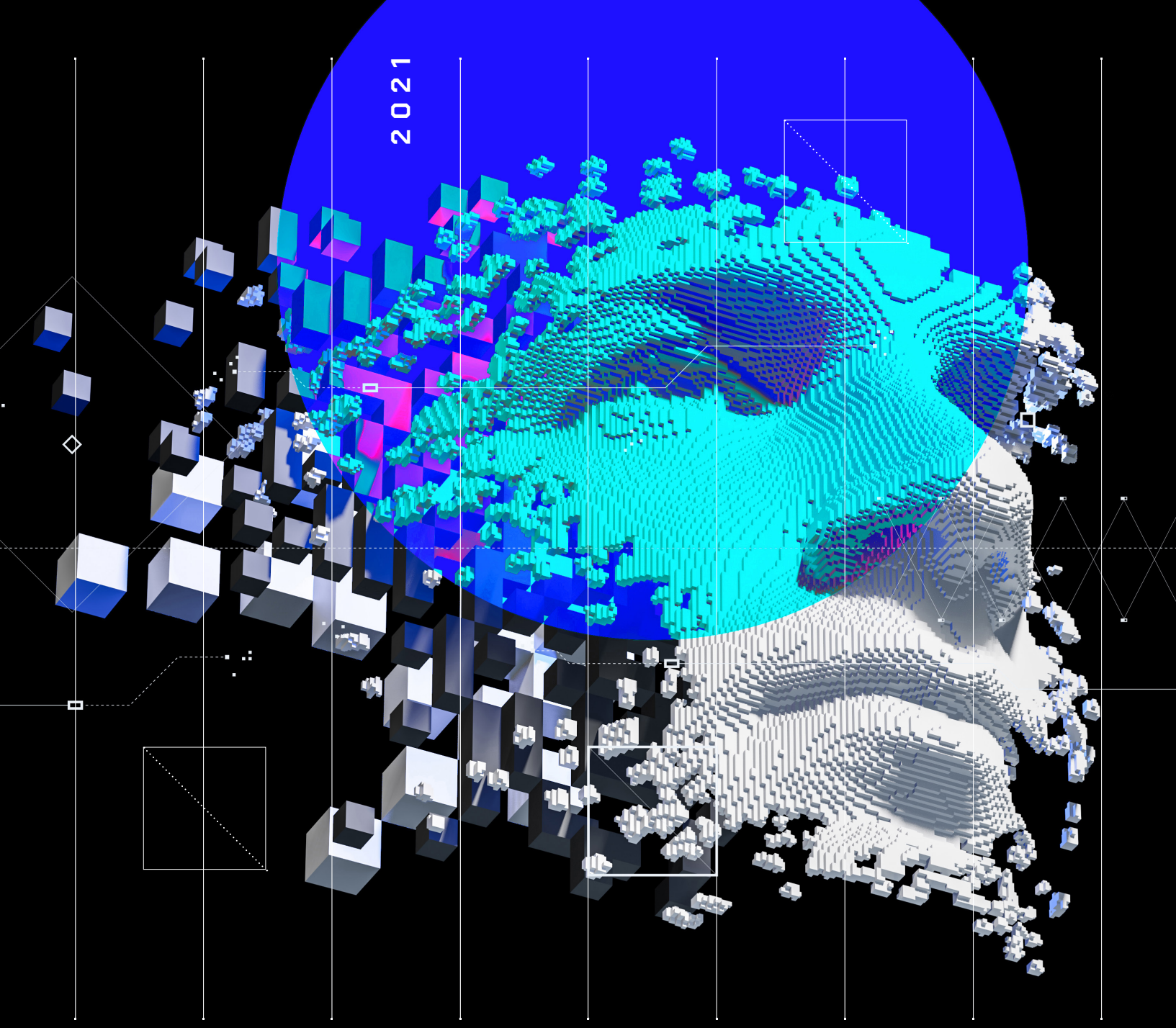


2021



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FACTS AND NUMBERS



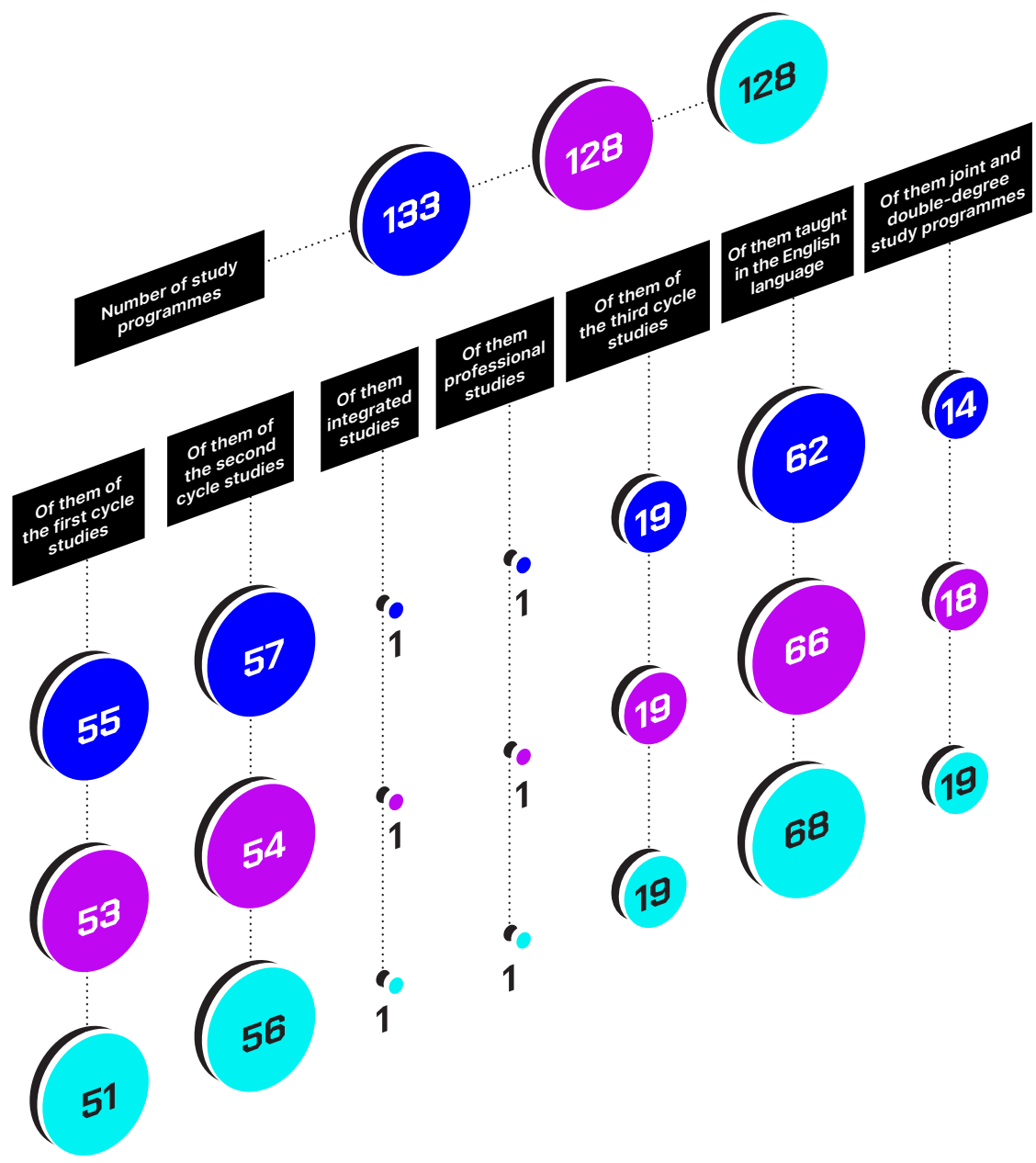
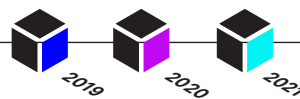
Strategic indicators

Income for R&D&I works and services, thousand EUR	2865,61	3454,91	4356,75
Income for R&D&I works, thousand EUR	1285,34	1745,57	2561,54
Income for R&D&I services, thousand EUR	1580,27	1709,34	1795,20
Income for research projects, thousand EUR	6975,21	11825,16	14355,98
Income for international research projects, thousand EUR	1511,47	2091,23	2459,47
Income for national research projects, thousand EUR	5463,74	9733,92	10024,96
Income for research infrastructure projects, thousand EUR	n. d.*	n. d.*	1871,54
Number of academic employees	1114	1142	1103
FTE of academic employees	921,16	914,41	936,37
Ratio of foreign and all academic employees, %	5,03 %	5,6 %	5,7 %
Ratio of the FTE of foreign and all academic employees, %	3,44 %	3,31 %	3,7 %
Number of students (total)	8442	8060	7654
first cycle studies	6039	5583	5208
second cycle studies	2035	2089	2087
third cycle studies	319	332	328
Number of foreign students (total)	1022	901	1031
first cycle studies	334	368	419
second cycle studies	248	221	210
third cycle studies	68	79	85
partial studies	369	233	317

*n. d. – no data recorded in the specified period.

FACTS AND NUMBERS

Study programmes*

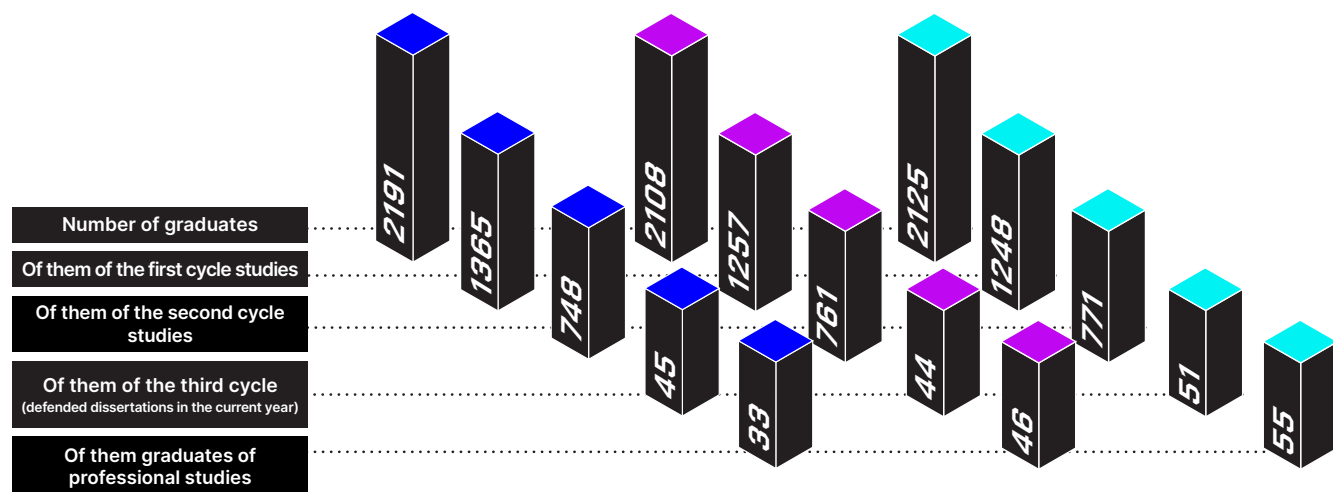


* Provided study programmes with at least 1 student.

