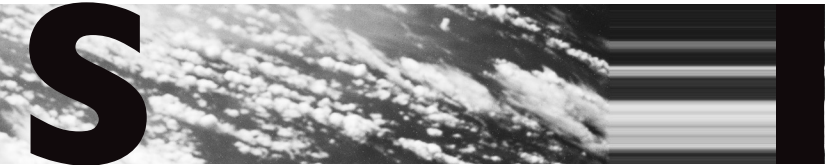




KAUNAS UNIVERSITY OF TECHNOLOGY

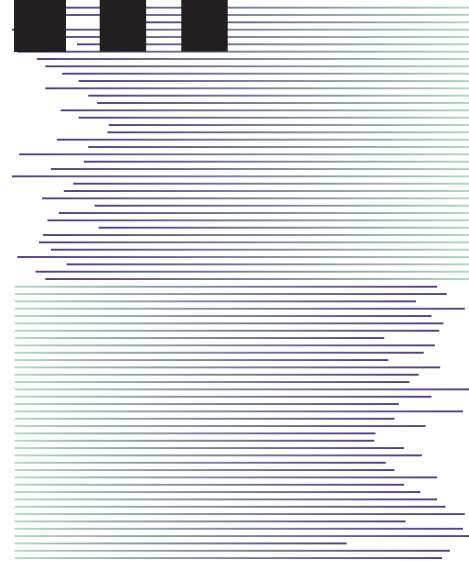
**THIS**  **IS**

**SCIENCE** 

This Is Not **Science** Fiction

**Kaunas University of  
Technology Is**

# In



## **Interdisciplinarity**

Joint/double diploma programmes

More than 100 possible combinations  
of majors and minors

Study programmes incorporating knowledge  
and resources from several study and  
research fields

Research undertaken across disciplines,  
schools, institutes and institutions

MASTER+ study model based on the field  
and interdisciplinary competence tracks

## **Internationality**

Nearly 10% of international students  
from more than 50 countries

400 partner universities for academic  
mobility, international joint/double  
diploma programmes

Lithuania's leading international  
research university

Leading Lithuanian university providing  
research and development (R&D) for  
overseas companies

## **Innovations and technology transfer**

Over 60 startup companies since 2012

Largest innovation support system in  
the Baltics

Radical innovations patented in the USA,  
Europe and Asia

Responsible for 32% of all business and  
industry R&D provided by Lithuanian  
universities



## Integrating sustainability

Integration of sustainable development goals 2030 (SDG17) in different levels and areas of University's activities: studies, research, infrastructure and community

Projects and initiatives encouraging environmental awareness and behaviour inspire university and region-wide attitude changes

The vision of sustainable KTU – to be proactive University, integrating SDG goals, educating responsible future leaders and specialists in their field, and seeking coherence between people, the environment and long-term prosperity

## Ingenious students and employees

Teaching and learning laboratory  
KTU EDU\_Lab was established in 2015

KTU WANTed Career Days is the largest career fair in the Baltics. Career Days, which is being organised for the 13th time, has already helped to find star employees to many organisations

KTU students are invited to join 6 personal development programs: GIFTed, GUIDed, WANTed, INSPIREed, UNITED and ACTIVATed

KTU became the first university in Lithuania, which uses digital badge technology for the recognition of the competencies of students and employees



Facts

Figures

# &

# re- search

• 8

science institutes

• 44

national projects

• 96

international projects

• F

unding sources for  
scientific research

• 36

undergraduate and  
graduate study programmes  
are taught in English.

+

• 19

PhD programmes in English  
(8 with double diploma  
opportunity)

• approx. 10,000

undergraduate and  
postgraduate students

• >300

PhD students

• ~600

international degree and

350

exchange students

• 72 %

of teaching staff hold PhD

# stu- dies

• 64

interdisciplinary study programmes  
(study programmes which contain  
MA+ opportunity - 32,  
specialisations - 18,  
minor studies - 10,  
both (specialisations  
and minor studies) - 4).

