the opportunity to conduct basic and applied research in multiple fields to meet the challenges of Industry 4.0 and in line with the university strategy, that is primarily based on four pillars: robotics, health informatics, artificial intelligence and cybersecurity, which interweaves the entire engineering palette through the fields of classical electrical, mechanical engineering, architecture to the creative industry.

The seven faculties of Óbuda University (six in Budapest, one in Székesfehérvár) have more than 12,000 students. The University Research and Innovation Center (EKIK), the internationally recognized research center, which serves as an organizational unit equivalent to faculties, gives students

the opportunity to get a closer look at modern research in certain disciplines and to have the opportunity to get involved in work with renowned researchers from both domestic and foreign universities as well as with international partner companies.

The quality of the university is indicated by the fact that it is certified (according to the requirements of the MSZ EN ISO 9001: 2015 standard) and holds the highest recognition, which is the Higher Education Quality Award. The growing scientific rank is also proven by the fact that we have won ERC and H2020 international R&D tenders, and last year we were added to the list of the

world's best-known QS World University Rankings.

Óbuda University considers its relations with domestic and international higher education institutions, research institutes and scientific organizations as a fundamental task, and has signed nearly 300 international cooperation agreements with institutions from over 40 countries. These agreements focus on the cooperation in the development of science, research, and education, the joint organization of conference programs, the publication of scientific outcomes, as well as staff and student exchange programs. Óbuda University is a member of international organizations of outstanding

significance, such as EUA, IEEE, SEFI, and IGIP. Our institution, together with the IEEE Hungary Section, has been organizing a series of prestigious IEEE international conferences for several years. The Q2 journal Acta Polytechnica Hungarica has exceeded the impact factor threshold of 1, and can now boast a value of 1.219. It provides a publishing space for our instructors and an opportunity to learn about the latest research findings. Óbuda University has a successful relationship with its industrial partners on both ends.

Prof. Dr. Levente Kovács
Rector

CHANCELLOR'S WELCOME



Dear Reader,

Óbuda University is an outstanding technical higher education institution in Hungary. In addition to the extremely positive feedback from the labor market, the quality of the university's education activity is also indicated by the success in domestic and international student competitions.

Practice-oriented programs, and research and development activities, are considered of high priority at our university and places us in a leading position in the labor market. A degree from any of the courses offered at Óbuda University is of high value, as many of the graduating students are successfully leaving their Alma Mater with a job offer already in place and end up working in the highest positions both at home and

abroad. Given this fact, we outshine our competitors, but nevertheless we strive for constant development.

The creation of a 21st Century educational infrastructure as well as the realization of the triple unity of talent management, community building and competitive student services are considered as all very important improvements. In addition, developments in education and research is among our top priorities. In 2019, the Kandó Kálmán Dormitory, a modern building of European standard, had become an integral part of campus life which made us very proud.

We are keeping up to date in all areas, as we are already providing most of our student services entirely online. Part of this is the University Library services that are of outstanding quality in the field of

research support. Some examples are the following; supporting publishing activities, organizing trainings for researchers and lecturers, or journal selection assistance, all serve the purpose of making the best possible use of the scientific results obtained outside the University too.

I consider the implementation of the Campus 21 development program as a strategic goal, in the framework of which we would like to concentrate the technical programs of the University all around Budapest on the Óbuda campus. According to plan, Óbuda University will become a unified, modern 21st Century

university with one main campus. Through the construction of technical laboratory capacities installed in one place, the investment will strengthen the training supply of Industry 4.0 companies and provide unified university laboratory capacities in the fields of cyber security, robotics, automation and health informatics. It will also serve as the base of the light and fashion industry education. Ybl Miklós Faculty of Architecture and Civil Engineering, which has a 140-year history, has made a significant change in the life of Óbuda University since our joint work began with them from the 2020/2021

academic year. It is also important to note that their accession is a very significant step forward. Óbuda University has become a higher education institution with a full range of engineering programs. Our goal is for Óbuda University, as a competitive, efficient higher education institution, to move towards the goal formulated in 1410, according to which *"there should be a university in the city of Óbuda forever"*.

Ormándi Gabriella
kancellár

ÓBUDA UNIVERSITY: TALENT. SUCCESS. COMMUNITY.

Taking into account its legal predecessors as well, Óbuda University is a 140-year-old institution. Today, it is a key player in Hungarian higher education and a leading practice-oriented institution providing technical education in Hungary, where more than 12,000 students pursue their studies. It offers competitive knowledge in the fields of engineering, informatics, science, economics and teacher training in **7 faculties, 2 education centers, 17 undergraduate and 11 master's programs**. Master's graduates may continue their studies in **3 doctoral schools**. The quality of education is indicated by the fact that the Institution has a quality certificate according to the requirements of the ISO standard and has won the the highest recognition, the Higher Education Quality Award.

As we can see, online education is becoming increasingly significant, and from September 2019, an online engineering in-

formatics courses has begun in Kisvárda, Eastern Hungary.

In addition, Óbuda University provides excellent opportunities for scientific research professionals. The best example of this is the University Research and Innovation Center, which represents the value in the field of robotics, health informatics and research and development that is recognized in Hungary and worldwide.

DIGITALIZED INDUSTRY IN FOCUS (INDUSTRY 4.0)

Óbuda University provides 21st Century answers to the challenges in modern industry in the fields of cyber security, robotics, automation, health informatics, but even in light industry education and to fashion industry's design planning. Bejczy Antal iRobot Technology Center (BARK) of the University presents outstanding results internationally. A

da Vinci surgical robot, uniquely in Hungary, is available to students at the university, on which they can also conduct their own research and development.

EXCITING STUDENT LIFE

Students can enjoy a vibrant community life at Óbuda University, with sports facilities and fascinating programs. Students may also test their skills and knowledge in a number of international academic competitions, eg. the World Championship of Pasta Bridge Building, which requires both knowledge and playfulness. The team at Óbuda University has held the record in this competition for a long time.

COOPERATING WITH STUDENTS

The management of Óbuda University cooperates with many well-known domes-

tic and international higher education institutions and companies. As a result, a large number of students can participate in the Erasmus+ scholarship programs. Within the framework of the program, many international students can also come to Óbuda University to study. The leaders of the University maintain an excellent relationship with the representatives of the Student Government whose suggestions are taken into account in decision-making.