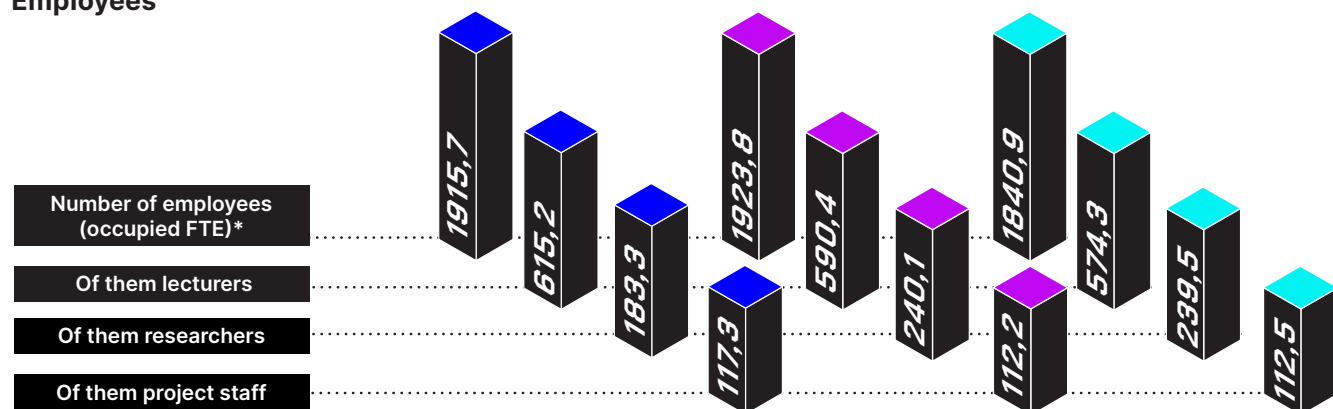
FACTS AND NUMBERS



Graduates



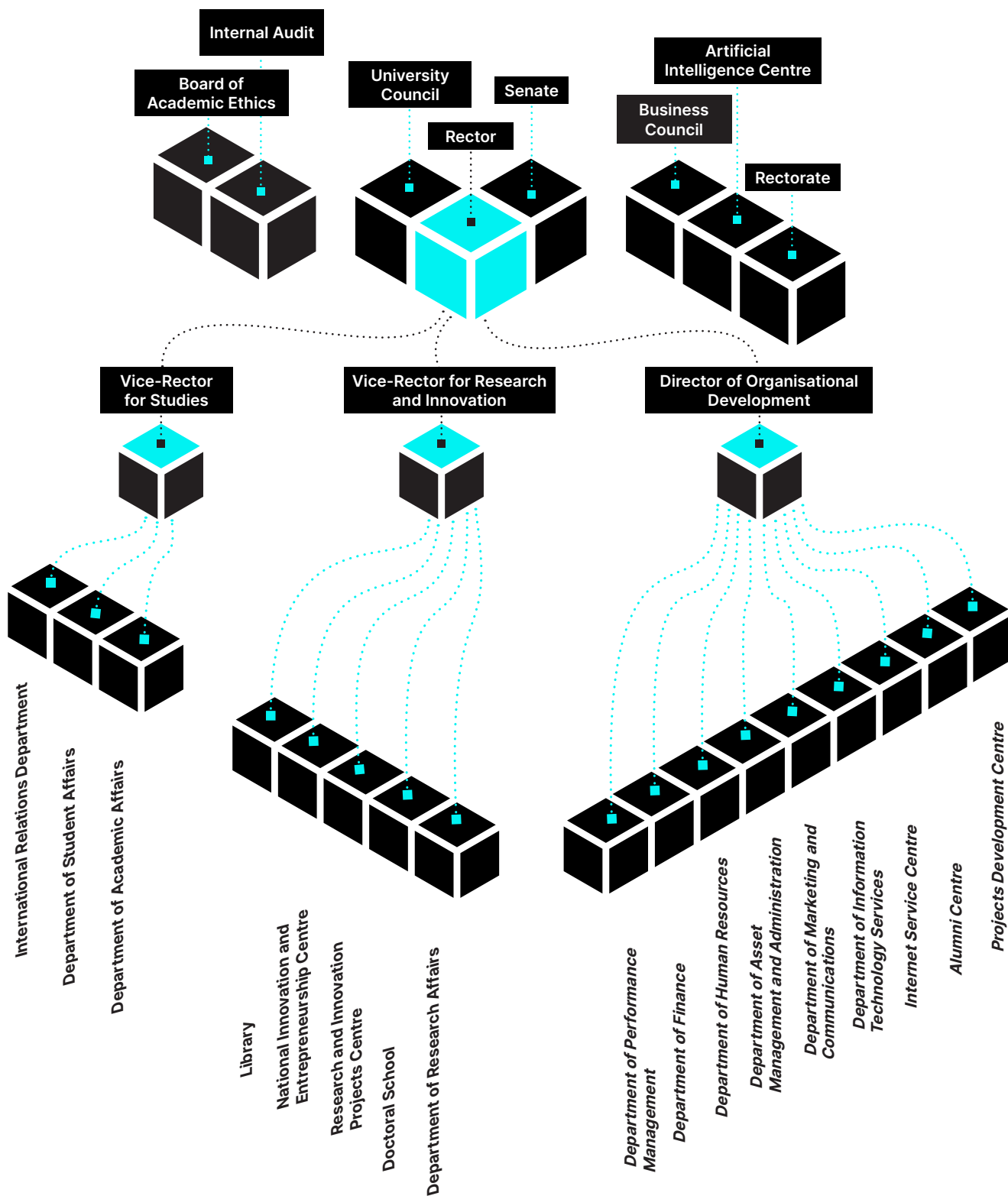
Employees



* Data of 31 December.

Non-academic departments (administrative and service)

The structure is approved by Order No. A-41 of the Rector of Kaunas University of Technology of 24 January 2019. (Edition of Order No. A-631 of the Rector of Kaunas University of Technology of 10 December 2020; Edition of Order No. A-454 of the Rector of Kaunas University of Technology of 12 November 2021).



**STRATEGIC
ACTIVITIES
OF THE
UNIVERSITY**

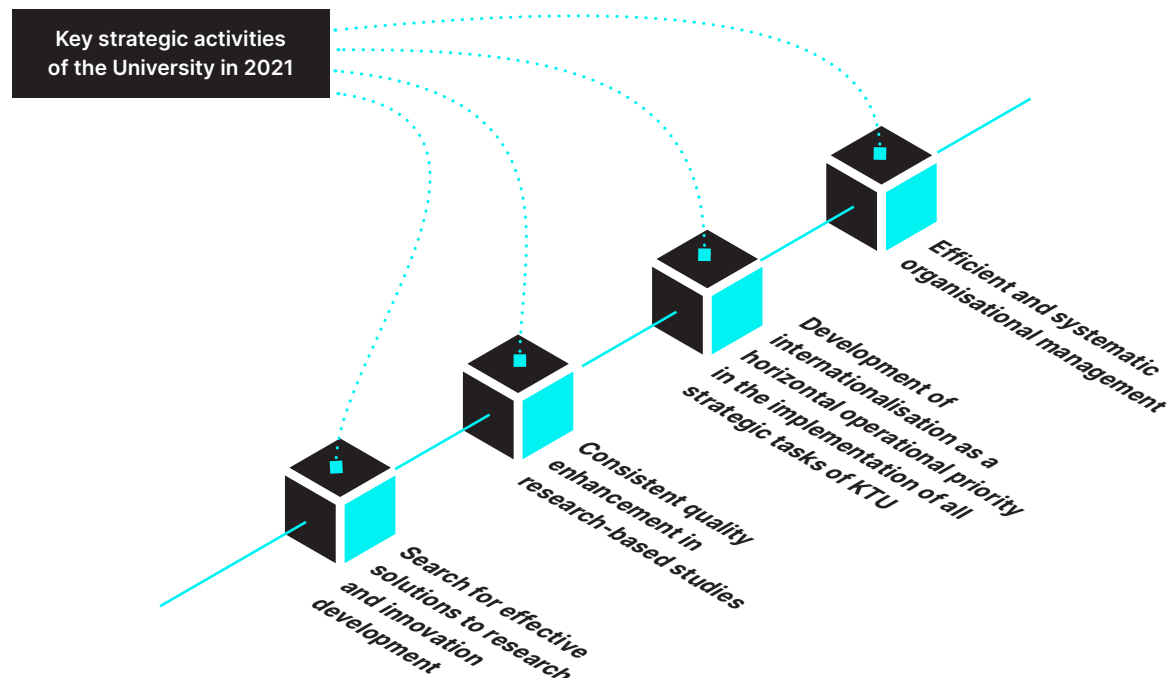


Strategic activities

The University Strategy 2021-2025 was approved by the decree of the Council of Kaunas University of Technology (hereinafter – University or KTU) at the beginning of 2021. Hereby, the University's community committed to each other and to the society to continue the ongoing works promoting the development of society and education as well as research and innovations, ensuring consistent regional growth and international development, fostering and preserving cultural

and ethical values. Key strategic activities of the University in 2021 were continuously focused on several key operational aspects, including consistent quality enhancement in research-based studies, search for effective solutions to research and innovation development, efficient and systematic organisational management. However, one of the most important long-term objectives of the University is the development of internationalisation as a horizontal operational pri-

ority in the implementation of all strategic tasks of KTU. Each year, the University becomes more and more recognisable in the international research and academic arena and ensures its successful continuous cooperation with recognised foreign research and academic institutions and business enterprises. The University ensures favourable conditions for international cooperation within the implementation of study and research projects by increasing the number of international experts participating in priority areas of KTU studies and research.

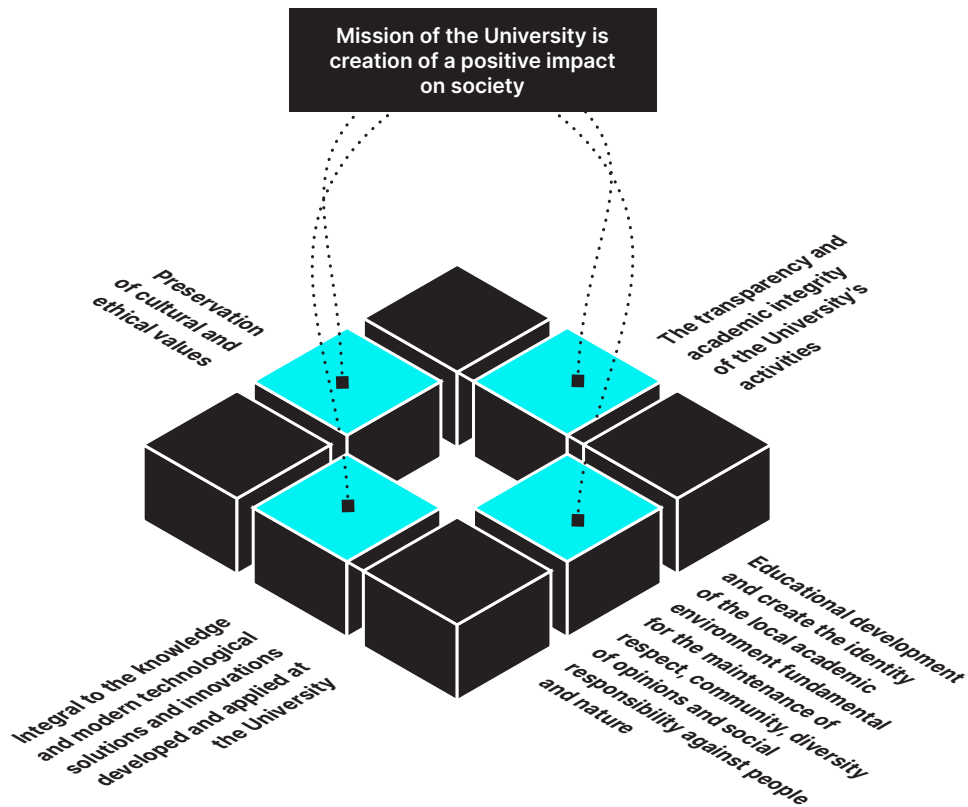


Impact on societal development

One of the missions of higher education institutions is always related to the creation of a positive impact on society. KTU boldly assumes responsibility for the members of our local and regional society; therefore, everyday activities of the University are based on the fostering and preservation of cultural and ethical values. The transparency and academic integrity of the University's activities

and the development of the future members of our society capable of creating high added-value enable the University to constantly promote societal and educational development and create the identity of the local academic environment fundamental for the maintenance of respect, community, diversity of opinions and social responsibility against people and nature.

A positive impact on society is integral to the knowledge and modern technological solutions and innovations developed and applied at the University that actively shape our country's competitive advantage in the international arena. Recently, the University rejoiced in a number of achievements contributing to societal growth:



Impact on societal development

- awards received by scientists for the development and dissemination of new, fundamental and practical knowledge;

- scientific discoveries recognised by local and international awards promoting prompt breakthroughs in research and innovations;

- new and ongoing cooperation agreements with business and public sector representatives helping to create an increasingly stronger impact on local economic and social development;

- establishment of new, innovative enterprises promoting technological development and creation of new jobs;

- exceptional achievements of the academic community in the area of studies enabling the transfer of knowledge into practice;

- involvement in the governing bodies of the institutions shaping the policies of studies, research and public welfare and the implementation provisions;

- other relevant factors of societal development are described in more detail in this report.



ECIU university

The most important ongoing international project that requires the most strategic decisions and attracts the most international attention is the ECIU university. The development of the model of the innovative university began in 2019. The project, implemented by the member universities of the European Consortium of Innovative Universities (hereinafter – ECIU), produced numerous results in 2021:

■ The study module “Challenge-Based Innovation Development” (6 credits) was launched; its objective is to enable the students to innovatively solve complex real-life challenges using the challenge-based learning method, working in interdisciplinary and multicultural teams consisting of the students of 12 European universities-members of the ECIU university. The students choose to study this module on their time free from studies. 152 students from KTU and ECIU partner universities participated in the ECIU university challenges coordinated by KTU in 2021. While working in international and interdisciplinary teams with lecturers-mentors and representatives of enterprises, the students proposed the solutions to 7 challenges submitted by Kaunas City Municipality, Ignitis Group, and Transportation Innovation Centre.

■ KTU, in cooperation with the members of the ECIU, won and launched the project “ECIU University Research Institute for Smart European Regions (SMART-ER)” under the European Union (hereinafter – EU) research and innovation programme “Horizon 2020”. This project includes the creation of a joint research and innovation agenda responding to Sustainable Development Goal 11 of the United Nations “Sustainable Cities and Communities” under the 2030 Agenda for Sustainable Development. The project “Boosting Innovation and Entrepreneurship through European Universities (BOOGIE-U)” under measure 1 “Initiatives of Higher Education Institutions for Innovations and Entrepreneurship” of the programme of the European Institute of Innovation & Technology was launched.

■ On 9-10 December 2021, KTU, in cooperation with other Lithuanian universities, organised a forum “Higher Education Transformation: Alliances as a Strategic Direction” including a strategic discussion on “What we have to do at the national level to make sure the participation in the European universities initiative creates a maximum value for the participating universities, the Lithuanian higher education system and the local economy”. The representatives of the Ministry of Education, Science and Sport of the Republic of Lithuania, the Ministry of Economy and Innovation of the Republic of Lithuania, the Centre for Quality Assessment in Higher Education, other organisations and Lithuanian universities participated in this discussion. The discussion included the prospects for the implementation of the initiative of the European university networks in Lithuania, good practices and the results to be achieved by Lithuanian universities and required decisions by the authorities for smooth development and implementation of the initiative at the national level.

University in the ratings of 2021

■ KTU ranks among the universities that take 801-1000 positions in the main international university rating “QS World University Rankings”. The University has maintained the best results in the indicator “Student/lecturer ratio” indicating the number of lecturers for one student. KTU takes 54th position in the “QS EECA” rating assessing the universities of the developing countries in Europe and Central Asia. KTU was included in the “QS Graduate Employability Rankings” rating in 2021. It is an innovative tool for students based on the QS rating that enables comparison of different world universities according to the actual results and prospects of employability of the graduates of these universities. KTU takes 501+ position in the total results of this rating.

■ The rating “U-Multirank” gives an evaluation of each criterion instead of one final evaluation of the universities; it classifies the universities into five categories – from A to E – where A is the best evaluation and E is the worst. According to the latest data, KTU received the best category evaluations (A and B) in 16 indicators out of 37.

■ According to the data of the journal “Reitingai” published by the National Rating Agency, KTU firmly holds the 2nd position in the rating of all the Lithuanian higher education institutions. The best evaluation is for the criterion “Competitiveness in the international study arena” in which KTU takes the 1st position. The journal “Reitingai” also rates higher education institutions according to the study fields. In this rating, KTU is in the 1st position in 9 study fields and 2nd in 11 study fields. In the evaluation of the master’s studies, KTU is rated as the best university in 9 study fields and 2nd best in 20 study fields.

**VALUE-
CREATION
CHAIN IN
STUDIES**



Strategic indicators of the value-creation chain in studies



Table 1

International trips of students	404	223	185
of them internship/traineeship trips	193	106	110
of them trips for part-time studies	211	117	75
Number of KTU lecturers who have taught at foreign universities	114	19	32
Number of the study programmes provided in the English language*	43	47	49
Student satisfaction in terms of the quality of educational and recreational environment	3,73	3,8	3,76
Ratio of the students who graduate on time and the newly admitted students, %	56 %	55 %	55 %
Employability of graduates within 12 months after graduation, %	81 %	79 %	n. d.
Income of non-formal education, thousand EUR	518	389	427
Income of study projects, thousand EUR	1623,35	887	2506,34**

* Note. Third cycle study programmes are not included in the calculation of this indicator.