• 9

faculties

## Funding sources



## General Facts

Founded in 1922  
Public University  
KTU Alumni Association founded in 2011  
Among top 3 percent of world universities  
(2018 QS World University Rankings)  
1,132 academic and research staff  
179 professors

Nurturing

# Talent

Students of Kaunas University of Technology (KTU) have the significant advantage of choosing programmes from all fields of study: technology, humanities, social sciences, arts, science and biomedical technologies. They benefit from the opportunity to combine any two different study paths when choosing majors and minors, constructing their own unique competence package.

Entrepreneurship, hands-on experience and innovative teaching methods (such as problem-based learning, design thinking, case method application) are the keywords of studying at KTU. Our students and graduates are future engineers and businessmen, politicians and innovators, IT geniuses and future Einsteins. We believe that, when properly encouraged, any individual can reach their highest potential.

Didactic programme KTU EDU\_Lab motivates lecturers to choose and apply suitable and innovative didactic methods to ensure that studies delivered at KTU are of the highest quality.



## Developing Personalities

- **Mentorship programme:** nearly 600 academics, business and social figures coach students in a wide range of areas, from choosing a career path to overcoming personal difficulties
- **Student voices matter:** student representatives participate in making significant institutional decisions, round-table discussions, regularly organised by the study programme committee
- **Creativity:** the university has 6 art societies and culture groups, which are among the best in Lithuania

## Cultivating Broad Professionals

- **Interdisciplinarity:** KTU students can combine any two study programmes when choosing majors and minors; more than 180 combinations have been created so far. Unique Master's study model MA+ offers numerous possibilities to choose competencies from different disciplines and to become a sought-after professional in job market
- **Collaboration:** KTU offers inter-institutional study programmes in Lithuania and international PhD study programmes with Italy, Japan, Spain, France, Slovakia, Denmark universities
- **Open study programmes:** business representatives and students are participating in independent study field programme committees, ensuring the studies address the needs of the market and students. This system is unique in Lithuania
- **Most valued professionals in the market:** KTU graduates demonstrate the knowledge and skills that best meet the needs of employers when compared to the alumni of other Lithuanian universities, according to national rankings (2017)



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**Technologies created by KTU students reach beyond the planet:** the first Lithuanian satellite LitSat-1, created by KTU students and researchers, was launched into orbit in January 2014



Creating Solutions

**for** Tomorrow

The world is changing every day. Urgent need for new ideas, technologies and innovations requires increasingly complicated solutions. Researchers working at Kaunas University of Technology solve some of tomorrow's most pressing problems, including ensuring healthy ageing, creating technologies for the generation of renewable energy, and developing smart strategies and technologies for supplying resources.

Frontier and applied research at our university is being undertaken by research groups collaborating extensively with world-class colleagues across the globe. KTU's researchers carry out projects with the largest local companies, international corporations and state and cultural institutions. The synergy of the physical, social and technological sciences and the humanities and arts creates an open, exciting, and fertile environment for solving problems that are of crucial and universal importance.



## Priority Research Areas

- **Diagnostic and measurement technologies:** researchers at KTU's Biomedical Engineering Institute are using a new method of processing complex ultrasonic signals to get sharp images of black material, helping physicians to diagnose early the onset of Parkinson's disease
- **New high-tech materials:** KTU's Materials Science Institute, together with leading institutions across the globe, is developing break-through technologies for creating a biological cardio stimulator
- **Smart environments and information technology:** intelligent technologies such as self-shopping refrigerators, smart house systems and real-time health monitoring appliances, created at KTU's Real Time Computer Systems Centre, affect global markets  
Sustainable growth and socio-cultural development: experts from KTU's School of Economics and Business lead a group of researchers from seven Lithuanian universities to establish guidelines for overcoming economic challenges and achieving national long-term competitiveness
- **Technologies for sustainable development and energy:** researchers at KTU's Food Institute are developing novel multifunctional phytochemical ingredients that will dramatically increase the biological value and safety of food