21ST CENTURY PACE

The educational quality and market orientation Óbuda University is well reflected in the fact that the vast majority of the students graduating from ÓU can find a job rather quickly in a very large proportion and with good income conditions. The management of Óbuda University has recently implemented a number of infrastructural developments such as the complete renovation of Kandó Kálmán Dorm, which houses 400 students in a modern building. In addition, further institutional developments are

in store, for example, the concentration of technical programs on the Óbuda campus.

FAMILY FRIENDLY WORKPLACE

The management of Óbuda University is constantly striving to keep the services at a level that makes ÓU a truly Family-Friendly University and a *"second home"*. This is confirmed by the winning of this award and the honorary title every year since 2017.

GOAL: TO BE A TOP PERFORMER

The management and staff of Óbuda University are especially proud to be able to transfer knowledge that is suitable for students to develop new, usable technological solutions over a short period of time. ÓU is moving in the direction of being designated by the most recognized higher education institutions in the world. A key goal is for us to be the first choice for both Hungarian and cross-border Hungarian and foreign students when submitting their application to a university with a technical profile in Hungary.



The two former institutions continue to operate as the Institute of Engineering of AMK and the Institute of Geoinformatics. The Institute of Engineering has a long tradition and professional experience in the fields of **electrical engineering, informatics, mechanical engineering, mechatronics, technical and economic sciences**. The Institute of Geoinformatics has offered undergraduate engineering programs in the fields of **surveying, cartography** and **geoinformatics** for more than half a century.

Alba Regia Technical Faculty (AMK) of Óbuda University in Székesfehérvár was established on July 1, 2014, by the merger of two institutions based in Székesfehérvár (Alba Regia University Center of ÓU and Faculty of Geoinformatics of the University of West Hungary).

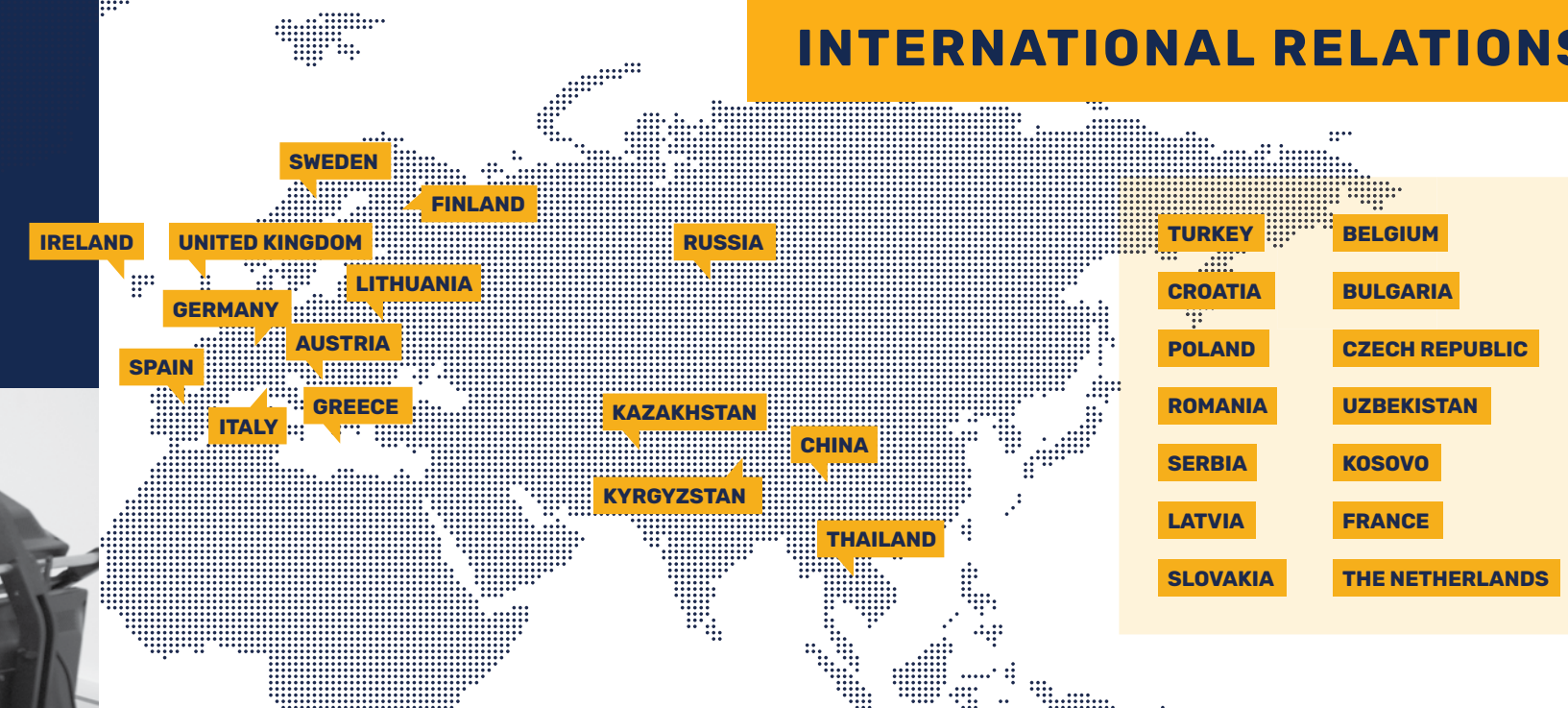
RESEARCH AREAS

INSTITUTE OF GEOINFORMATICS Geodesy | Photogrammetry and Remote Sensing | Geoinformatics | other Earth Sciences

INSTITUTE OF ENGINEERING Electronics and Electrical Engineering Applications | Industry 4.0, Robotics | Data Analysis, Data Mining | Business Informatics | Engineering Teacher Training | Economics, Mathematics and Statistics | Cognitive Sciences



INTERNATIONAL RELATIONS



AMK is a model institution of dual education, where it offers the following practice-oriented programs: **electrical engineer, computer engineer, surveyor and civil engineer, mechanical engineer, engineering manager**.

The faculty offers a number of postgraduate courses based on its close links with research areas and local industries: **business information management, computer network engineering, geoinformatics engineering, and industrial robotics engineering and precision farming engineering**.



