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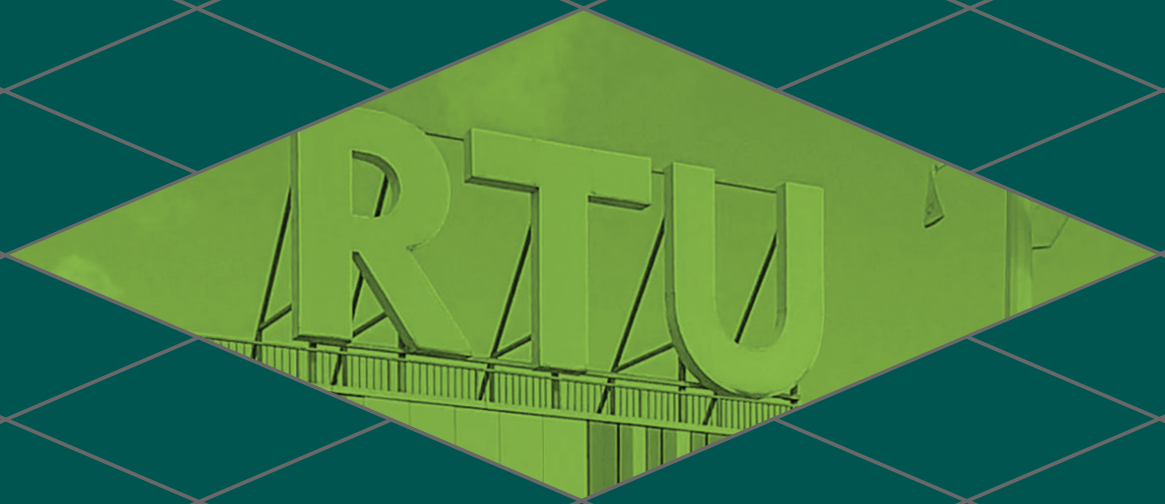
RIGA TECHNICAL UNIVERSITY

YEARBOOK 2019



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Riga Technical University (RTU) has traditionally summarized its accomplishments in the Yearbook, which provides a comprehensive overview of our achievements in 2019.

RTU Rector, Academician

LEONĪDS RIBICKIS

This year was extremely productive for us – we can be proud of our researchers, who received significant awards from both RTU and the Latvian Academy of Sciences, as well as prestigious international, industry and state awards. We are delighted with the achievements of our students in both studies and research, as well as with the performance the students of RTU Engineering High School demonstrated in the local and international academic competitions. Our common effort has brought about recognition of RTU achievements in the international ratings. For example, RTU was highly evaluated in the international university ranking «U-Multirank», it was the only Latvian university that received the largest number of the highest A level scores in 11 assessment criteria. Likewise, thanks to out forward-thinking and sustainable strategy, RTU has taken its place among 100 greenest universities in the world.

RTU achievements have also made a significant contribution to our common welfare. In 2019, for the first time we calculated RTU contribution to the national economy, and it was really impressive — in 2018 it amounted to 699 m EUR, in turn, in 2019 – to 844 m EUR. These estimates demonstrate that considering the issue from the point of view of state policy, it is worth investing in high-quality tertiary education and research, it is also worth improving and supporting this sphere, since in future it will help secure even larger contribution of the universities to the economy of Latvia.

01
About RTU

RTU is a modern, internationally recognized and prestigious multi-discipline technical university.

RTU is purposefully evolving to become the fourth-generation university that provides not only high-quality education, but also provides for excellent research and sustainable valorization, as well as smart digitalization.

At the nine faculties of RTU, it is possible to obtain comprehensive education in the cutting-edge technologies and engineering, as well as social sciences and humanities. The study programs implemented at RTU have passed international expert examination and are officially accredited, thus attesting high quality of education provided by RTU. This has also been acknowledged by the Latvian employers, who recommend RTU to the prospective students as a priority higher education institution in Latvia.

RTU is purposefully improving its infrastructure building the first student campus in Latvia at Ķīpsala. Upon completion, it will become the most modern engineering study center in the Baltic States, locating engineering RTU faculties, modern laboratory building, Scientific Library and administrative buildings.