** Note. The calculation methodology for the income of study projects is amended since 2021: the full volume of the income of study projects is included in the income of study projects (including the scholarships).

Study programme portfolio

■ In 2021, 98 study programmes were provided for admission: 42 programmes of the first study cycle, 54 programmes of the second study cycle, 1 study programme of integrated studies and 1 study programme of professional studies. In 2020, 100 study programmes were provided for admission: 44 programmes of the first study cycle, 54 programmes of the second study cycle, 1 study programme of integrated studies and 1 study programme of professional studies. In 2019, 103 study programmes were provided for

admission: 47 programmes of the first study cycle, 54 programmes of the second study cycle, 1 study programme of integrated studies and 1 study programme of professional studies.

■ The study programme package provided for admission is being constantly optimised by updating the composition of the bachelor's and master's study programmes: the study modules of the field were unified in 41 programmes of the first study cycle and 1 study programme of integrated studies, i.e., the study mod-

ule "Introduction to Studies" is included in all study programmes of bachelor's and integrated studies provided for admission; 32 bachelor's study programmes offer a product development project to students; the students of 8 bachelor's study programmes have an opportunity to choose the BA+ interdisciplinary expert competence; 32 master's study programmes (out of 56) offer the opportunities to choose the MA+ interdisciplinary expert competence and individual set of modules.



Strengthening of student attraction and integration in the University

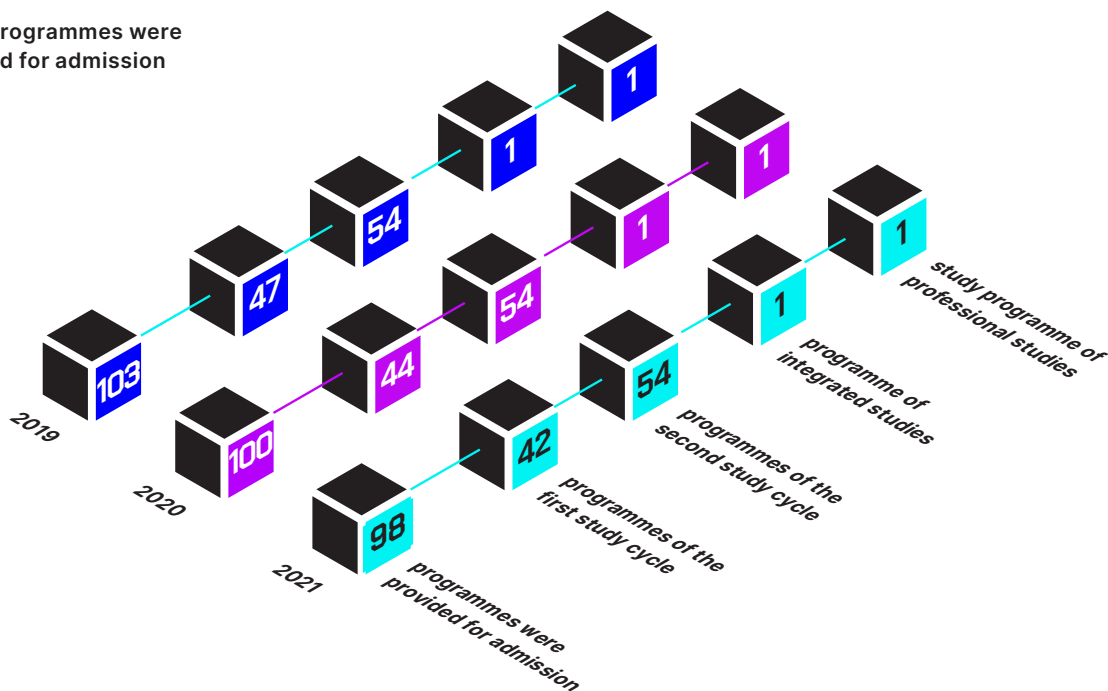
■ In 2021, the University provided 128 programmes in total: 51 programmes of the first study cycle, 56 programmes of the second study cycle, 19 programmes of the third study cycle, 1 study programme of integrated studies and 1 study programme of professional studies in the groups of study fields of engineering, technologies, physical sciences, informatics, mathematics, social, educational sciences, humanities, health sciences, business and public management and

arts. 22 programmes of the first study cycle, 1 study programme of integrated studies, 26 programmes of the second study cycle, 19 programmes of the third study cycle were provided in the English language.

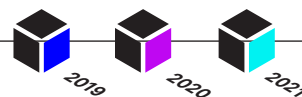
■ Three new study programmes were accredited in 2021: a programme of the first study cycle “Business Digitalisation Management” and two programmes of the second study cycle – “Fashion Innovation Technologies” and “Integrated Design and Construction Management”.

■ 8 two-disciplinary and interdisciplinary study programmes for the achievement of the learning outcomes of two or three study programmes were provided in 2021. 16 MA+ interdisciplinary expert competencies were offered (11 competencies were provided) and 28 BA+ interdisciplinary expert competencies were offered (16 competencies were provided) in total. BA+ competencies were studied by 214 students, MA+ competencies were studied by 400 students.

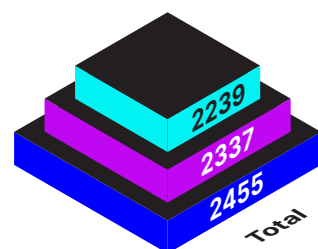
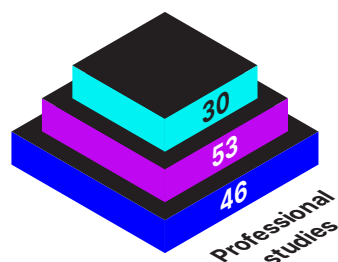
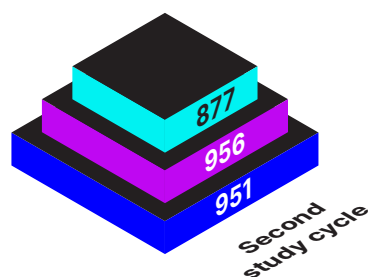
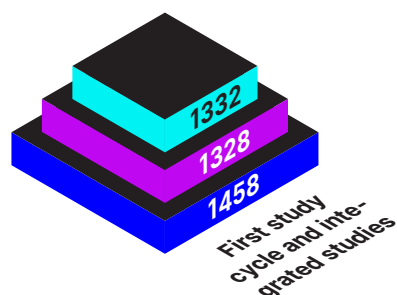
Study programmes were provided for admission



Admission to studies at the University



Admission to studies at the University (study cycles)



Admission to the first cycle and integrated studies

The University held the share of 11% of the Lithuanian market of university studies and 14% of the market of state-funded studies in 2021. According to the total number of admitted students, KTU was in the 3rd position and according to the students admitted to the state-funded study positions, the University was in the 2nd position in Lithuania. According to the number of admitted students who received 100-point evaluations for their maturity examinations, KTU was in the 2nd position (166; 12.4% of all students admitted to KTU), these students made 28% of all admitted students in the study programme “Software Systems” and 32% in the study programme “Artificial Intelligence”. KTU was the first among the largest Lithuanian universities according to the percentage of the invited candidates who sign a learning agreement (93.5%). The biggest number of students was admitted to the following study programmes: “Software Systems” (197), “Civil Engineering” (78), “Electronics Engineering” (76), “Informatics Engineering” (65), “Communication and Information Management Technologies” (63) and “Mechanical” (62).

Admission to the second cycle studies

The University held the share of 14% of the Lithuanian market of university studies and 19% of the market of state-funded studies in 2021. According to the total number of admitted students, KTU was in the 3rd position and according to the students admitted to the state-funded study positions, the University was in the 2nd position in Lithuania, the same as last year. The biggest number of students is admitted to the following study programmes: “Business Big Data Analytics” (37), “Accounting and Audit” (37), “International Business” (32).

Admission to studies at the University

Admission of foreign students

In the 2021 admission of international students, almost half as many applications were submitted to KTU in comparison to the admission of 2020 and the number of the received applications almost returned to the pre-pandemic level (2249 applications were received in 2019, 1387 in 2020 and 2065 in 2021). The number of candidates invited to study remained similar (447 in 2020, 427 in 2021); however, more international students accepted the invitation to study at KTU (156 in 2020 and 211 in 2021). 317 international students arrived to study at KTU.

■ The activities of the University's investment project "Enhancing Internationalisation of Studies" continue successfully aiming to attract talented international students with higher academic results and strengthen KTU positions in foreign target markets. Currently, 22 students receive KTU scholarships for international students.

■ Trackers are created for each study programme, each study portal, each promotion tool for improvement and constant monitoring of the effectiveness of the conducted activities for the promotion of international studies by selecting the tools and publicity channels that reach the candidates from the identified target markets who search for studies that are offered by KTU.



Strengthening of student-centred studies

■ Challenge-based learning is introduced in the study programmes of the University. In 2021, 15% of the study programmes of the first cycle studies and 22% of the study programmes of the second cycle studies applied the methodology of challenge-based learning at least in one study module.

■ The study module of the first cycle studies “Product Development Project” (12 credits) was introduced at the University. It is designed for the development of the skills of development of the products compliant with the needs of society, business enterprises and public sector institutions from a concept to their implementation working in interdisciplinary teams. The study module is offered in 32 study programmes of the first cycle studies. In the spring semester of the AY 2021–2022, more than 550 students will study this module. The lecturers, in cooperation with social partners, provided the students with 58 product development project thematics related to digital transformation.

■ 4 plans for the development of investments to strengthen the quality of study programmes were implemented: the 3D food printing laboratory was updated at the Faculty of Chemical Technology, hardware and software robotics and artificial intelligence tools were acquired and

adapted to the study process at the Faculty of Electrical and Electronics Engineering, the Virtual Reality Studio was equipped at the Faculty of Informatics, the study programme “Sustainable and Energy-Efficient Buildings” was updated at the Faculty of Civil Engineering and Architecture.

■ 5 lecturers and 3 teams of lecturers received awards for innovations and quality in studies. Lecturers: I. Stasiulaitienė, P. Kuzas, J. Vitkuvienė, V. Sukackė, A. Paulauskaitė-Tarasevičienė, D. Čalnerytė, A. Kriščiūnas, T. Sidekerskienė, R. Šmidkaitė, V. Kumpikaitė-Valiūnienė, I. Žičkutė, R. Lalienė, R. Čiarnienė, K. Duoba, R. Bubnys.

■ The process of similarity check and assessment in written works of students was modernised: the evaluation system for written works of students “Turnitin” was integrated into the virtual learning environment “Moodle”.

■ In 2021, 68 e-modules were approved as methodological tools in the virtual learning environment “Moodle”. Currently, there are 2462 study modules with unique codes (courses) in the virtual learning environment “Moodle” which is visited by 5–8 thousand students and lecturers daily. A unified provision of relevant information to students via the Academic Information System is installed.

■ The development of information skills in students is integrated into the module “Introduction to Speciality” and the final degree project modules of the bachelor’s and master’s studies. 2502 bachelor’s students of the first and fourth year and 478 master’s students participated in 4–6 hour training.

■ The Library of the University provided 484 academic hours of integrated and optional training courses in 2021. 2107 students, 97 lecturers, 58 pupils and other members of the University’s community participated in these courses.

■ The “Erasmus+” project “Development and implementation of a digital student preparatory course for developing academic skills and literacy practices (AcSki)” (project number 2020-1-NO01-KA203-076480) began in 2021. The project includes the identification of problems and challenges faced by the first-year students of bachelor’s studies and the preparation of assistance for smooth involvement of students in studies.

■ In the 2020–2021 external assessment of study fields by the Centre for Quality Assessment in Higher Education, KTU was assessed in 10 fields (23 study programmes). All the assessed study fields are accredited for 7 years.

Modernisation of the study process

■ The first stage of the initiative “European Student Card” was implemented: the installation of the modern electronic system for administration of academic mobility processes began at the University; the University connected to “Erasmus Without Paper” using this system and moved to the making of electronic interinstitutional agreements.

■ In 2021, the University installed the electronic submission and administration of student applications, digitised the final degree project evaluation process, installed the unified provision of relevant

information to students via the Academic Information System, digitised the faculty’s study quality improvement plans and reports and the annual activity plans and reports of the fields’ study programme committees.

■ The feedback subsystem apklaunos.ktu.lt was modernised: the reports on the quality assessment surveys for study modules and lecturers’ work were prepared, the sample of data to be displayed for the heads of academic departments and study programmes was expanded, the graphical user interface of the subsystem was updated.

■ The inclusion of the students’ previously acquired learning outcomes was improved: process steps were prepared for students who participate in partial studies at a foreign university, standardised information is provided to students, the administration of the inclusion of the previously completed study modules was simplified in the Academic Information System.



Development of talent development programmes

gifted

skilled | FinTech

■ The GIFTed Masters development programme, focused on the development of leadership knowledge and competencies in the talented students of the second cycle studies, was created and launched in 2021. 13 first-year master's students participate in the programme.

■ 25 students were admitted to the GIFTed Talent Academy in 2021. 123 applications were received in the selection competition. In total, 85 students (from 8 faculties), including 4 international students, participated in the GIFTed Talent Academy in 2021.

■ The joint teams of GIFTed students received prizes at the following hackathons: "DELTA1" (competitions "Hack the Car" and "Capture the Flag"), "FUSE: City Challenge 2021 Kaunas", "HospitON". They participated and received prizes at the International Project Management Championship, competition "Robotex". One team of GIFTed students received the best evaluation in the ECIU challenge "Transforming Kaunas City Municipality into a Digital City".

■ In 2021, the students of the GIFTed talent development programme developed their professional skills in the teams assembled for the career path project (part of the GIFTed programme) in the following enterprises: UAB "Centric IT Solutions Lithuania", UAB "NanoAvionics", UAB "FESTO", AB "LIFOSA" and AB "Swedbank".

15 students were admitted to the SKILLed FinTech additional education programme in 2021. 19 student applications were received in the selection competition – 25% less than in 2020 (16 student applications were received in 2020).