The faculty has developed an extremely diverse system of professional and industrial relationships in recent decades. General activities related to industrial relations are defined by practical engineering courses. Among these, the announcement of internship and cooperative education places, as well as factory visits are given special importance. Thesis, National Council of Student Research Societies topics and project work topics announced by industry professionals are also of great importance. **The faculty has a number of 3rd mission activities and offers a highly prestigious mechanical engineering program.**

Óbuda University has been in the service of technical higher education since 1879 through the legal predecessor institution of Bánki Donát Faculty of Mechanical and Safety Engineering (BGK). Since its establishment, its strength has lied in practice-oriented education.

It is the school of the chief designer of the Ford T-model (József Galamb), whose innovation was the starting point of Industry 2.0 at the beginning of the 20th Century.

The faculty has been hosting the RECCS Pasta Bridge Building World Championship for more than 10 years.



UNDERGRADUATE PROGRAMS: Mechanical Engineering in Hungarian and English, Safety Engineering and Mechatronics Engineering in Hungarian and English

MASTER'S PROGRAMS: Mechanical Engineer, Safety Engineer and Mechatronics Engineer in Hungarian and English.

THE SPECIALIZED VOCATIONAL PROGRAMS provide opportunities for further study. Eager students can participate in scholarship programs through corporate and social offerings.

Among adult education programs many have a decades-long history: International Welding Engineering (IWE); International Welding Specialist (IWS); International Welding Technologist (IWT); Specialist in the field of occupational accidents and occupational disease investigation; Vintage Vehicle Restoration Engineer; Information Security Engineer/Specialist; Further training in blasting technology and engineering; Metrologist/specialist; Rehabilitation Environmental Design Engineer; Vocational Rehabilitation Human and Technical Consultant; Ergonomics and human factors specialist.



Kandó Kálmán Faculty of Electrical Engineering (KVK) is one of the schools in technical higher education that has a long tradition. The training of electrical industry professionals in Hungary in the legal predecessor's of KVK started in 1920, which has been practice-oriented since the founding of the school.

The faculty's task is to train electrical engineers who have extensive technical training and goal-oriented practical vocational training, are able to design, manufacture, service, operate electrical equipment and manage related processes. Their education covers from electricity generation to automation, instrumentation, computer technology to telecommunications, thus the entire field of electricity. The faculty also plays an important role in engineering teacher training. It continuously involves newer electrical specialties, newer forms of education (dual programs) and applies modern multimedia-based teaching methods (e-learning).

KVK is the country's leading electrical engineering education institute.



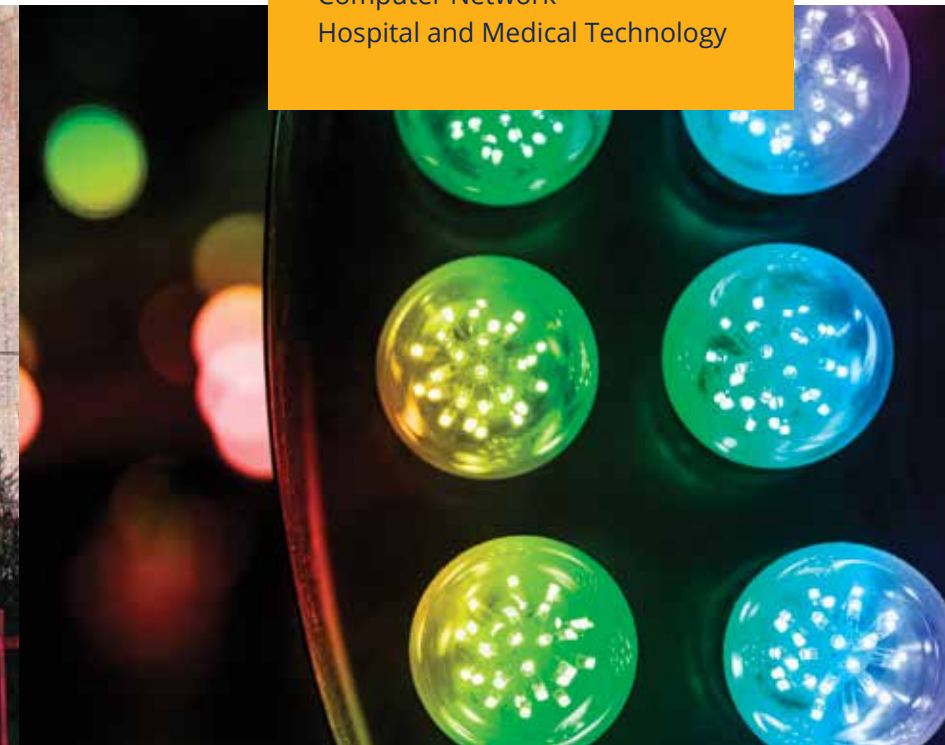
Professors of engineering and basic sciences carry out scientific research in their respective fields (applied research, basic research areas (physics and materials sciences). The faculty undertakes scientific research and development work in consortium in the field of research and development and innovation (R & D & I). KVK has traditionally worked closely with its industry partners. The cooperation includes cooperative education, dual, intern-

ship programs, educational collaborations, research and development collaborations, material and financial support, professional conferences and the organization of an Industry Forum in connection with the practical training of students. At the Kandó Kálmán Summer School, Hungarian-speaking students across the border can expand their knowledge with up-to-date information.

UNDERGRADUATE PROGRAMS
Electrical Engineering in Hungarian and English

MASTER'S PROGRAMS
Electrical Engineering

VOCATIONAL EDUCATION PROGRAMS
Lighting Technology
Infocommunication
Computer Network
Hospital and Medical Technology



The aim of Keleti Károly Faculty of Business and Management (KGK) is for its students to acquire the skills of cooperation and joint thinking in addition to the knowledge of their respective field of study.

At KGK, they believe in the power of community and want to create an atmosphere where learning is both a rewarding and pleasant experience, where education is practice-oriented with special emphasis on enabling students to adapt their knowledge successfully to the ever changing market challenges.



The management of the Faculty considers involving corporate partners in their practice-oriented education process of high importance. In addition, in order to realize this common goal, the highly qualified staff are committed to both talent development and constantly training themselves to be

able to apply the latest educational technology and methodological developments in their work.