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**KTU researchers are ahead of Google:** KTU Real Time Computer Systems Centre has created the web server that makes the “Internet of Things” a reality, not a distant dream. The server is among the smallest in the world

## Uniting World-Class Research Community

- **The avant-garde of European research:** the KTU's project for aiding healthy ageing has been selected for first-stage European Commission funding. The aim of the project, which will be carried out with partner universities from Lithuania, Sweden, and Finland, is to build a Centre of Excellence for Healthy Ageing
- **Leader in international research:** participating in 96 international projects (which include the European Union, the USA, and Asia) KTU is the first among Lithuanian universities. 15 % of KTU's scientific research budget comes from international research grants
- **Globally publicised research:** academic journals featuring research from KTU (from those listed on Thomson Reuters Web of Science) include Advanced Materials (Impact factor (IF) 14.8), Neurology (IF 8.249), Trac: Trends in Analytical Chemistry (IF 6.351), and Technological and Economic Development of Economy (IF 3.2)
- **Influential scientific community:** KTU publishes 14 scientific journals, 5 of which are listed on Clarivate Analytics Web of Science

## Providing State-Of-The-Art Research Facilities

- **Santaka and Nemunas Valleys:** KTU is a founding partner of two integrated study, research, and business valleys – Santaka and Nemunas. Open-access laboratory spaces encourage collaboration among students, researchers, and businesses
- **KTU Santaka Valley laboratories:** more than 25 million euros have been invested in the research equipment, which occupies 9 thousand square meters. Laboratories in Materials Science, Ultrasound Science, and Synthetic Chemistry institutes are among the best equipped in Europe
- **KTU Nemunas Valley:** Food Science and Competence Centre is the only of its kind in the Baltic States with unique piloting equipment for the food industry

## Investing In Future Leaders Of Science

- **International PhD School:** 19 PhD programmes and over 20 intensive PhD modules, delivered in English, are open to students from universities across the globe
- **Global experience:** joint/double degree PhD programmes are available with leading European universities, such as INP Toulouse (France), University of Bologna (Italy), University of Southern Denmark (Denmark), Miguel Hernandez University of Elche (Spain), Technical University of Košice (Slovakia), National Structural Integrity Research Centre (UK) and Shizuoka University (Japan)
- **Talents funding:** financial support is available for students' scientific pursuits, including research, publications, and international conference attendance in addition to incentives and rewards for active KTU PhD students
- **Networking:** KTU is a member of EUA CDE (European University Association Committee for Doctoral Education) and Physics and Chemistry of Advanced Materials, a European doctorate network exchanging knowledge and resources at the exciting interface of Chemistry, Physics, and Materials Science
- **Expertise:** KTU PhD students benefit from expert consultations and collaboration with some of the best researchers and professionals across the world





Engaging

Business

# With

**Kaunas University of Technology, which has always been the most business-friendly university in Lithuania, has in recent years expanded significantly its collaborative activities. At KTU we aim to provide real education for tomorrow's professionals: business and industry experts are involved in all stages of study process, from programme conception to lecturing, from providing real cases to work placements.**

**The university's state-of-the-art research facilities offer an extensive number of services for businesses: our research groups are the leaders in Lithuania (and in some cases in Europe) in the amount of R&D provided for private and state companies.**

**KTU not only founded the first and most successful academic early stage business incubator - Startup Space but houses the largest science and technology park in the Baltics. The University is a founding partner of two science, study and business valleys.**

## Encouraging A Business Mindset

- **Space and resources for young businesses:** young businesses are provided with sought-after support and knowledge at KTU's Startup Space. World-famous entrepreneurs visit the university to deliver motivational talks
- **Best practices applied:** a specialised Technology Entrepreneurship module applying Silicon Valley teaching methodologies, demonstrating practically the transformation of research and ideas into real-world business, is available for undergraduates and Master's students
- **Global recognition of ideas:** since 2013, KTU participate in the annual competitions Silicon Valley Innovation Challenge and Silicon Valley Business Plan Competition taking place in the Silicon Valley, where they approve their project-based ideas among the top-level experts. Pitched by a team of KTU students, the idea of non-invasive glucose meter for people with diabetes was recognized as the best global innovation at the Silicon Valley Innovation Challenge 2016