■ 590 enterprises and organisations registered in the improved KTU WANTED work and internship ad platform in 2021 (this number increased more than twice in comparison to 2020). The number of posted internship and work ads also increased more than twice in comparison to 2020. The number of views of the platform reached 130 000 in 2021 (twice as much in comparison to the last year).

■ In 2021, the 17th KTU WANTED Career Days were organised virtually due to COVID-19 disease (coronavirus infection) pandemic. Two live broadcasts were organised and they got 6150 views on the portal lrt.lt on the date of the event and

almost 6500 views on Youtube.com platform. 58 Lithuanian and foreign capital enterprises were introduced during the interactive live broadcast on Youtube.com platform: portal lrt.lt. It broadcasted the conference "SMALL Talks" (14 presenters sharing their experiences) and the forum "WANTED Talks" which included 3 presentations and the main discussion of the event. The event had 8 information partners and friends of the event.

■ The sessions for the preparation for a job interview, writing a curriculum vitae and cover letter, creation of a personal page in the "LinkedIn" network were organised (9 events in total dedicated to career planning) in groups with participation of more than 330 students of the University in total.

■ The event "Become WANTED Summer" was organised for the students of the University, offering more than 100 paid internship places to students.

■ 76 peer mentors, 309 academic mentors who educated 320 students and 169 career mentors were actively working at the University in 2021.

■ The students involved in academic mentorship submitted 38 applications for the funding of research activities in 2021; 20 of these applications received funding.

■ In 2021, tutor consultations were provided remotely and on-campus – students provided consultations for the study modules of mathematics, informatics, object-oriented programming, digital logic, engineering drawing, operating systems, discrete systems and computer graphics.

activat^{ed}

Assistance to students

- 254 individuals applied for initial psychological consultations in 2021; the total number of provided consultations is 735.
- 12 articles and recommendations for students were published on the topic of mental health. Preventive activities for emotional welfare were conducted: canithérapie session, a cycle of sessions at the stress management group, lecture on “Why we postpone our work to the last minute and how to avoid it?”.
- 12 sports teams were active in 2021; the University was represented in 5 additional sports (rowing, fencing, swimming, tennis, chess). Approximately 320 students were exercising in teams; 205 of them represented the University in official competitions. The sports teams participated in 74 championships and tournaments in 2021, 385 competitions in total.
- 1897 visitors exercised in the gym “ACTIVATed Gym” in 2021 (3% more than in 2020 even though the gym was closed for 4 months due to COVID-19 disease (coronavirus infection) pandemic in 2021): 113 employees and 1784 students.
- 204 group exercise sessions were organised in 2021; 33 of them were remote. 167 people participated in group sessions (112 employees and 55 students).
- Recreational sessions of 9 sports were organised in 2021. 304 sessions of recreational sports were organised with 246 participants (all students). 4 sports events were organised in 2021 with 363 participants (348 students, 15 employees).
- On 14 June – 9 July 2021, the day summer camp was organised for the children of KTU employees attended by 70 children (7–12 years of age).

inspired

united

■ 6 art societies were active in 2021 with participation of 276 members (3.4% more than in 2020).

■ The art societies organised the following events: Lithuanian university student choir festival, the festival of the Lithuanian university folk art ensembles “Ei, studente, sukis vėju!”, the concert for the 95th anniversary of KTU Academic Choir “Jaunystė”, the initiative on the occasion of the 45th anniversary of KTU Photo Studio involving 10 Lithuanian schools and prepared a photography exhibition at the chamber of the Faculty of Electrical and Electronics Engineering.

■ The art societies participated in the Lithuanian student festivals “Grok, Jurgeli 2021” and “Linksminkimos”. They also participated in the choir festival of Northern Lithuania and the joint choir concert at the concert hall of Liepaja, Latvia (Lielais Dzintars).

■ 23 student organisations were active in 2021, one of them was established in 2021. 194 student events and initiatives were organised (62% more than in 2020).

■ 29 student projects were approved in the spring semester of 2021 (16 980 EUR were allocated for their implementation), 22 student projects were approved in the autumn semester (17 716 EUR were allocated for their implementation). In total, 34 696 EUR were allocated for the implementation of the projects submitted by student organisations.

■ An introductory course was created for the first-year students, including 12 animated videos containing academic information for the first-year students and 13 tests based on the material in the videos.

■ The ongoing project of the student initiative group “Light Festival 13.7” was launched in 2021. 55 students from 3 faculties (Faculty of Electrical and Electronics Engineering, Faculty of Informatics, Faculty of Mechanical Engineering and Design) are involved in this project. The funding according to the submitted project proposal is received from the State Studies Foundation (17 600 EUR).

■ When the students of the University won the VALORANT university championship “Red Bull Campus Clutch”, the enterprise UAB “Mineraliniai vandens” undertook to install the Gaming Hub area at the University with computers adapted for esports. The conditions for setting up this area were discussed, the draft contracts were prepared, the agreements were made regarding 20 000 EUR support and assets in the value of 37 570 EUR to be put to use.

Student accommodation

■ The condition of dormitories (furniture and equipment were renovated, recreational areas were installed, wi-fi was modernised at dormitory No. 8, reorganisation of places was performed at dormitory No. 13) and environment (the stairs were renovated, benches were installed) was improved in 2021.

■ The average annual occupation of dormitories was 82% in 2021.

Provision of modern information resources for studies

■ When the project funding was reduced, the University allocated 325 861 EUR for the database subscriptions in 2021. Access to 53 international scientific information databases was acquired providing access to 122 205 journals and other periodicals (123 798 in 2020); 29 334 of them are full-text scientific journals (25 166 in 2020). KTU community could use multi-topic and specialised databases ScienceDirect, IEEE/IEL, Emerald, American Physical Society, IOP (Institute of Physics Journals), SAGE Journals Online, Nature, ACS Publications, etc. The members of the University's community downloaded 1 315 840 electronic full-text documents (1 382 884 in 2020).

■ Access to 495 495 e-books was acquired (456 172 in 2020) from the publishers and databases EBSCO, ScienceDirect (e-books by the publisher Elsevier), ProQuest Ebook Central, SpringerLINK, Taylor&Francis eBooks, Morgan and Claypool Synthesis Ebook Collection, SPIE eBooks, Wiley Online Library.

■ The following electronic textbooks and interactive learning material were used in the study modules: Pearson, Cengage, Wiley, Routledge, McGraw Hill, SAGE Business Cases, as well as e-books by the publishing houses of Vilnius Gediminas Technical University and KTU "Technologija".



Recognition system for the pedagogical competencies of lecturers

The concept of the recognition system for the pedagogical competencies of lecturers was developed and presented. The aim of this system is the identification of the didactic competencies required for the lecturer's work and the efficient management and development of the lecturer's career path providing systematic assistance.

Development of non-formal education system

■ In 2021, the University offered 202 non-formal education courses for adults in the study fields of informatics, physical sciences, engineering, technologies, social, educational sciences, humanities, arts, business and public management. Most of the non-formal education training courses were registered at the Municipal Training Centre, Faculty of Social Sciences, Arts and Humanities and Faculty of Electrical and Electronics Engineering.

■ 35 educational programmes for children were offered in 2021. 336 children graduated from KTU Young Computer Users School in spring and 363 children began distance studies in the new academic year.

■ 48 new non-formal education programmes were created and approved. 81 non-formal education training courses were organised and 3589 unclassified students participated in the courses.

Study projects

■ 137 study projects were implemented in 2021, including:

- 48 international projects; 43 of them under the "Erasmus+" programme, 3 of them under the "NORDPLUS" programme, 2 of them under other international programmes;

- 89 national projects; 84 of them under the sub-activity "Development of Competencies of Students through Research During the Semester" of the EU Structural Funds measure No. 09.3.3-LMT-K-712 "Development of Competencies of Scientists, other Researchers and Students through Practical Research Activities".

■ The project "Study Programme Optimisation and Enhancing Pedagogical Competencies for Faculty of Physical and Technological Sciences" funded by the European Social Fund under measure No. 09.3.1-ESFA-V-738 "Optimising the Network of Higher Education Institutions" was successfully completed in 2021.

Major achievements in the study area in 2021

Student achievements

■ KTU student team “Assero Transparent Mask”, in cooperation with a start-up of KTU scientists “Assero” created a prototype idea for a transparent face mask which received the second prize at the innovation competition of the USA San Jose State University (SJSU) “Silicon Valley Innovation Challenge” in the category “Best Overall Innovation”.

■ MB EmPlastrum established by KTU students became the winner of the group in the competition “Created in Kaunas Region” organised by Kaunas Chamber of Commerce, Industry and Crafts.

■ KTU students won the Project Management Championship organised by the International Project Management Association IPMA. 1st prize: M. Timofejeva, A. Čirvinskaitė, G. Bražėnaitė, team mentor: doc. dr. M. Andrijauskienė. 2nd prize: A. Juozokas, I. Savanevičiūtė, M. Vaitkevičiūtė, R. Stankevičienė, team mentor: prof. dr. R. Čiutienė. 3rd prize: E. Guleryuz, K. Klemanskaitė, S. Riauka, P. Tamulis, team mentor: doc. dr. M. Andrijauskienė.

■ KTU student A. Čirvinskaitė and her teammates successfully represented Lithuania and

won the 2nd prize in the International Project Management Championship 2021 in Serbia.

■ KTU students L. Miknevičius, V. Mosteikis, L. Lukauskas, K. Paterebaitė and M. Šulskis won the marketing competition “GO-MAC 2021”. The students, curated by lecturers E. Vitkauskaitė, E. Vaičiukynaitė and I. Petrikė, were awarded the title of the European regional winners.

■ A contract on the interdisciplinary education services for highly gifted pupils of Kaunas City was signed with Kaunas City Municipality Administration and other higher education schools. The manager of this project for 3–4 and 9–11 forms is the Dean of the Faculty of Mathematics and Natural Sciences dr. Bronė Narkevičienė.

■ 6 KTU bachelor’s and master’s students with a record of active research and social activities received the scholarships of the Presidents of the Republic of Lithuania: the student of the first cycle study programme “Software Systems” J. Armalis received a scholarship of Aleksandras Stulginskis (in the group of study fields of mathematics, informatics and physical sciences), the student of the second cycle study programme “Medical Physics” M.

Illickas received a scholarship of Kazys Grinius (in the group of research fields of life sciences, health sciences, veterinary sciences, agricultural sciences, sports studies), the student of the first cycle study programme “Electrical Engineering” Saulė Gudžiūtė, the student of the second cycle study programme “Chemical Engineering” Dovilė Sniečkutė, the student of the second cycle study programme “Industrial Biotechnology” Aida Šermukšnytė received the scholarships of Jonas Žemaitis (in the group of study fields of engineering sciences and technological sciences), the student of the second cycle study programme “Finances” Žaneta Sederavičiūtė received a scholarship of Algirdas Brazauskas (in the group of study fields of social sciences, educational sciences, law studies, business and public management).

■ A scholarship of the President of the Republic of Lithuania Aleksandras Stulginskis was awarded to the fourth-year bachelor’s student of “Applied Physics” (AY 2020-2021) G. Klimaitė for excellent academic achievements in the study field of physics.

Training and competitions

■ The international “KTU Big Data School” was organised at KTU “Santaka” Valley on 22-24 September 2021. A three-day event included three theoretical and practical sessions provided by lecturers with significant experience: doc. dr. Christian Brownlees (Pompeu Fabra University, Barcelona), prof. dr. Luca Citi (Essex University, United Kingdom) and dr. Diana G. Maynard (Sheffield University, United Kingdom).

■ The National Professor Matulionis 'Young Mathematicians' Competition took place on 30 January 2021. More than 400 pupils were solving tasks remotely.

■ The virtual physics competitions for pupils on the occasion of the 25th National Prof. K. K. Baršauskas Physics Competition took place on 6 March 2021. 150 pupils participated in the competition.

■ The public competition of physics and mathematics knowledge “ATRAKINK!” took place on 9 October 2021 with participation of 47 teams. The author of the idea and manager is doc. dr. Ž. Rutkūnienė.

■ The remote “International Masterclass in Particle Physics 2021” took place in February 2021. During the lectures, the pupils and first-year students learned about the European Organisation for Nuclear Research (hereinafter – CERN), the participation of Lithuanian scientists in the activities of the CERN, elementary particle detectors. The event was organised by the lecturers of the Department of Physics.

■ The physicists of the Faculty of Mathematics and Natural Sciences, in cooperation with the Nuclear and Particle Physics Centre Vilnius University and the National Cancer Institute, organised the event “International Hadron Therapy Masterclass” in March 2021.

■ The entrepreneurship competition for pupils “MEKA” took place in March-May 2021. It was organised by the Faculty of Mathematics and Natural Sciences, School of Economics and Business and AB “Swedbank”.

■ In March-May 2021, KTU lecturers of physics, chemistry, information technologies, public speaking, academic writing gave more than 100 free consultations to graduates who experience learning difficulties.

Implementation of the University's strategic priorities in 2021

Updated standard of quality assurance in studies

■ The study management model is updated. It consists of the University Study Quality Committee, the Faculty Study Committees and the Fields' Study Programme Committees. The regulations of these committees were prepared and approved.

■ A new subsystem for the indicators of study fields and programmes is prepared in the Academic Information System: after completion of the first stage of the subsystem's preparation, the data relevant to the assessment of the fields and internal monitoring are displayed on the boards and the data reports are prepared.

■ The methodological tool "Methodology for Optimisation of the Study Programme Portfolio" is prepared (authors: E. Staniškienė, K. Ukvalbergienė, R. Nausėdaitė, V. Janilionis, A. Lukoševičius, V. Daukantienė, L. Šeduikytė, L. Gaižiūnienė, A. Daunorienė). It is designed to implement and develop the competitive University's study programme portfolio corresponding to international practices, the local needs in terms of economic, social and cultural development, business and public sector, based on innovations and research results.

Development of quality culture in studies and strengthening of didactic competencies of lecturers

■ 218 lecturers from KTU and 160 lecturers from other higher education institutions developed their didactic competencies in the training organised by the EDU_Lab, there were 2 study seminars for the academic community's preparation for the autumn and spring semesters, 8 teachers cafes that included the discussions of the University's partners, lecturers and administration about the good practice in the improvement of didactics in higher education.