The Faculty's education portfolio offers courses from higher education vocational to master's programs. The range of courses includes traditional economics such as

farming and management, trade and marketing; and **business development courses;** however, interdisciplinary courses such as technical **manager, economic informatics** and **technical engineering** are also offered.

COMMUNITY | ANTHROPOCENTRIC ATTITUDE | PLEASANT LEARNING ENVIRONMENT |
PRACTICE-ORIENTED EDUCATION | INNOVATION





The mission of John von Neumann Faculty of Informatics (NIK) is to provide ÓU students with a high-quality learning environment in the field of informatics, the underlying economic and technical sciences, and their practical application, helping to develop their skills and develop their individuality.

NIK offers continuously renewed, highly practice-oriented, competitive and flexible undergraduate and graduate courses with a solid theoretical basis adapted to market needs, as well as specialized in-service training, the content of which seeks to balance between timeless basic knowledge and knowledge that directly prepares for a practical life.

The faculty ensures its research, development and expert activities in line with all aspects of education, emphasizing their close relation to the individual development of lecturers and the continuous updating of the curriculum.

NIK currently has more than 1,500 students (of which nearly 200 study in the English language programs).



There are full-time, evening and correspondence programs in both Hungarian and English, in the following areas: BSc in **Engineering Informatics** (Budapest, Salgótarján, Nyírbátor sites), **Plant Informatics** (BProf), MSc in **Engineering Informatics**, MSc in **Applied Mathematics**. For foreign students, the faculty offers BSc, MSc, and PhD programs (as an assisting partner)

The IT Engineering program is highly recognized by the labor market.

- 1** Methods for producing 3D and high-resolution orthophotos from thermal images
- 2** Biostatistical analysis of public health problems
- 3** Development of general (robust) regulatory algorithms for the optimal treatment of artificial pancreas and diabetics
- 4** Production of orthophotos, 3D terrain and building models supported by drone technologies
- 5** Development of multi-level redundant high-reliability drone controls
- 6** 3D measurement developments of special sensor systems
- 7** Development of medical image processing software (cancer research)



Rejtő Sándor Faculty of Light Industry and Environmental Engineering (RKK) is the only one in Hungary that offers an engineer-level qualification in the traditional fields of light industry in the form of three BSc programs in Hungarian and two MSc programs, as well as two BSc programs in English.

The faculty is a founding member of several international organizations, an organizer of prestigious international events and a participant in academic exchanges. It maintains active cooperation with participants in domestic and international scientific life, as well as with industrial partners.

RESEARCH PROGRAMS

1 *Environmental monitoring in the 21st Century*

2 *Educational trail as field education*

3 *Environmental pedagogy in the framework of the environmental engineering program*

The light industry engineering program, run by the **Institute of Media Technology and Light Industry**, offers specializations in creative products and technologies, quality management system development, print media packaging design, and technology.

In the Industrial Product Design Engineering program, which is offered by the **Institute of Product Design**, students can choose from clothing and accessories, textile interior and packaging design specializations.

The educational programs of the **Institute of Environmental Engineering and Natural Sciences**, taking into account the forecasts, focus on solving the environmental challenges of our time, therefore they offer specialization in environmental management systems, as well as environmental protection in public administration and green energy.



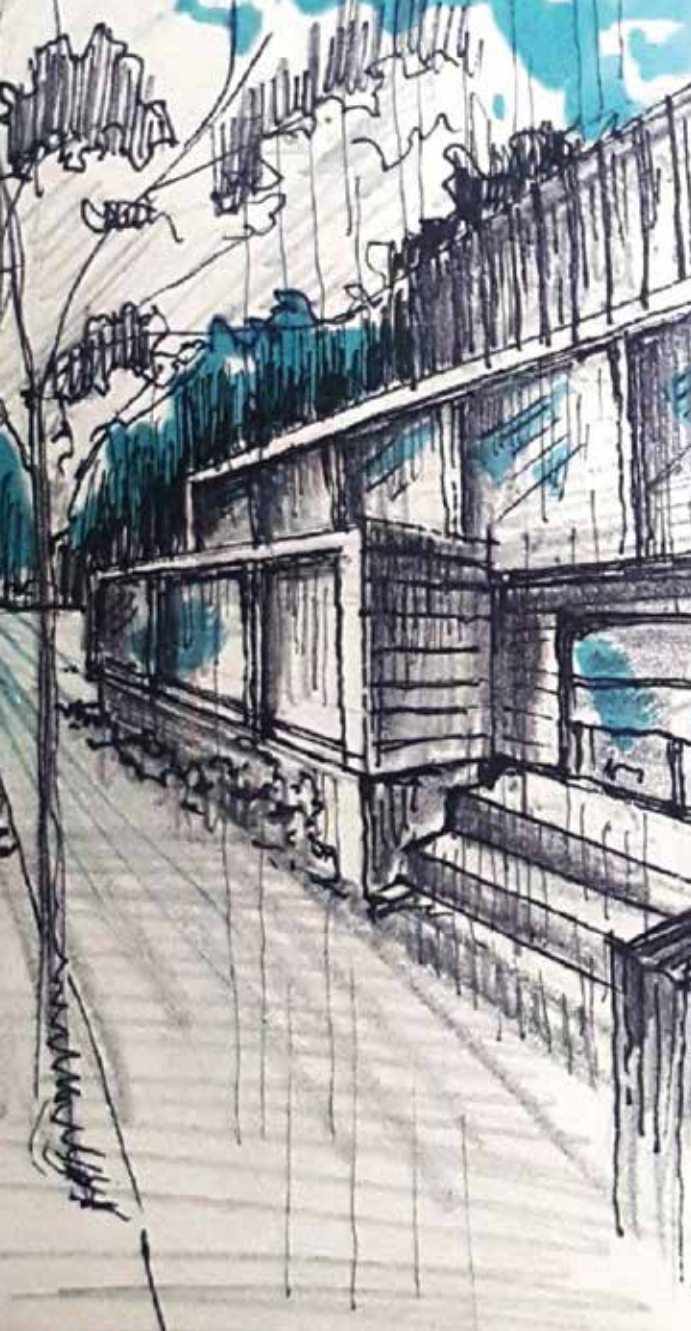
INTELLIGENT FACE PROTECTIVE MASK DEVELOPMENT PROJECT

The research team intends to develop a face mask that will compete with the products currently available on the market in terms of wearing comfort, minimal obstruction to breathing, while providing FFP3-level protection. The two-layer, elastic fabric product is designed to provide physical protection against liquid droplets and solid particles that spread mic-

roorganisms, and its design also allows for the attachment of additional filter pads that provide antimicrobial and antiviral protection.