## Transferring Technology

- **Solves real problems:** KTU carries out 32% of all R&D provided by Lithuanian universities for national business and industry
- **Most productive in Europe:** KTU outperforms all other European engineering educational institutions and members of CESAER in providing R&D for the benefit of small and medium enterprises
- **"Single-window" system for communication:** National Innovation and Entrepreneurship Centre facilitates the transference of new technologies from the laboratory to the marketplace, transforming research into new products
- **Services:** KTU provides open access to 800 pieces of state-of-the-art equipment, nearly 2,000 research services and more than 100 inventions and technologies
- **Patents:** in 2010–2016, 67 unique technologies created by KTU researchers were patented in Lithuania and abroad, 30% of which belong to the field of mechatronics and 28% belong to the field of chemical technology





**Future billionaires start at KTU:** since its establishment in 2012, KTU Startup Space gave birth up to 60 companies seeing the creation of more than 50 prototypes and more than 150 innovative ideas. More than 1,000 students participated in entrepreneurship-fostering events per year

# Out

Reaching

to the World

**Kaunas University of Technology contributes significantly to the changing cultural diversity of the city: students from more than 50 countries are studying at KTU. The international students at KTU comprise nearly 10 % of all students.**

**Our university is among leaders in Lithuania for attracting highly qualified teaching staff from all over the world: world-class professors, researchers and entrepreneurs work with our students delivering lectures and providing personal supervisions. KTU students benefit from the opportunity to study at the best overseas universities through exchange programmes and bilateral agreements.**

**KTU researchers are recognised worldwide: achievements in ultrasound, organic chemistry, systems diagnostics, informatics, materials science, environmental engineering, business and public administration, economics and educational science have significantly contributed to key international advancement in these fields.**

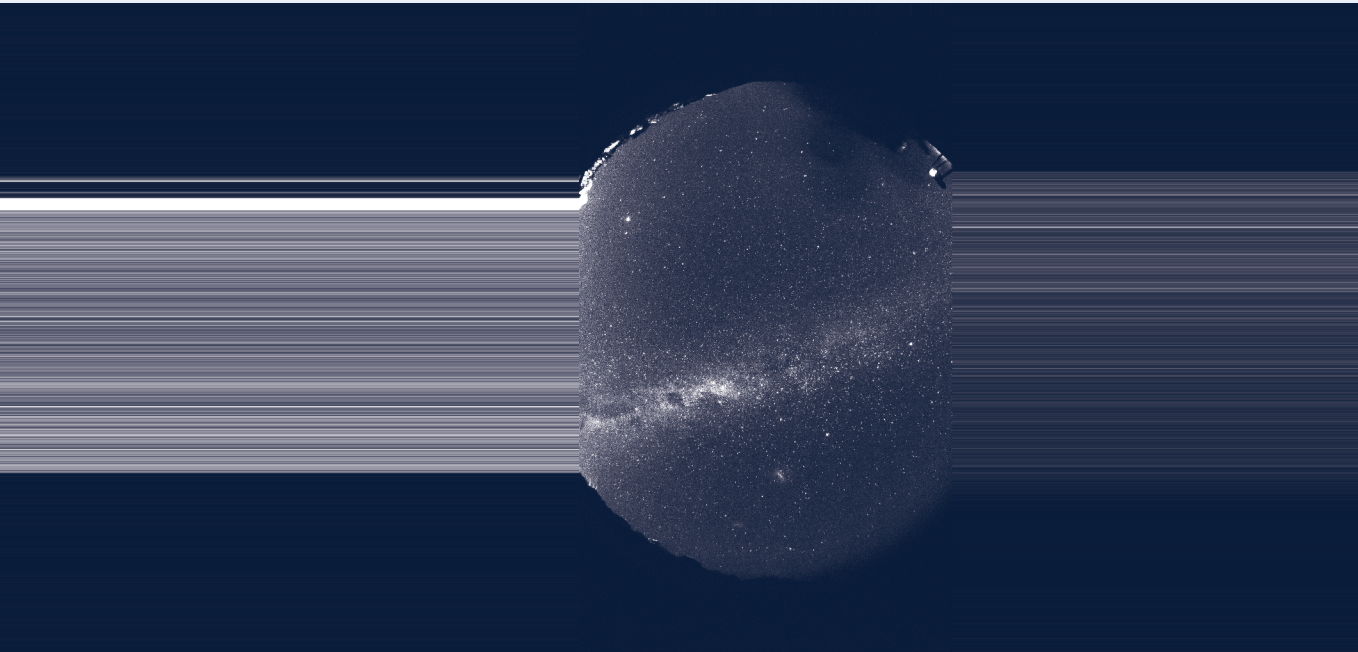
## Creating Innovations Applied Worldwide