■ Panevėžys Faculty of Technologies and Business and EDU_Lab implemented the international research event "Remote Teaching – Lessons Learned and New Prospects" including the training of 45 representatives of educational institutions.

■ 2 new training programmes for lecturers were prepared in 2021: "Remote Teaching/Learning: Application of Didactic Principles and Innovative Study Methods", "Challenge-Based Learning: Theory and Application".

■ The broadcasts of the radio show "EDU_Lab Dialogs" dedicated to the University's lecturers and academic community began.

■ The forum "Higher Education Transformation: Alliances as a Strategic Direction" was organised in cooperation with the Lithuanian universities involved in the networks of alliances of the European universities on 9-10 December 2021.

■ The first networking meeting of the didactic competence centres was organised at KTU initiative on 11 June 2021. It focused on the news in didactics with one of the main questions – the need for strengthening of didactic competencies of the lecturers of higher education institutions in Lithuania and its realisation.

Highlights of activities for 2022

- Development of the system of internal quality assurance in studies.

- Introduction of challenge-based learning in the study process.

- Digitisation of the study documents of students.

- The renovated and modernised individual and group study spaces of the multifunctional centre with the integrated library are being used.

- Coordination of the study activities with the activities of the ECIU university.

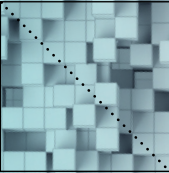
- Preparation and enabling of the guidelines for emotional and social welfare and disability policy.

- Development of the model for the development of additional competencies of students.

- Implementation of the initiatives for the commemoration of the 100th anniversary of the University of Lithuania.



**VALUE-CREATION
CHAIN IN
RESEARCH AND
INNOVATION**



Strategic indicators of the value-creation chain in research and innovation



Table 2

Number of papers in the scientific publications with an impact factor by foreign publishers	378	471	542
of them number of papers with co-authors of foreign institutions in the scientific publications with an impact factor by foreign publishers	181	229	279
Number of papers in the scientific journals with an impact factor of at least the second quartile (Q2)	306	423	483
of them in the open access scientific journals	105	208	286
Number of the students who defended their dissertations on time	38	39	48
Research traineeships of the students of the third cycle studies	50	20	72
Number of the foreign scientists participating in the process of doctoral studies	n.d.	63	66
Number of patents (USA, Japanese, European patents)	0	2	2
Number of patent applications (for the USA, Japanese, European patents)	5	8	17
Income from the transfer of licences/rights, thousand EUR	13,03	26,95	116,46

Implementation of the main activities scheduled for 2021

Active participation in the new EU research and innovation programme “European Horizon” by submitting project proposals

■ In cooperation with national contact points of the Research Council of Lithuania (hereinafter – LMT) and international experts, 5 information-training events were organised for scientists and other researchers about the EU research and innovation programme “European Horizon”.

■ The University’s scientists were actively involved in the new EU research and innovation programme “European Horizon” by submitting 35 project proposals in 2021.

■ International interdisciplinary teams were assembled, the project proposal “Centre of Excellence of AI for Sustainable Living and Working” was submitted under the framework “Teaming for Excellence” of the EU research and innovation programme “European Horizon” which was selected for the second stage competition by the experts of the European Commission.

Competition funding of R&D&I

■ The University’s scientists and other researchers implemented 77 international (“Horizon 2020”, COSME, EIT, EU-REKA, ERA-NET and other programmes) and 169 national research, experimental development and innovation (hereinafter – R&D&I) projects in 2021 (see fig. 1).

■ In 2021, the University has implemented 30 projects under the EU research and innovation programme “Horizon 2020”, 5 of them were launched in 2021.

■ In 2021, the University’s scientists implemented 2 projects under the programme of the European Innovation and Technology Institute, including 1 project of the measure “Manufacturing” – “Development and Acceleration of Technology-Based Enterprises (European Gazelles II)” and 1 project of the measure “Higher Education Institutions for Innovation and Entrepreneurship” – “Boosting Innovation and Entrepreneurship through European Universities (BOOGIE-U)”.

■ The Agency for Science, Innovation and Technology (hereinafter – MITA) funded

20 projects implemented by the University’s scientists: 6 technological development projects, 1 project for industrial development in the biotechnological area in Lithuania, 13 projects under the instrument “Promotion of Commercialisation and Internationalisation of R&D&I Results” of the 2014-2020 EU funds’ investments action programme, 4 of them were implemented under the international cooperation framework EUREKA.

■ In 2021, the LMT funded 35 scientist team projects, 1 project under the Lithuanian Studies and Dissemination Programme 2016-2024, 2 projects under the national research programme “Modernism in Lithuania”, 2 projects under the national research programme “Welfare Society”, 1 project under the national research programme “Healthy Aging”, 2 short-term targeted research projects, 2 projects dedicated to solutions for the consequences of COVID-19 disease (coronavirus infection), 15 international projects implemented under the intergovernmental agreements, 4 projects under

Competition funding of R&D&I

the programme “For Research and Innovation on Materials M-ERA.NET”.

■ 2 projects of the European Space Agency (under the Plan for European Cooperating States (PECS)) and 14 research projects funded by other international programmes or institutions were implemented in 2021.

■ The University’s scientists implemented 98 projects under the 2014-2020 European Union

funds’ investments action programme in 2021.

■ The University implemented 5 projects under the signed donation contracts with the LMT for the implementation of the scientists’ research idea exchange, research visits from and to Lithuania in 2021.

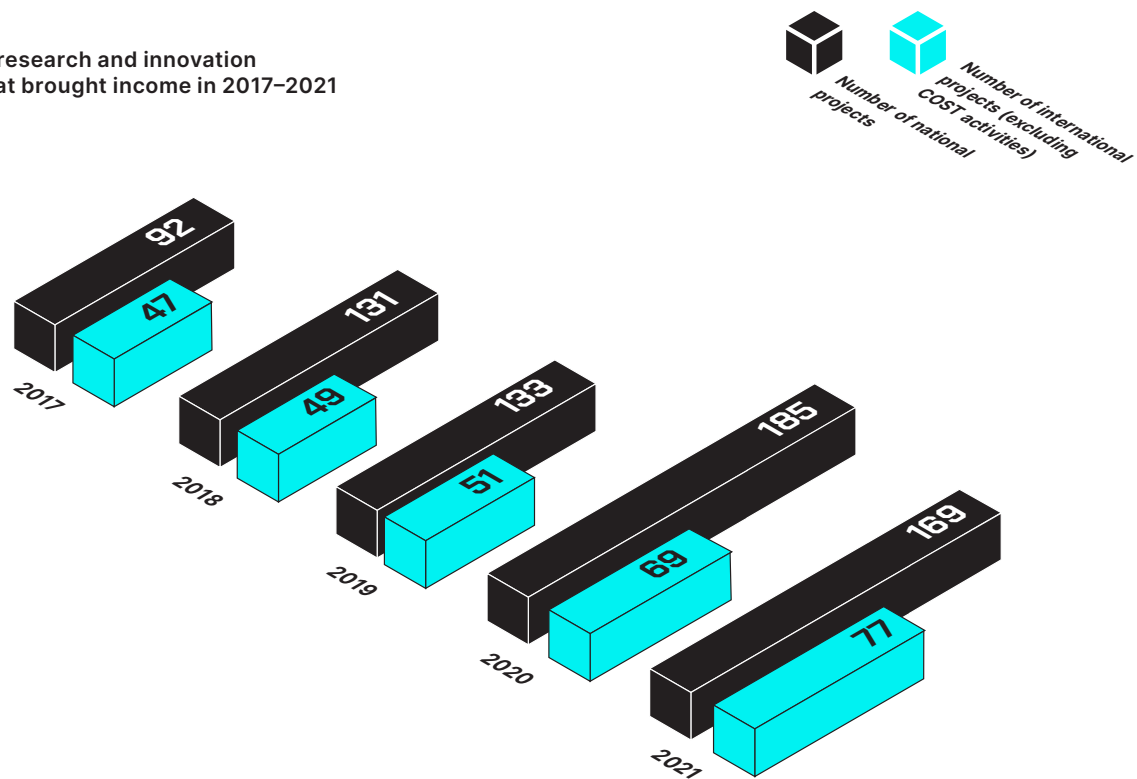
■ 5 projects funded by the National Paying Agency under the Ministry of Agriculture of the Republic of Lithuania were implemented in 2021.

■ The University’s scientists and other researchers participated in 43 activities of the programme COST in 2021.

■ In the development of international cooperation networks, the University’s scientists and other researchers implemented 11 projects under the 2014-2020 EU Territorial Cooperation Programme INTERREG in 2020 (5 of them were research projects under the INTERREG EUROPE programme).

Fig 1

Number of research and innovation projects that brought income in 2017–2021



Strengthening of R&D&I ecosystem

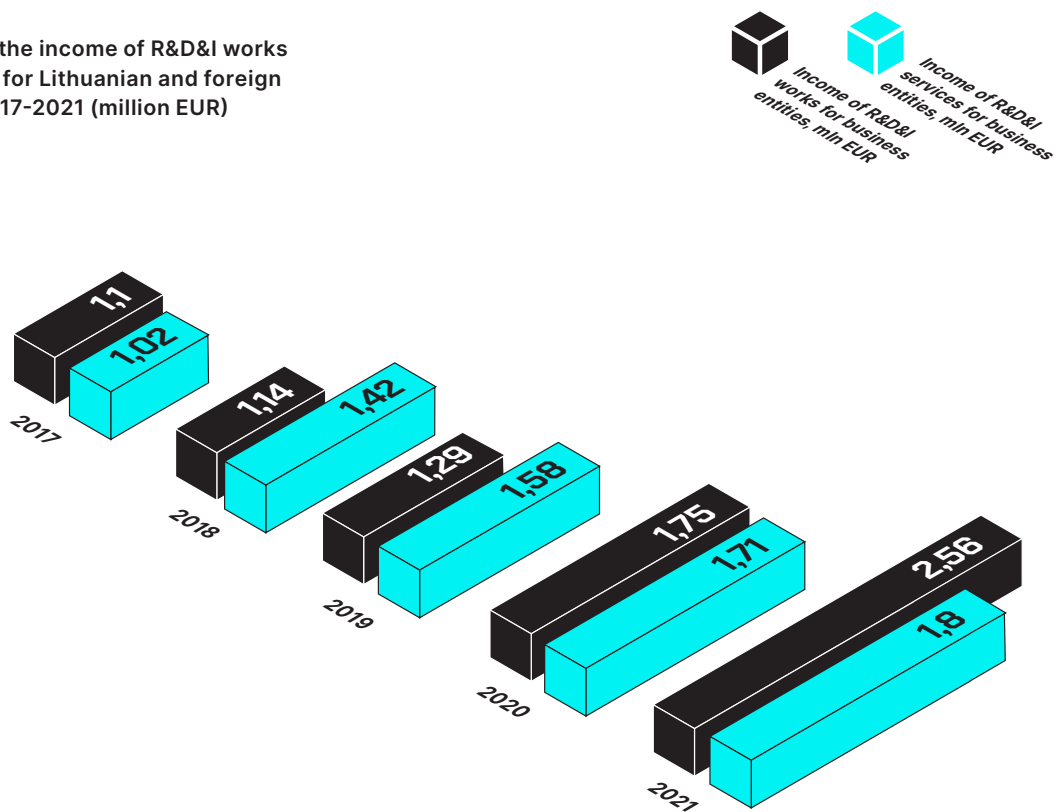
■ In 2021, the University performed R&D&I works and services to Lithuanian and foreign business entities and other organisations for 4 356.75 thousand EUR (see fig. 2), of them, the orders of the foreign entities from 18 countries made 15.8% – 689.53 thousand EUR. Income from the licencing of intellectual property increased by 5 times in comparison to 2020.

■ 17 international patent applications and 10 patent applications were submitted to the State Patent Bureau of the Republic of Lithuania; 12 Lithuanian, 1 USA and 1 European patents are received in 2021.

■ The first meeting of the members of the network of knowledge and technology transfer, intellectual property management “TTO Lithuania” uniting five universities and established in 2020 and foreign guests “TTO Lithuania Autumn Summit 2021” took place in October 2021. The meeting included a discussion about the objectives, vision and role of the network in the context of the Baltic Region and Europe.

Fig 2

Dynamics of the income of R&D&I works and services for Lithuanian and foreign entities in 2017-2021 (million EUR)



Strengthening of R&D&I ecosystem

■ 7 new enterprises were established at KTU academic incubator Startup Space in 2021 in the areas of e-commerce, financial technologies, design, advanced medical technologies, energy and renewable energy resources.

■ The largest in Lithuania intense creative workshops (hackathons) for the development and expansion of innovations were organised on two autumn weekends in 2021: the cyber security solutions hackathon “DELTA 1” was organised in cooperation with the Ministry of National Defence of the Republic of Lithuania and partners

on 12-14 November (150 participants); the sustainability solutions hackathon “INNOVATION HACK. Society goes green!” was organised in cooperation with MITA on 19-21 November (100 participants).

■ All year, the activities of the communities “EIT Health”, “EIT RawMaterials” and “EIT Urban Mobility” of the European Innovation and Technology Institute, coordinated by the University, have continued, including 20 various events on the topics of

promotion of entrepreneurship and development of start-ups.

■ The University signed 40 cooperation agreements with business entities in 2021. Including successful development of relationships with UAB Teltonika IoT Group, Tesonet Group and Bentley Systems Europe, as well as new relationships with the global enterprise of business consulting, technologies and outsourced services UAB Accenture Lithuania and enterprise UAB Kilo Group (Kilo Health) working in the area of digital health and recognised as one of the fastest-growing technological enterprises in Europe, etc.



Major achievements in research and innovations in 2021

■ 2021 Lithuanian science premium in the area of physical sciences was awarded to dr. P. R. Venskutonis for the cycle of works “Functional food products: innovative production technologies, new products and application for food safety and health”.

■ In 2021, dr. R. P. Venskutonis was also awarded by the International Society for Nutraceuticals and Functional Foods for exceptional contributions in the research area of functional food and food products.

■ 2021 Kaunas city science premium was awarded to professor dr. R. Šiaučiušas for research and expert activities introducing innovative solutions in the Lithuanian industry and implementing the projects of the “Santaka” Valley.

■ 2021 winner of the 2020 dissertation competition of the Baltic Universities Programme (BUP) in the category of social sciences and humanities is dr. H. A. Dogan.