The product is equipped not only with preventive but also with monitoring functions; to this end, it is equipped with microelectronics that measures and stores data on the wearer's health.





The faculty has more than 1,000 students, nearly 10% studying in English. The profession of engineering requires the ability to review the sub-areas and creatively synthesize the entire design process, the development of which is the focus of their education program. The workshop-type method is outstanding in the education of architects. The project-based program breaks the chronological knowledge transfer method, replacing it with the thematic teaching method of the topics. In civil engineering, students can choose from four specializations. The program is

complemented by survey camp and lab work, including a fire protection laboratory that is unique in Hungary. They consider the practical application of theory important, including the organization of domestic and international creative camps and active project participation (HelloWood, Erasmus +), as well as cooperation with municipalities and companies. Industrial, regional and cross-border relations play a key role, and the dual BSc in Civil Engineering is based on this. The annual Profession Day is attended by key construction industry players.

The 140-year-old Ybl Miklós Faculty of Architecture and Civil Engineering joined Óbuda University in the summer of 2020, expanding the educational profile with BSc and Msc programs in architecture, BSc in civil engineering, and graduate courses in smart city, fire protection and civil engineering.



MAIN RESEARCH TOPICS:

Building Technology, Concrete Technology, Fire Protection, Geotechnics, Municipal Infrastructure, Heritage Protection

STRATEGIC RESEARCH DIRECTIONS:

"Smart City", Construction Informatics



UNIVERSITY RESEARCH AND INNOVATION CENTER

The University Research and Innovation Center (EKIK) was established at Óbuda University on the initiative of university founder rector, Prof. Dr. Imre J. Rudas with the aim to prioritize applied research and innovation. EKIK was inaugurated in April 2014, having another strategic goal, to support the research of young, talented graduate students, to create a smart learning and research environment, and to establish an internationally recognized research center. The thematic research centers of EKIK have their own lab spaces, high-value and cutting edge equipment, including the robot assets at IROB: a da Vinci surgical system, Nao and Cruzr humanoid robots, and state-of-the-art collaborative manipulators. At EKIK, there are open spaces offered for project-based research, teaching and technology transfer processes for all University citizens. Altogether a modern, interdisciplinary

nary research center was established at ÓU, where professionals conduct high-standard research in the fields of robotics, AI, digital health, cyber-medical systems, health informatics, sensing, data analysis, modeling and regulation and bioengineering. EKIK also hosts, specific research groups, supported by prestigious funding programs, like the ERC Stg, the H2020 RIA programs of the EU, or the Hungarian Competence Center program EKIK fellows cooperate with leading companies of the Hungarian machinery, electronics and medical device industry from the largest to the smallest. They maintain an intensive and wide-ranging relationship with the IEEE (and the IEEE Hungary Section within), serving in numerous leadership positions.

MASS VENTILATION SYSTEM

The idea of implementing a mass venti-

lation system was born at EKIK and John von Neumann Faculty of Informatics, in line with the strategic direction of research and development of the University's cyber-medical systems. The device can be used to supply oxygen to a large number of critical condition coronavirus patients from up to 5, 10, 50, or even more at the same time, even outside hospital settings. The MassVentil Project was initiated as a charity, non-profit project by the experts of EKIK BioTech Research Center and Antal Beczy iRobot Technology Center.



PRIORITIZED AREAS OF EDUCATION AND RESEARCH

- 1 Medical Informatics
- 2 Medical Robotics
- 3 Cyber Security
- 4 Artificial Intelligence
- 5 Telemedicine
- 6 Big Data
- 7 Distributed and Cloud Systems

Today, EKIK has grown into an internationally recognized research center. Currently, the following research centers operate within EKIK: Antal Beczy iRobotics Center (BARK), BioTech Research Center, Physiological Regulation Research Center, Health Economics Research Center, Cyber Medicine Competence Center and associated research centers: HECON - Health Economics Rese-

arch Center, SmartLab, Alternative Energy-Bio-Center. The Carpathian Basin Online Education Center (K-MOOC) was launched on behalf of of EKIK, which is closely related to its name and purpose in the increasingly popular and widespread Massive Open Online Courses (MOOC) system in the world.



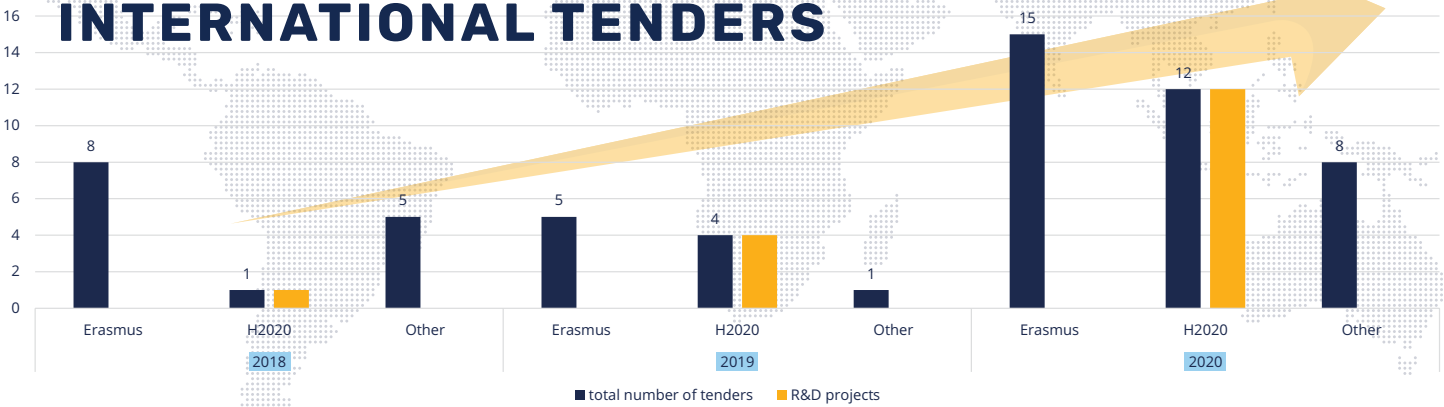
TENDERS RELATED TO THE R & D & I ACTIVITIES OF ÓBUDA UNIVERSITY

The research, development and innovation activity at ÓU is reflected in the acquisition and applicability of new skills, which are partly embodied in the development of new methods and technologies that expand the University's operational portfolio, and partly in new competencies. Thus, in addition to publications and patents, the research outcomes of Óbuda University are presented