- **Leader in R&D for foreign companies:** a significant part of KTU's budget flows from overseas companies for research and development projects. This comprises approximately 50 % of all R&D provided by Lithuanian universities for companies overseas
- **Wining global recognition:** for designing a non-invasive technology to measure intracranial pressure, Professor Arminas Ragauskas, Head of KTU's Health Telematics Science Institute, was nominated as one of three finalists for the European Inventor Award 2016, organised by the European Patent Office (EPO)
- **Global companies and organisations:** our research groups work with European Institute of Innovation and Technology (EIT) and NATO
- **Choosing respected partners:** KTU researchers undertake projects with colleagues from Cambridge (UK), Stanford (USA), Aalto universities (Finland), Massachusetts Institute of Technology (USA), and other leading institutions across the globe
- **Initiating unique interdisciplinary collaborations:** KTU, together with partners from Stanford University, MIT, Oxford, members of European Consortium of Innovative Universities (ECIU) and other American and European leading institutions have started implementing an interdisciplinary Media Lab project, unique in the region

## Valuing Membership

- European University Association (EUA)
- The European Consortium of Innovative Universities (ECIU)
- European Society for Engineering Education (SEFI)
- Conference of European Schools for Advanced Engineering Education and Research (CESAER)
- Strategic Management Society (SMS)
- Baltic Sea Region University Consortium for Science and Technology (BALTECH)
- Baltic University Programme (BUP)
- UNEP The Global Universities Partnership on Environment for Sustainability (GUPES)

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**Thanks to KTU,  
humanity can start  
dreaming about  
travelling to Mars:**

researchers at KTU's Health Telematics Science Institute, collaborating with the professionals from other fields in Lithuania, Europe, the USA and China, have developed the world's first non-invasive, absolute value, intracranial pressure measurement technology, which solves health issues occurring during space travel





## Promoting Internationality

- **Study exchange:** studies abroad are facilitated by > 500 Erasmus+ and bilateral agreements with the universities across the globe. Beijing Institute of Technology (China), Caucasus University (Georgia), Kyung Hee University (South Korea), Lund University (Sweden), University of Central Florida (USA), and University of Twente (the Netherlands) are only a few destinations
- **Joint degrees:** joint/double diploma opportunities are provided with National Polytechnic Institute of Toulouse (France), University of Bologna (Italy), University of Southern Denmark (Denmark), Dortmund University of Applied Sciences and Arts, Hamburg University of Technology (Germany), and other universities
- **Open University:** KTU is the only Lithuanian university participating in the open study programme Open Education Europa, contributing to the growth of competitiveness and skills in Europe
- **Degree programmes in English:** 57 Bachelor's, Master's and PhD study programmes are taught in English
- **International work placement:** hands-on experience for students and graduates in nearly 100 countries facilitated by the university's membership in the international student exchange organisations such as IAESTE and ISIEC, Erasmus+ and other programmes
- **European education:** KTU was awarded the Diploma Supplement Label by the European Commission, ensuring KTU Diploma is recognised in Europe and beyond