■ 2021 winners of the competition of the Lithuanian Society of Young Researchers “Best dissertations of 2020” are dr. A. Magomedov (chemistry) and dr. V. Gružasuskas (management).

■ 2021 premiums in the Competition of Young Scientists and Doctoral Students by the Lithuanian Academy of Sciences were awarded to dr. M. Andrijauskienė, dr. G. Kručaitė, and dr. L. Tamkutė received a letter of commendation; the winners of the Competition Scientific Works of the Students of Higher Education Institutions are K. Nagytė, M. Sutkaitytė, R. Beresnevičiūtė, and Ž. Takulinskas received a letter of commendation.

■ 2021–2022 young scientist scholarships of the Lithuanian Academy of Sciences were awarded to dr. V. Eisinaitė and dr. G. Kručaitė.

■ 2021 premium to the most innovative scientist of the University was awarded to habil. dr. S. Tamulevičius. 2021 winners of the competition of most active young scientists of the University (within 7 years after the acquisition of a doctoral degree) are dr. O. Bezikonny, dr. K. Rakštys, dr. G. Kručaitė, dr. A. Budžytė and dr. E. Zolubienė.

■ The winners of the 2020–2021 competition of the best monographs of the University: 1st prize – dr. D. Martinelli, 2nd prize – dr. J. Banytė, E. Vitkauskaitė, dr. R. Virvilaitė, dr. A. Dovalienė, dr. A. Tarutė, dr. A. Ga-

deikienė, dr. Ž. Piligrimienė, 3rd prize – dr. P. R. Venskutonis.

■ From 2021, the students defending their dissertations at the University, who comply with the criteria approved by the University, are provided with an opportunity to acquire the Doctor Europaeus certificate with their doctoral diploma, certifying the internationality of doctoral studies.

■ In 2021, the LMT conducted an assessment of the quality and effectiveness of doctoral studies in political sciences and sociology fields for the period 2015–2020. The quality and effectiveness of the University’s doctoral studies in both research fields received a positive assessment and it is proposed to continue the provision of doctoral studies.

■ In 2021, four contracts were signed on joint supervision of doctoral students with Ivan Franko National University of Lviv (Ukraine), the University of Lille (France), the University of Bologna (Italy) and Ivane Javakhishvili Tbilisi State University (Georgia). 9 doctoral students were studying at the University under this type of contract with foreign higher education institutions in 2021 (5 in).

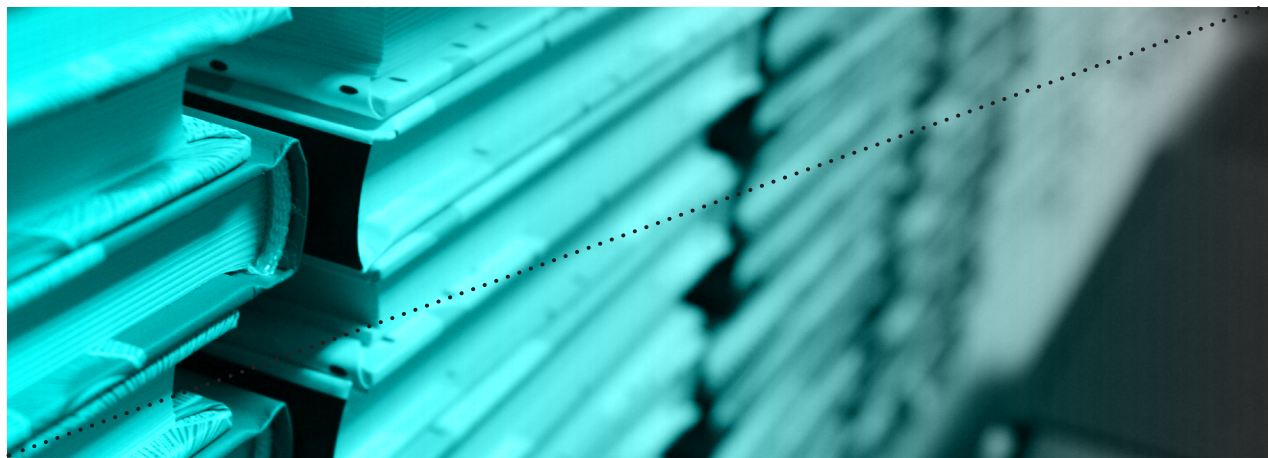
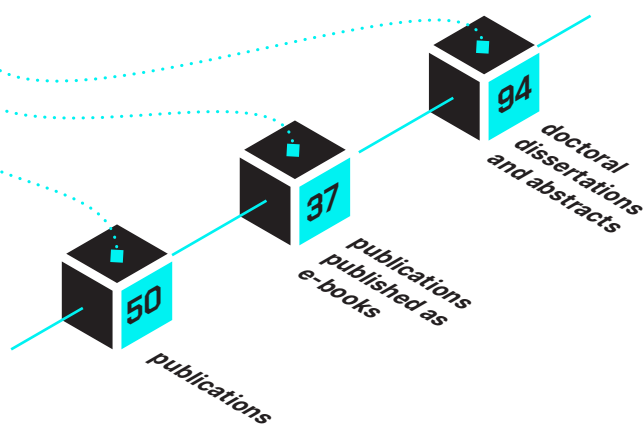
Major achievements of the University's Publishing House "Technologija" in 2021

■ In 2021, the University's Publishing House "Technologija" published 50 publications, 37 of them published as e-books. The University's Publishing House also published 94 doctoral dissertations and abstracts in 2021.

■ In 2021, after the evaluation of the quality of the publications published by the University's Publishing House "Technologija" by the State Commission of the Lithuanian Language as very high and the Commission's recommendations, the University transferred the terms of 5 textbooks and 1 scientific monograph to the Term Bank of the Republic of Lithuania.

■ Based on the data of the survey of e-publications access in Lithuania conducted by the scientists of Vilnius University and published in 2021, KTU Publishing House "Technologija" takes the 1st place among the academic publishers and 2nd place among the largest Lithuanian publishers of e-books in the Lithuanian language according to the number of the e-books published by the publisher and accessible in electronic reading rooms.

In 2021, the University's Publishing House "Technologija" published



Implementation of the University's strategic priorities in 2021

Dissemination of research results

■ In 2021, 940 papers were published in peer-reviewed scientific journals or conference material, 758 of them in the publications of foreign publishers. 584 papers were published in the journals with an impact factor indexed in *Clarivate Analytics Web of Science* or *Elsevier Scopus* databases. 360 papers were published in the open access scientific journals with an impact factor, 286 of them were published in scientific journals

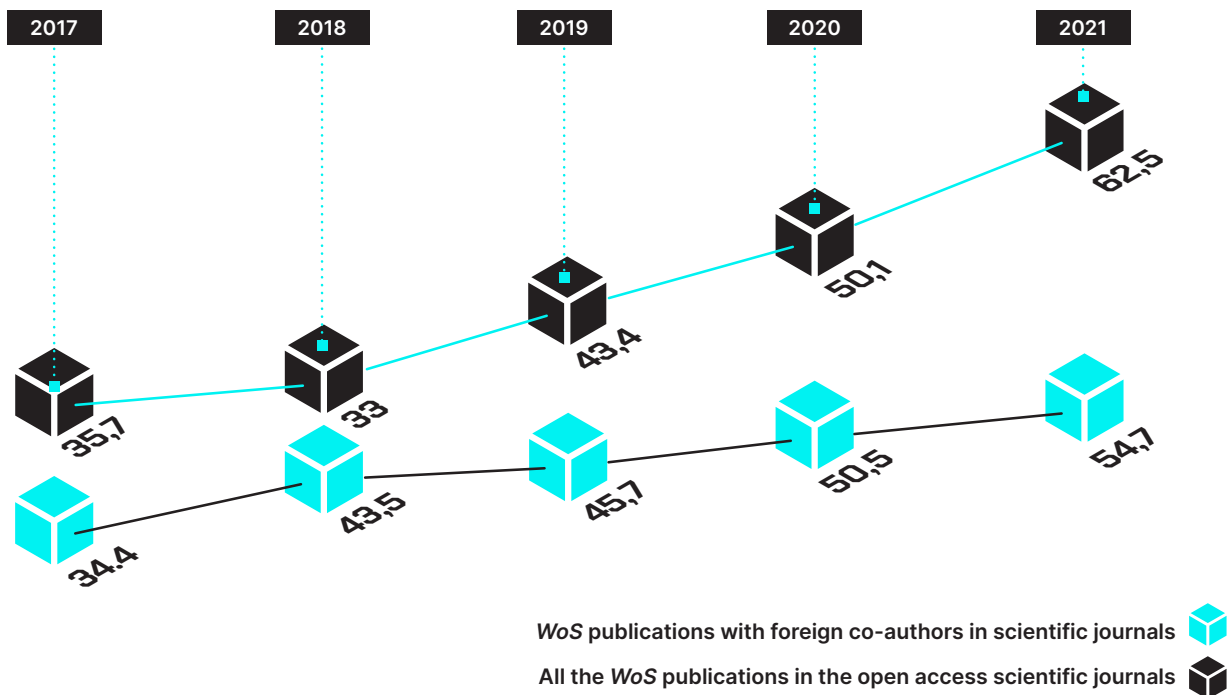
with an impact factor of at least a second quartile (Q2).

■ According to the data of the *Clarivate Analytics Web of Science* database (hereinafter – *WoS*), the number of publications with foreign co-authors in scientific journals increased and made 54.7% in 2021 (fig. 3), the share of these publications published in the open access scientific journals also increased significantly and made

59.9%. The share of all the *WoS* publications in the open access scientific journals increased and made 62.5% in 2021 (fig. 3).

■ 5 scientific monographs and 23 parts of scientific monographs were published by internationally recognised scientific publishers in 2021. In total, 47 monographs, scientific studies, books, publications of scientific sources or parts thereof were published.

Fig 3



Doctoral studies

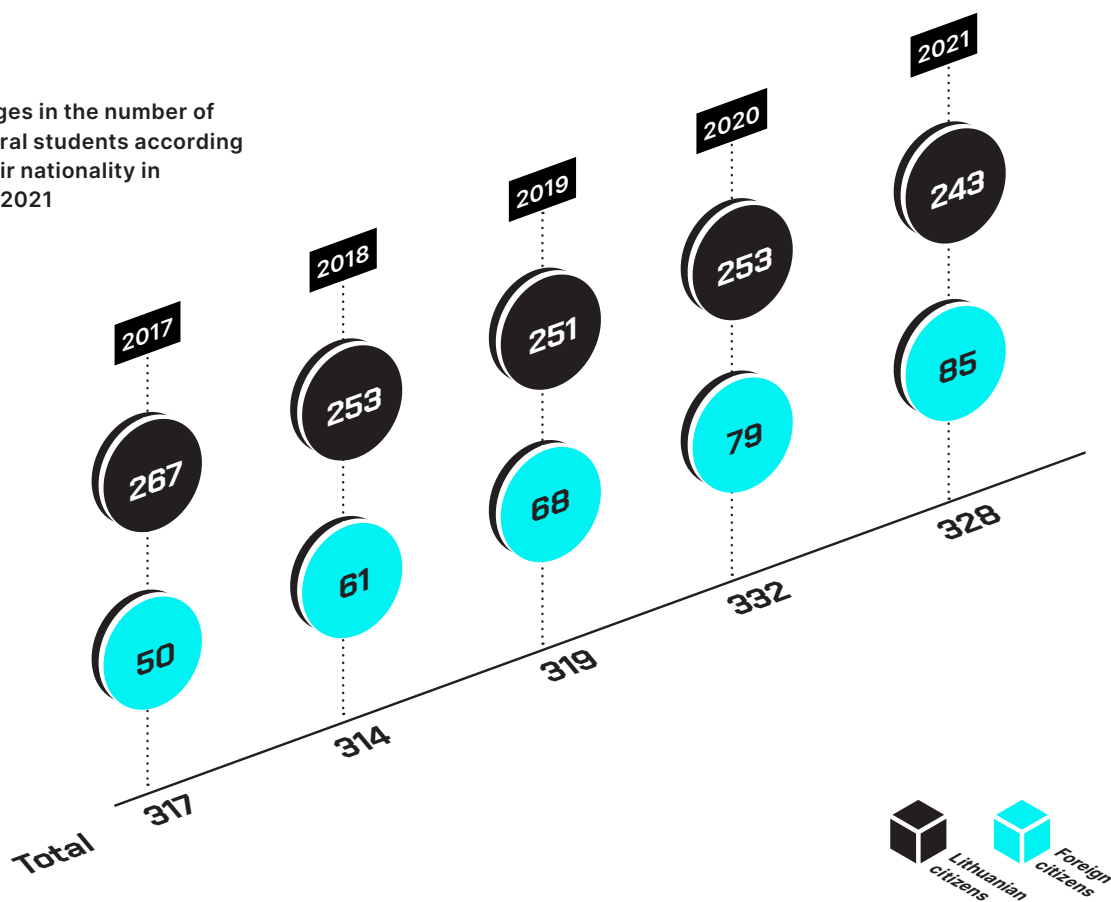
■ The University provided doctoral studies in 19 research fields in the research areas of natural sciences, technologies, social sciences and humanities. Moreover, by the order of the Minister of Education, Science and Sport of the Republic of Lithuania, the University and Vilnius Academy of Arts are the first universities in Lithuania granted the right to provide doctoral studies in the field of architecture.

■ 64 state-funded positions for doctoral studies were allocated to the University in 2021 and 124 candidates applied to them (which made 1.94 applications to one position; 1.97 in 2020). The biggest competitions were in the research fields of physics (5.0), economics (4.0), mechanical engineering (3.0) and electrical and electronics engineering (3.0).

■ At the end of 2021; 328 doctoral students were studying at the University; 48% of them were women, and 52% were men. Approximately 26% of all doctoral students were foreign citizens (2% more than in 2020) (see fig. 4). The largest number of students were studying in the research fields of materials engineering (45), chemical engineering (33), informatics engineering (27) and chemistry (27).