in the form of prototypes, contracted R&D assignments and research tenders. The applications take the form of domestic, international and mixed funding. There have been 18 winning ÓU projects announced by the National Office for Research, Development and Innovation, which will be carried out with the support of about HUF 3.3 billion from domestic sources. Four R & D & I

projects with a value of HUF 500 million will receive funding from the European Union's Horizon 2020 framework program, while 12 of our projects will participate in the Erasmus program, with a grand total amount of HUF 166 million. Óbuda University participates in 10 projects with mixed budget funding with a grant of HUF 4.5 billion.

INTERNATIONAL TENDERS

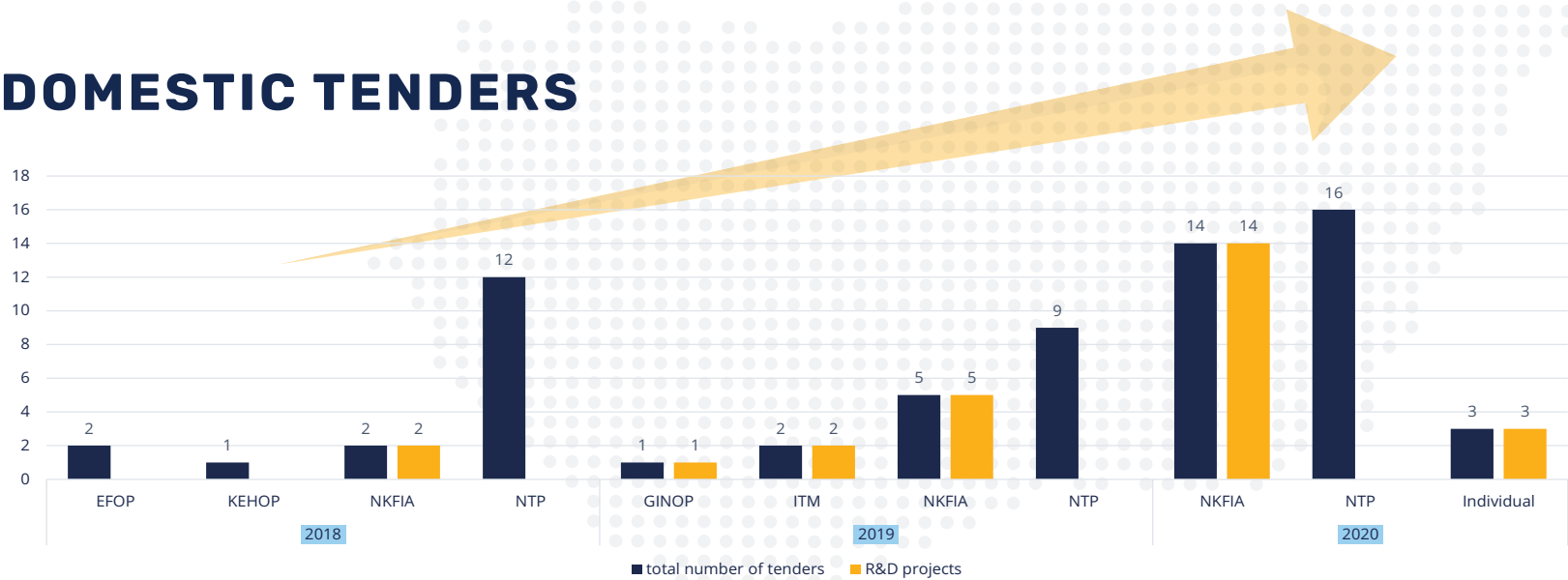


In addition to tenders, Óbuda University also intensively strives for the direct utilization of innovation services with the domestic market actors. The portfolio of direct R & D & I activities is growing prog-

ressively year by year. Since 2015, the University has been participating in the EU's most competitive basic research program, ERC, and has also won H2020 consortium applications. From 2019, ÓU's rese-

arch portfolio has been strenghtened by a competence center within the framework of a central tender, as well as its leading role by practice orientated industrial R&D tenders.

DOMESTIC TENDERS



DOCTORAL SCHOOL ON MATERIALS SCIENCE AND TECHNOLOGIES

Doctoral School on Materials Science and Technologies, accredited in 2012, focuses on knowledge transfer and research on light industry raw materials as macromolecular systems, with a particular focus on environmentally beneficial raw materials and their use in new areas. The portfolio – in a broader sense of materials science – also covers other related fields.

The aim of Doctoral School on Materials Science and Technologies is to provide comprehensive knowledge of materials and enable their students to use their knowledge to carry out creative work in

the field of materials science and its practical application.

Both education and research is carried out by integrating different disciplines and aims at understanding the connections between the structure and properties of materials, and the development of new structural and functional materials. The Doctoral School covers diverse fields, including, macromolecular systems, advanced metals and ceramics, composites, and micro- and nanostructured materials.

DOCTORAL SCHOOL OF APPLIED INFORMATICS AND APPLIED MATHEMATICS

Doctoral School of Applied Informatics and Applied Mathematics started its activities in 2009. Its aim is to provide researchers with a basic technical background comprehensive knowledge and skill set in the field of computer science and applied mathematics, and to enable them to independently solve research and development tasks based on real industrial needs through the synergistic, creative application of acquired multidisciplinary knowledge. The doctoral school focuses – within the discipline of IT – on cyber medicine systems, robotics, and engineering computational methods and

models. The applied mathematics branch of the doctoral school focuses on the applied mathematical areas that establish and support the topics listed above. Current research projects cover a variety of exciting and timely disciplines, such as the collection and analysis of biological signals obtained in a way that does not harm the body, automated analysis of 3D medical images, mathematical model-based regulation of certain cancer types, and the relationship of biomechanical movements to psychological and cognitive problems. Other related research areas include: event-driven distribu-

ted sensor systems, control theory, application of bioinspired methods to describe the cooling process of castings, adaptive, optimal and robust control and time delay problems, new geoinformatics methods such as the use of visual decision support systems and automation of low-level robotic motion telesurgery, application of new, parallel kinematic structures in robotics, independent analysis of source code, GPU-based machine-learning language, use of artificial intelligence in “big data” applications, as well as new methods in project management.