Sharing

# Insights



**Kaunas University of Technology is not only the most influential technological higher education institution in Lithuania but an important hub of knowledge, influencing the progress of the country and the Baltic region as a whole. The university's informational resources, open events and exhibitions are serving to disseminate knowledge and drive progress in society. Our modern facilities and buildings are important landmarks in the city.**

**KTU inspires interest in engineering sciences and technology among youngsters. The university is a founder of a gymnasium, a lyceum, and has several learning centres for pupils.**

**Sustainability principles, employed in all university activities, serve as an example of planet-friendly evolution, proving that science and nature, hand-in-hand, create today's world and sustainable future.**

## Spreading Knowledge And Culture

- **Open lectures by world-famous professionals:** among speakers at KTU events were Clemens Mader, the president of COPERNICUS alliance, professor Anil Markandya, the lead author for Chapters of the 3rd and 4th IPCC Assessment Reports on Climate Change, which were awarded for the Nobel Peace Prize in 2007, Bea Johnson (USA), the initiator of Zero Waste life style, European Commissioner Carlos Moedas, Lithuanian President Dalia Grybauskaitė, MIT professor Gediminas Urbonas, MIT CityFarm founder Caleb Harper, artist, Stanford University professor, and TED speaker Jae Rhim Lee, and Silicon Valley entrepreneur Ken Singer. The majority of these lectures can be watched online
- **Massive Open Online Courses (MOOCs):** KTU was the first Lithuanian university to share knowledge through MOOCs – special open online courses. So far over 2,000 users have signed up for the courses, 700 have attended the courses and over 300 have successfully completed the courses and received certificates
- **Vast e-resources:** KTU was the first among Lithuanian universities to start broadcasting and recording lectures and conferences. There are more than 10,000 open recordings accessible online
- **Investing in the future:** in 2014, KTU opened a Technology and Learning Centre for pupils at Panevėžys campus. Almost 60,000 euros were invested in the equipment
- **Cultural events:** KTU's Culture Centre is a home for 6 art societies, gathering nearly 400 students, including a nationally acclaimed choir and folk ensemble, photo studio, and theatre. Around 50 events for the university and wider community are being organised each year
- **Library:** KTU Library stores and continuously replenishes one of the richest collections on science, technology and engineering, providing access to e-resources. University subscribes to 59 international databases provided by 29 services



**Laboratories are places of wider interest:** KTU Santaka Valley features conference houses and spaces for discussions, meetings, conferences and even concerts. There are more than 100 events hosted annually



## Valuing Sustainability

**European level of sustainable functioning:** KTU has been awarded a QUESTE-SI accreditation from the European Union for implementing sustainability in all aspects of university life

**Global representation:** KTU Professor Jurgis Kazimieras Staniškis has been appointed as the member of UN Independent Scientists Group on Global Sustainable Development Reporting (GSDR) board. Prof. J. K. Staniškis is one of the 15 experts on the Board. The GSDR will promote a holistic and science-based approach to policy measures that will advance the Sustainable Development Goals (SDGs) and Agenda 2030

**Implementation of sustainability ideas:** University has long traditions of active socially responsible initiatives organising at different faculties', institutes and students associations levels. Projects of KTU's Institute of Environmental Engineering include developing of resource efficient and cleaner production innovations as well as environmentally friendly products, and implementing both preventive environmental management and waste minimisation systems. The institute provides guidance to national and international companies seeking long-term sustainable solutions in optimising processes of transport, energy, industry, and region

**A common perception:** Community is encouraged for sustainable consumption of resources, in order to save the costs and to decrease KTU environmental impact

**Memberships:** UN The Global Compact (KTU member since 2012), UNEP Global Universities Partnership on Environment and Sustainability GUPES (KTU member since 2015)

**University's strategic activities are in line with the principles of sustainable development, academic freedom and the Magna Charta of the European Universities**