Fig 4

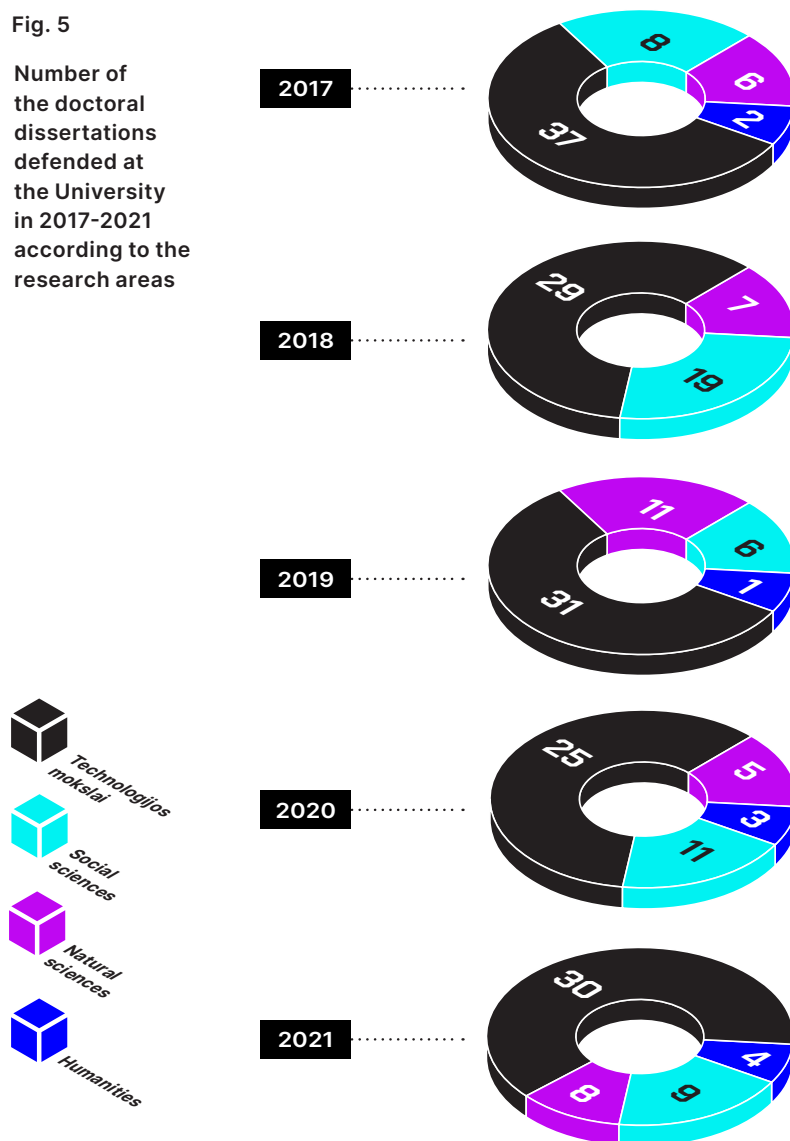
Changes in the number of doctoral students according to their nationality in 2017–2021



Doctoral studies

■ The number of dissertations defended at the University increased in 2021 in comparison to 2020 (44): 51 doctoral dissertations were defended in total, 4 of them defended externally, the remaining ones were defended on time, i.e., within one year after graduation. The largest number of dissertations was defended in the research field of technologies (see fig. 5). 51% of the dissertations defended in 2021 were prepared in the English language, 2 dissertations were prepared based on research articles.

Fig. 5
Number of the doctoral dissertations defended at the University in 2017-2021 according to the research areas



Development of key competencies of doctoral students and strengthening of the managerial competencies of research supervisors

■ The fifth international summer camp for doctoral students “5th PhD Summer School” took place in 2021. It was dedicated to the development of key competencies of doctoral students. 35 doctoral students from 15 countries participated in the summer camp and 5 lecturers from foreign institutions gave lectures.

■ 15 doctoral students of the University participated in the training for the development of key competencies by the guest lecturer prof. F. Witlox from Ghent University (Belgium) “Communicating your (scientific) ideas. Meeting with the editor”.

■ 14 scientists of the University participated in the training for research supervisors of doctoral students organised by the Doctoral School for the third time. The training was provided by a joint team of foreign lecturers from Rovira i Virgili University (Spain).

Highlights of activities for 2022

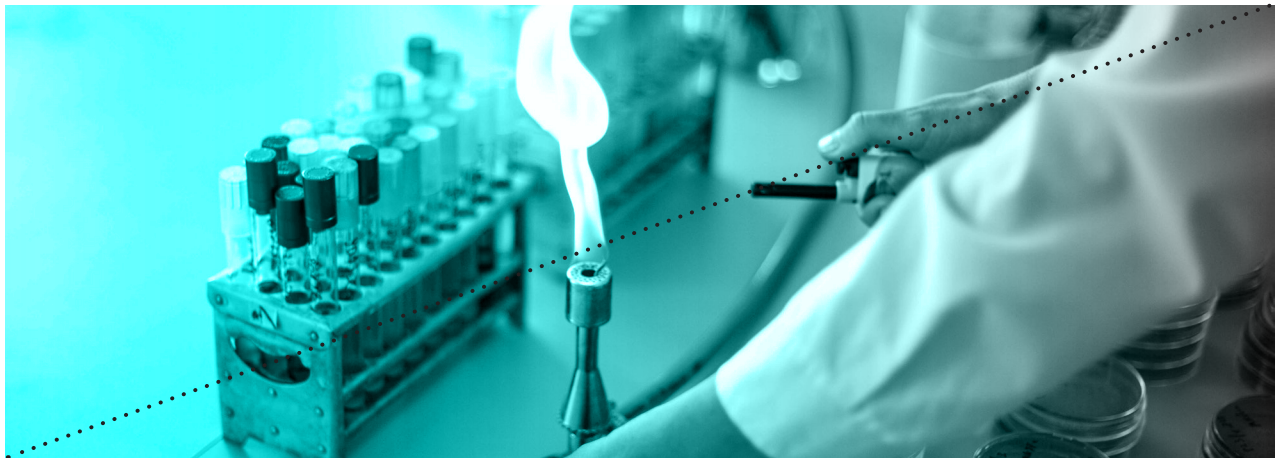
■ Strengthening of key competencies of doctoral students and their supervisors.

■ Involvement in the joint research and innovation activities of the ECIU university.

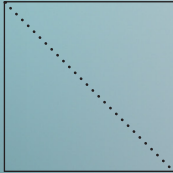
■ Coordination of the development of the European Digital Innovation Centre.

■ Coordination of the development of the Artificial Intelligence Centre under the framework “Teaming for Excellence” of the EU research and innovation programme “European Horizon”.

■ Preparation for the work of the Experimental and Prototyping Laboratory Centre of Physical and Technological Sciences “M-Lab” and its integration into the R&D&I ecosystem of Kaunas City.



**VALUE-CREATION
CHAIN IN
ORGANISATIONAL
DEVELOPMENT**



Strategic indicators of the value-creation chain in organisational development



Table 3

Evaluation of employee satisfaction	3,37	3,6	3,82
Number of the employees who upgraded their qualification	1050	597	673
of them participated in traineeships, training and other events at foreign institutions	154	38	195
of them participated in traineeships, training and other events at Lithuanian institutions	170	99	164
of them participated in traineeships, training and other events at KTU	726	460	314
Number of the non-academic employees who upgraded their qualification	432	274	189
of them participated in traineeships, training and other events at foreign institutions	180	7	47
of them participated in traineeships, training and other events at Lithuanian institutions	91	63	47
of them participated in traineeships, training and other events at KTU	161	204	95
Excess/deficit, thousand EUR	137,45	137	108
Investment costs, %	2,9 %	5,2 %	8,3 %
Share of management costs in income, %	12,1 %	6,3 %	6,4 %

Implementation of the main activities scheduled for 2021

Creation and development of the integrated communication system including the admission campaign

■ In 2021, marketing measures were coordinated with communication actions highlighting the human aspect in KTU (The Human Side of Technology): scientists, lecturers, inventors, and students.

■ Conventional and non-conventional communication/public relations/marketing measures were used in the implementation of communication/marketing cycles representing the expertise of KTU, its cooperation with business and innovations. Most of the topics of KTU communication (19.6% based on the

data of communication analysis by “Mediaskopas”) consisted of the expert opinions, comments and opinions of KTU representatives in various media channels (see fig. 6).

■ During the admission campaign, a project “Future for Electronics” was implemented in cooperation with business enterprises, aiming to promote engineering studies. This initiative was recognised as the best project of the year in the communication projects awards “PR Lapės 2021” in the category “Sumani lapė” (“Smart fox”).

■ Recently, the University focused more on initiatives for the enhancement of communication efficiency. Based on the data of communication analysis by “Mediaskopas”, KTU was a leader among other Lithuanian universities in 2021 according to the communication impact indicator (i.e., the possibility that the audience noticed and memorised the university mentioned in the media and related photographs/videos and tone) (see fig. 7).



Creation and development of the integrated communication

Fig 6

Communication analysis in 2021 (KTU breakdown and recognition according to the topics)

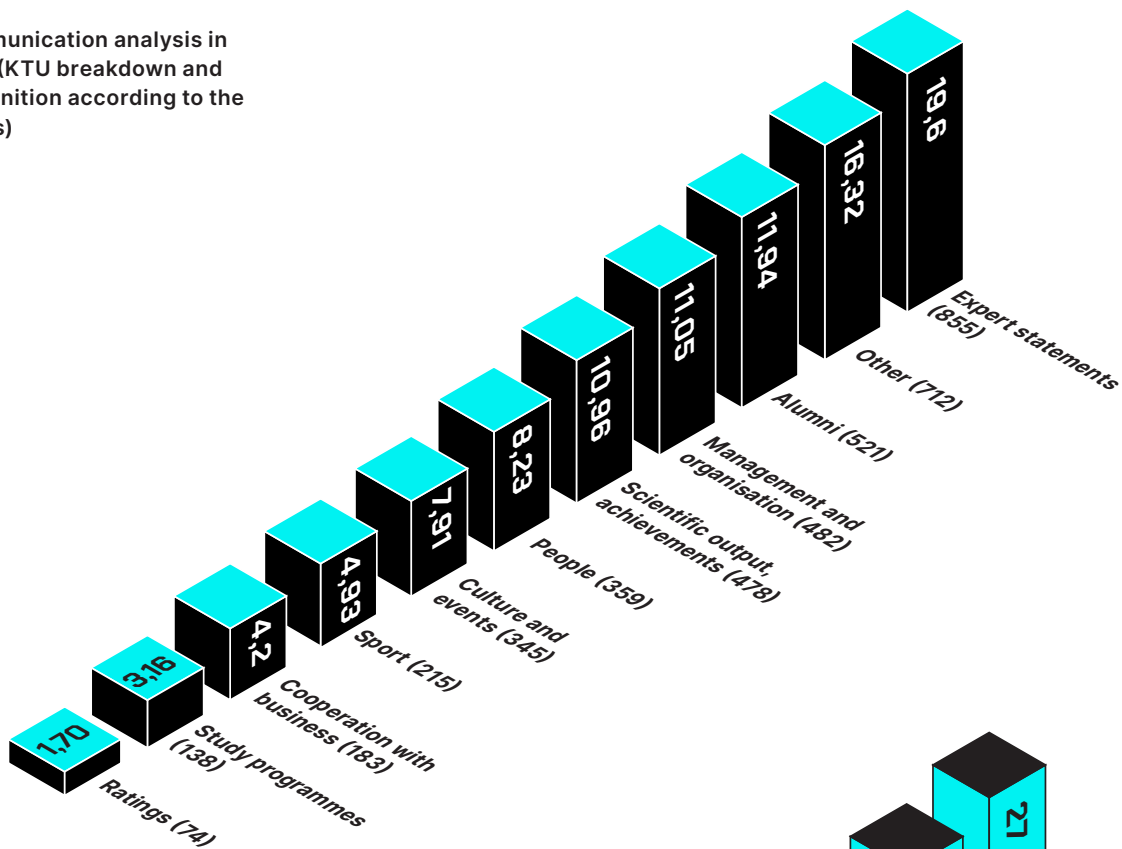
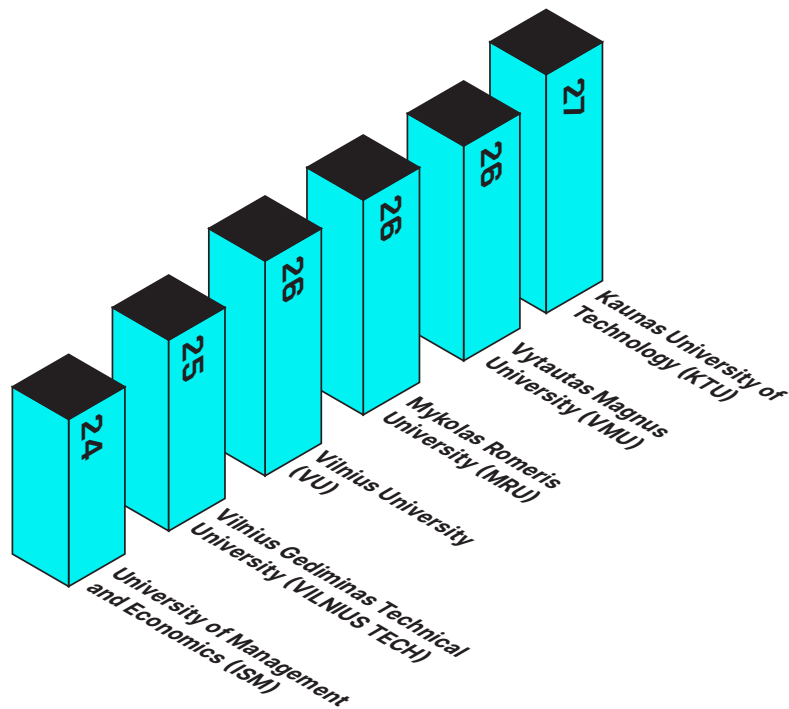


Fig 7

2021 communication analysis (communication impact indicator of the universities)

Source: data of UAB "Mediaskopas" (access via the website <https://station.lt>)



Development of an internal communication system

■ The University's intranet website and structure are updated and a new main page created for sharing internal news.

■ The weekly newsletter of the University's community is updated (design and structure).

■ Communication is organised according to thematic cycles, information messages and news are assessed and selected according to the criterion of their relevance to the entire community of employees.

■ The new format of the meetings of the rector's team and community is used: in a year, the meetings shifted from general ones to thematic meetings on the topics announced in advance which are actively discussed. If needed, additional communication is organised after the meeting.