DOCTORAL SCHOOL ON SAFETY AND SECURITY SCIENCES

The aim of the Doctoral School on Safety and Security Sciences is to educate professionals and researchers in order to have a comprehensive knowledge in the field of security science, in-depth knowledge in their field of their respective research areas, and to be able to carry out research combined with individual, creative and practical applications.

The goals of the doctoral school science program include understanding the relationships between biometric systems and devices and developing a new structure and method through the integration of different fields of science. Outstanding

emphasis is put on critical infrastructures and systems, especially explosive metalworking technologies. Its activities also include an advanced approach to informatics.

RESEARCH AREAS:

- Biometric Tools and Methods
- Blasting Metalworking Technologies
- UAV Systems
- Critical Infrastructures
- Infocommunication Systems and Technologies
- Cybersecurity

RESEARCH AND DEVELOPMENT

R&D and innovation are key tasks of Óbuda University, which form a harmonious unit with education. It is carried out in high-quality, internationally recognized research, European and domestic research projects, as well as in developments and innovation serving the latest needs of the industry.

The University supports the establishment of research groups that satisfy market needs and lays the foundation of various production processes. It also initiates the establishment of competence centers that cooperate intensively with market players and carry out outstanding research, development and innovation activities.

Óbuda University is an active player in the international scientific community, providing outstanding results in the fields of machine intelligence, robotics, medical

systems, intelligent systems, a large volume of data, the Internet, materials, critical infrastructure, security and green technologies. ÓU has relations with more than 90 countries, and has also signed 185 educational cooperation agreements. Moreover, ÓU is involved in 71 domestic and international research projects (more than 20 are EU-funded) and participates in 300 bilateral international programs. Furthermore, Óbuda University organizes around 15 international scientific conferences a year.

It offers an exciting, up-to-date, student-friendly, creative and supportive environment for learning and research, with an emphasis on both basic and applied research, internationalization, green and sustainable development, research, innovation, lifelong learning and networking and cooperation with industry partners.

MAIN RESEARCH AREAS:

- Da Vinci Surgical Robot System
- Artificial Pancreatis
- Biosensor
- Energy Sector
- Drones



Co-funded by the Horizon 2020 programme of the European Union

Competence Center

INTERNATIONAL AND SCIENTIFIC LIFE



Óbuda University can rightly be proud of the international network it has built through the implementation of scientific, research, higher education and joint projects. The University's management places great emphasis on developing and sustaining internationalization, the visible results of which include agreements with a number of foreign universities and research institutes, active involvement in an international academic life, and multifaceted educational and research collaboration from Japan and beyond worldwide. Understanding that publication of high quality is an essential condition for the recognition in international scientific life, ÓE strongly supports this work among lecturers, researchers and students alike.

At the initiative of the University and taking on a key role in organizing, a number of international conferences have been launched which are now widely recognized and supported by IEEE, and furthermore, the publications are included in the IEEE Xplore digital library. IEEE Hungary Section (HS) has been chaired by members of Óbuda University for 4 terms and the events organized during the Hungarian Scientific Season in November also draws attention to the research carried out at this Institution. The University financially supports lecturers and researchers intending to present their findings in domestic and international conferences. The most important recognition for any scientific journal is indicated by having an

impact factor. Óbuda University is proud to say that its co-edited journal with IEEE HS, **Acta Polytechnica Hungarica** has been unique in the technical science field in Hungary for several years. The American Thomson Reuters considered it already worthwhile in 2008 to include the journal in its products as well as its information dissemination cycles. ÓU's entirely electronic journal, the Óbuda University e-Bulletin has a publishing contract with Springer Publishing in the Computational Intelligence series. Another journal, Ybl Journal of Built Environment, published by De Gruyter Publishing, can be read online on the Sciendo interface.

CROSS-BORDER PROGRAM

Óbuda University places a high level of importance on Hungarian scientific and professional relations across the border and in the diaspora. The University makes investments and builds close partnerships in the countries of the Carpathian Basin, as well as with Hungarians in the diaspora, through which we can transmit knowledge accumulated in the Institution among various market participants. We have active cooperation agreements with Hungarian higher education institutions in the cross-border region (János Selye University, Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education, Sapientia Hungarian University of Transylvania, Partium Christian University, Subotica Tech) and we have good relations with prestigious Hungarian born researchers, Hungarian embassies and a number of cross-border business associations. One of our special events is the 30th anni-

versary of the Kandó Kálmán Summer School in 2019, which is important not only for the transmission of professional values but also for the knowledge development of Hungarian-speaking students across the border. The off-campus, external education programs in Odorheiu Secuiesc, Romania (light industry) and Subotica, Serbia (mechatronics) are also an effort to link Hungarians living abroad with those in the country. The main goal is to connect Hungarian technical higher education institutions operating in the Carpathian Basin and create joint projects and partnerships thus serving the creation of the common educational space in the Carpathian Basin.