Installation of energy-efficiency solutions in the University's buildings

■ The project “Adaptation of a cultural heritage monument for public service” was funded by the EU Regional Development Fund funds under the Operational Programme for EU Structural Funds Investments 2014-2020, Priority Axis 5 “Environment, sustainable use of natural resources and adaptation to climate change”, measure 05.4.1-CPVA-K-303 “Actualisation of the public and private cultural heritage” and included replacement and restoration of the windows and doors of the building, repair and renovation of the stairs, façade and flooring of the building, the building has been partially adapted for disabled people and opened to the needs of society by installing the information tables, providing the exposition and opportunities to see this architectural monument individually or in the organised excursions.

■ The scheduled activities of the project “Installation of renewable energy resources in the buildings of Kaunas University of Technology” funded by

the Climate Change Programme funds under the financing measure “Use of renewable energy sources (solar, wind, geothermal, biofuels, etc.) in public and residential buildings (for different social groups)” were implemented. 4 solar power plants were partially installed on the roofs of the buildings at Studentų St. 50, Studentų St. 67, Studentų St. 69, Studentų St. 71 in Kaunas that will begin electricity generation in 2022.

■ The scheduled activities of the project “Installation of renewable energy resources in the buildings of at the Student Campus of Kaunas University of Technology” funded by the Climate Change Programme funds under the financing measure “Use of renewable energy sources (solar, wind, geothermal, biofuels, etc.) in public and residential buildings (for different social groups)” were implemented. 3 solar power plants were acquired from the solar power parks; electricity generated by these plants will be forwarded to the objects at Radvilėnų St. 19, Studentų St. 56, K. Baršausko St. 59 in Kaunas.

■ The first stage of the project “Renovation of the building at Studentų St. 56, Kaunas, aiming to reduce energy consumption” was funded under the Operational Programme for EU Structural Funds Investments 2014-2020, Priority Axis 4 “Promoting energy efficiency and the generation and use of renewable energy”, measure 04.3.1-VIPA-T-113 “Renovation of state-owned buildings (II)” and launched aiming to modernise (renovate) the façade and heating system of the Faculty of Mechanical Engineering and Design thus optimising the use of thermal energy and reducing the greenhouse gas emissions.

Material infrastructure

■ The activities scheduled in the approved investment project of the Government of the Republic of Lithuania “Investing state real estate in Kaunas University of Technology and increasing its authorised capital” were organised. 24 classrooms and 12 areas for studying were set up, building works were finished with setting up of multi-functional spaces with an integrated library at the building at Studentų St. 48 and installation of the system for the issue-return of publications.

■ The building works were performed at twelve-storey dormitory No. 10 (Gričiupio St. 13) (complete external and internal renovation of the dormitory will be performed ensuring modern accommodation services corresponding to the needs of students), the design works for the reconstruction of dormitory No. 11 (Pašilės St. 37) were organised.

■ The activities were organised for setting up of Student Information Centre at the building at Studentų St. 50 (building works were completed and the works for setting up the premises were performed).

■ Building works were performed at the Experimental and Prototyping Laboratory Centre of Physical and Technological Sciences “M-Lab”.

■ The processes for the transfer of the University’s bookkeeping and accounting to the Financial Management and Accounting Subsystem of the State Budget, Accounting and Payment System (hereinafter – FVAIS) were reviewed, assessing the possibilities of transferring the used systems in the processes and offers regarding the integration of the University’s systems and the FVAIS were submitted to the installers of the FVAIS system.

Human resource management

■ The development of priority knowledge and competencies of employees successfully continued. 195 employees participated in the English language courses and leadership development programme in 2021.

■ KTU competencies model was created after the organisation of 5 target group meetings and identification of the key competencies relevant to the organisation. The model is divided into 4 categories, 2-4 competencies are allocated to each category. 11 key competencies are identified in total. A pilot group of employees is formed; their key competencies will be evaluated during the annual performance planning and evaluation using the created model.

■ An adaptation process for a new employee is created and introduced. To ensure a more prompt and efficient adaptation process, a publication “New employee’s guide” was created containing the list of the most important documents of the University, its main processes and contacts of the responsible employees and other important information.

Cooperation with Lithuanian schools

■ In 2021, 4 new cooperation agreements were signed with J. Basanavičius Gymnasium in Kaunas, Žalgiriai Gymnasium in Tauragė, Juozas Miltinis Gymnasium in Panevėžys and “Ažuolynas” Gymnasium in Klaipėda. Individual meetings were organised with gymnasiums.

■ 39 visits to various Lithuanian schools were organised in 2021. 15 general presentations of the University were organised introducing the opportunities of studies at the University, the admission conditions and other important issues to future students (the principles for the calculation of the competition score, funding and accommodation opportunities, etc.). During the visits to the faculties of the University, the pupils could get acquainted with the environment, participate in theoretical lectures and practical classes at the laboratories of the University.

■ A practice week was organised at KTU Engineering Lyceum in November 2021 with participation of approximately 120 pupils.

■ The schools receive monthly KTU newsletters introducing the events and educational initiatives organised at the University and dedicated to pupils and teachers. The directory of KTU educational initiatives was updated in 2021. It presents various classes and other initiatives offered to schools (lectures, visits, competitions, laboratory works, remote teaching/learning courses, camps, groups, etc.).

KTU Children's University

KTU project “Children's University”, launched in October 2021, continued to the beginning of 2021. 89 pupils (5-8 forms) from KTU partner schools participated in the project. 50 lecturers and 11 students from various faculties and institutes of the University as well as several business enterprises (UAB “Topo grupė”, UAB “MARS Lietuva”, UAB “Modularus”, UAB “Super Garden”) were involved in the project. During the project, the pupils participated in theoretical and practical classes in which they created mobile applications, computer games, robots and other smart technological solutions, developed their financial literacy and entrepreneurial competencies, aimed to apply renewable energy sources in their activities. The teams of pupils presented all their projects at the closing event of KTU Children's University where they received the participant certificates and prizes from business enterprises.

Major achievements in the area of organisational development and management in 2021

■ The University continues consistent supervision activities of internal control based on the fundamental principles of internal control and includes all components of internal control. The Internal Control Committee is constantly active at the University. In 2021, it mostly focused on updating the University's risk management plan.

■ The Job Position Evaluation Committee began the evaluation of the job positions of the University's administrative departments in previous years and evaluated 59 job positions of

the administrative departments in 2021. This evaluation clarified the main functions and responsibilities of activities, the titles of job positions and updated the structure of job positions.

■ The following works of digitisation of the operational processes were successfully implemented in 2021: development of the data analytics toolkit "Business Intelligence" customised for digitised performance analytics, installation of the digitised system for planning and implementation of public procurements, substantial updating of the Document and Process Management System.

■ The audit was performed on the personal data processed by the University, the internal legislation of the University was updated and prepared corresponding to the latest recommendations and good practices of the implementation of the provisions of the General Data Protection Regulation (GDPR).



**Enhancement of the
involvement of the
University's alumni in the
University's activities**

- The network of the ambassadors of KTU alumni was formed aiming to enhance the involvement of the University's alumni in the University's activities.
- The package of benefits for alumni was identified.
- The platform for alumni communication was created.

■ In 2021, the University began implementation of KTU Strategy 2021-2025. The activities envisaged for the achievement of the objectives set in the strategy are scheduled in the University's action plan listing specific scheduled works as well as the deadlines for the implementation of the planned activities and the teams of employees responsible for the achievement of the results. There are more than 30 strategic action projects formulated in the action plan; their objectives are directed towards the implementation of the key

objectives of KTU: study quality improvement, prompting scientific breakthroughs and promoting and maintaining organisational coherence.

■ Considering that 2022 is announced as the Year of Lithuania's Universities, the plan for commemoration of the 100th anniversary of KTU and the University of Lithuania and the Year of Lithuania's Universities was prepared in 2021.

Highlights of activities for 2022

■ Activities for the University's preparation for institutional assessment, including a detailed review and update of the quality manual of the University.

■ Implementation of the plan for commemoration of the 100th anniversary of KTU and the University of Lithuania and the Year of Lithuania's Universities.

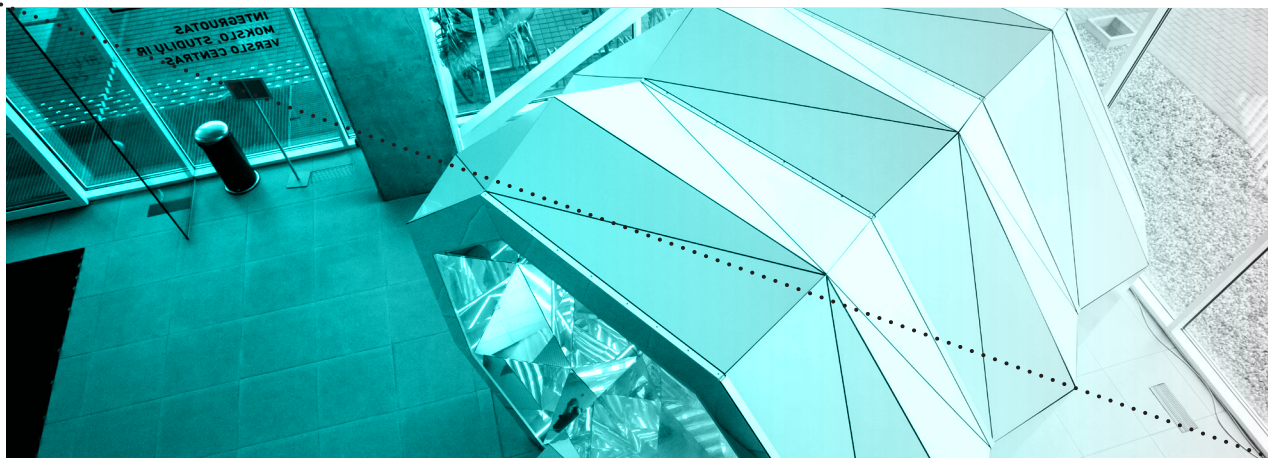
■ Digitisation of the processes at the University (the processes of financial management and bookkeeping and accounting, procurement, initiation, execution and closure of contracts, and competitions and performance evaluation of academic employees).

■ Improvement of the employee adaptation process (target group – managers).

■ Strengthening of the organisational quality management system.

■ Development of KTU data analytics toolkit "Business Intelligence".

■ Installation of energy-efficiency solutions in the University's buildings.

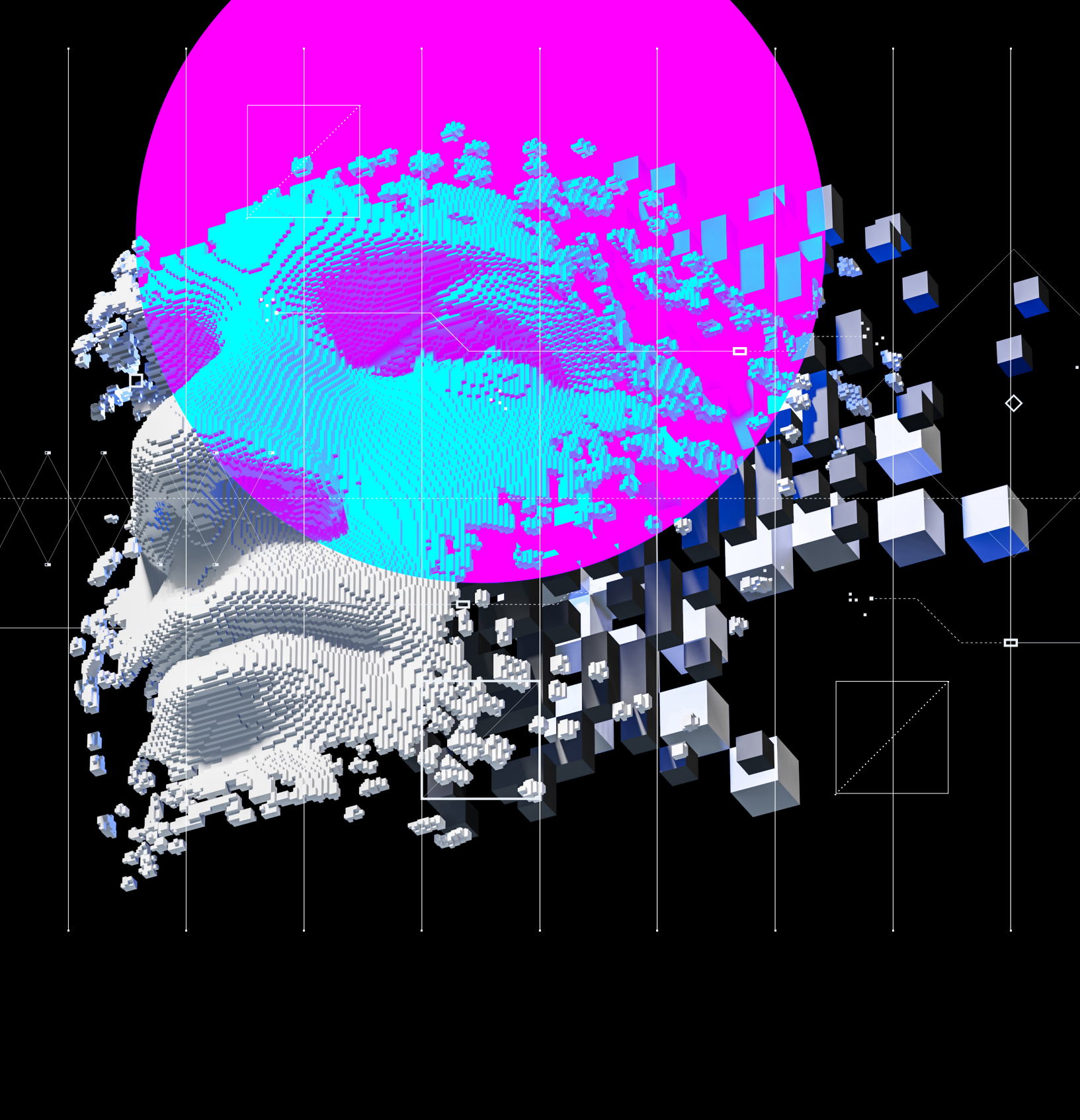




Kaunas University of Technology
K. Donelaičio St 73, LT-44249 Kaunas
+370 37 300 000, ktu@ktu.lt

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