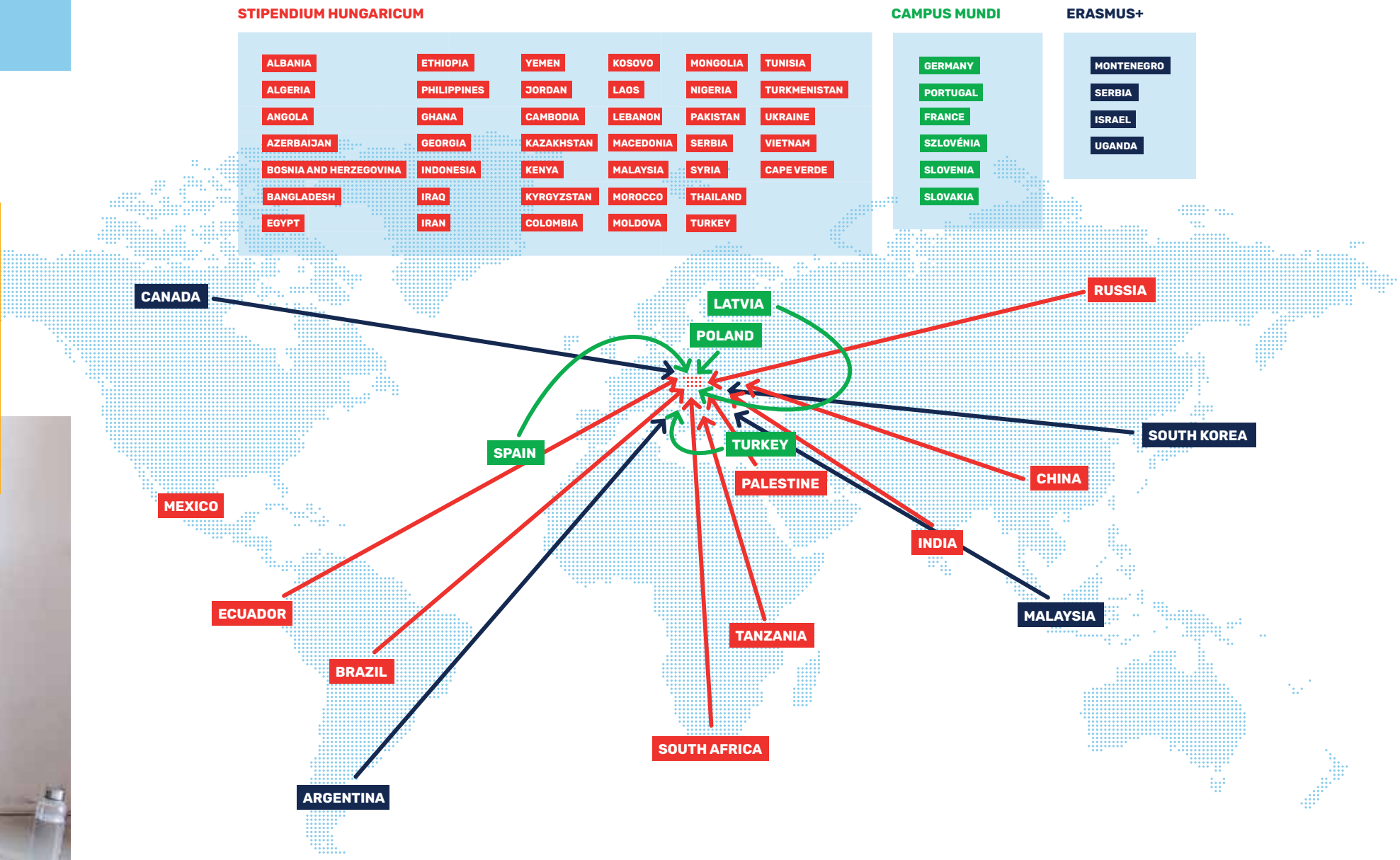
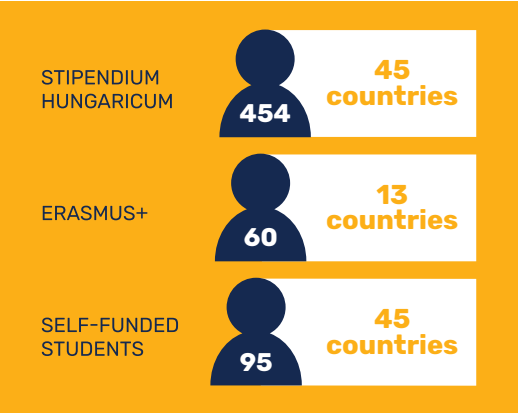


STUDENT AND STAFF MOBILITY

In order to improve international awareness Óbuda University offers students and lecturers many opportunities to participate in international mobility programs through long-term international agreements with excellent universities. The University provides an attractive, international teaching and research atmosphere for all members of the academic community.

It has world-class research and education conditions, a multicultural lab and a lecture hall atmosphere as well as the necessary infrastructure for promoting international relations. The exchange programs provide an opportunity for Hungarian students and employees to build international relationships and develop a multicultural perspective

that is highly valued by employers.



CHANCELLERY, INFRASTRUCTURE

The Chancellery is responsible for the operation of the University, in particular the maintenance and development of the equipment and available infrastructure. As a separate organizational unit, it takes care of the performance of services, as well as

legal, communication and administrative tasks related to the economic, technical and operational areas. Its mission is the creation and development of 21st Century educational infrastructure and the realization of the triple unit of talent

management, community building and competitive student service improvement. In addition, there is a significant emphasis on the development in education and research.



Óbuda University provides student accommodation on both the Budapest and Székesfehérvár campuses. This opportunity is primarily offered to students living quite a distance from campus, and who have earned this advantage based on their academic credentials, social status and community work.

In Budapest, on Bécsi út, the recently renovated 21st Century, European-standard building of Kandó Kálmán Dorm can also

accommodate students. The barrier-free building has family rooms and a cinema room. In addition to modern accommodation, there are communal areas for sports and other events, a computer room for

48 people and study rooms. Moreover, bicycle storage facilities have been set up next to the building and there are specially adapted rooms / for students with special accommodations.



Kandó Kálmán		415
Kiss Árpád		152
Bánki Donát		116
Hotel BMF		390
Geo Dorm		169
Óbuda Student Hostel		250



In addition to the administration on the Óbuda and Pest campuses in the Student Community Centers, the University also supports the organization of community life.

STUDENT ADMINISTRATION:

- student loan administration
- mental health counseling, trainings (also online)
- community service: providing pre-graduation students with the opportunity to complete a mandatory 50 hours of school community service

STUDENT EVENTS:

There is a vibrant community life at Óbuda University, with sports facilities and fascinating programs.

STUDENT SERVICES

LIBRARY

The Library of Óbuda University is a public higher education library where learning and research support services are offered. The Library has online databases covering all disciplines.

SERVICES: online education support | reading service | „Off campus” (digital service)



CAMPUSES

- 1 5 member libraries - one system
- 2 *Collection of more than 160 thousand volumes*
- 3 Available computers in the reading rooms: 70 pcs
- 4 *More than 7,000 registered readers, of which 3,200 are active library users*
- 5 The number of documents borrowed exceeds 28,000 volumes per year
- 6 *Subscribed scientific databases: 17 pcs*
- 7 20 thousand online documents
- 8 *Online e-learning courses in Hungarian (9) and English (3)*



STUDENT LIFE



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