02
Strategy

The main target of the RTU Strategy is to ensure implementation of the leitmotiv referred to in the National Development Plan for 2014–2020 – to achieve the «economic breakthrough» in Latvia.

RTU positions itself as a cornerstone of the development of Latvia, which provides education and training to the specialists necessary for the Latvian national economy and development of new products and services, serving as a basis for sustainable growth of Latvia.

Mission

To ensure internationally competitive high-quality scientific research, tertiary education, technology transfer and innovation for the Latvian national economy and society.

Values

RTU values are quality, academic freedom, sustainable development, honesty, cooperation and stability.

Vision

RTU – an internationally recognized, modern and prestigious higher education establishment, the leading university of science and innovation in the Baltic States – a cornerstone of the development of Latvia.

Strategy

RTU Strategy lays out the core targets of RTU development until 2020 and defines the activities and distribution of responsibilities for the implementation of the tasks.

At present, RTU is developing a new strategy for years 2021–2025. The new strategy concentrates on such core values as quality, focus and efficiency, proactively relating RTU activities to the needs of the national economy of Latvia.

RTU positions itself as one of the leading research and technology universities in the Baltics and the Nordic Region that sees education system rooted in research, innovation and cooperation with the industry as the basis for university activities. RTU educates and trains European and world class engineers – leaders, developers of new technologies.

The new Strategy envisions that the focus in organization and management of the education process will be made on the attraction of well-prepared students, differentiated education offer implying more flexible curriculum design and transition between the study programs, as well as on the development of new perspective areas – life-long learning and digitalization.
In the fields of research, the Strategy aims at the increase of international competitiveness and quality, improvement of the support system and promotion of research efficiency, investing in procurement of research equipment.
In the area of valorization, it is envisioned to promote proactive cooperation with the industry, to facilitate participation of the academic personnel and students in the establishment of hi-tech start-ups, and to improve the support model and mechanisms for involvement of the students and personnel in valorization.

Implementation of RTU Strategy is approved by the decision of RTU Senate. Upon approval of the Strategy, once a year RTU Rector supervises definition of yearly RTU goals and objectives, setting up clear performance indicators at the level of each organizational unit of RTU. These settings are used as the basis for implementation of RTU Strategy, they also allow analyzing the results achieved.

Horizontal Priorities

Horizontal priorities set the following seven tasks included in the core activities of RTU (studies, research, innovation and digitalization) to be introduced and implemented across all university activities.

Tasks of Horizontal Priorities:

Internationalization
Internationally competitive University performance in science, innovation and studies

Smart digitalization
Application of modern technologies in order to increase University efficiency

Interdisciplinarity
Cooperation among different sectors and fields of specialization as the basis for development of new innovative products and modern curriculum

Organizational efficiency
Efficient high-quality management of the University to promote development and ensure advanced implementation of modern education and research processes

Financial efficiency
Secured financial independence of the University and a motivating internal financial system that promotes University development

Infrastructure efficiency
Up-to-date study, research and innovation environment with modern buildings and technical equipment in compliance with the University needs

Smart change management
Significant reforms in University development in order to increase competitiveness and improve performance efficiency of the University.

Sustainability

Sustainable development is the main precondition for RTU activities. Being aware of its role at the national scale, RTU assumes responsibility for its impact on the society, environment and the national economy. In order to be able to assess this impact, it is necessary to take into account the key factors that enable RTU to provide for long-term planning, sustainability and efficient development.

Green Ķīpsala

In an attempt to reduce human impacts on the environment and climate change, RTU has undertaken to introduce the Green Ķīpsala concept at the RTU Campus by 2023. It is intended to be implemented through sustainable resource management, raising awareness of RTU employees and students about environmental issues and facilitating the creation and usage of environmentally friendly technologies.

RTU has identified three main platforms – consumption of energy resources, waste management and transport, where improvements can be introduced in order to obtain the most efficient results by reducing the ecological footprint of RTU. It can be achieved by improving the infrastructure, changing the habits of students and employees and using innovative green products and technologies created by RTU researchers using the infrastructure of Ķīpsala Campus.

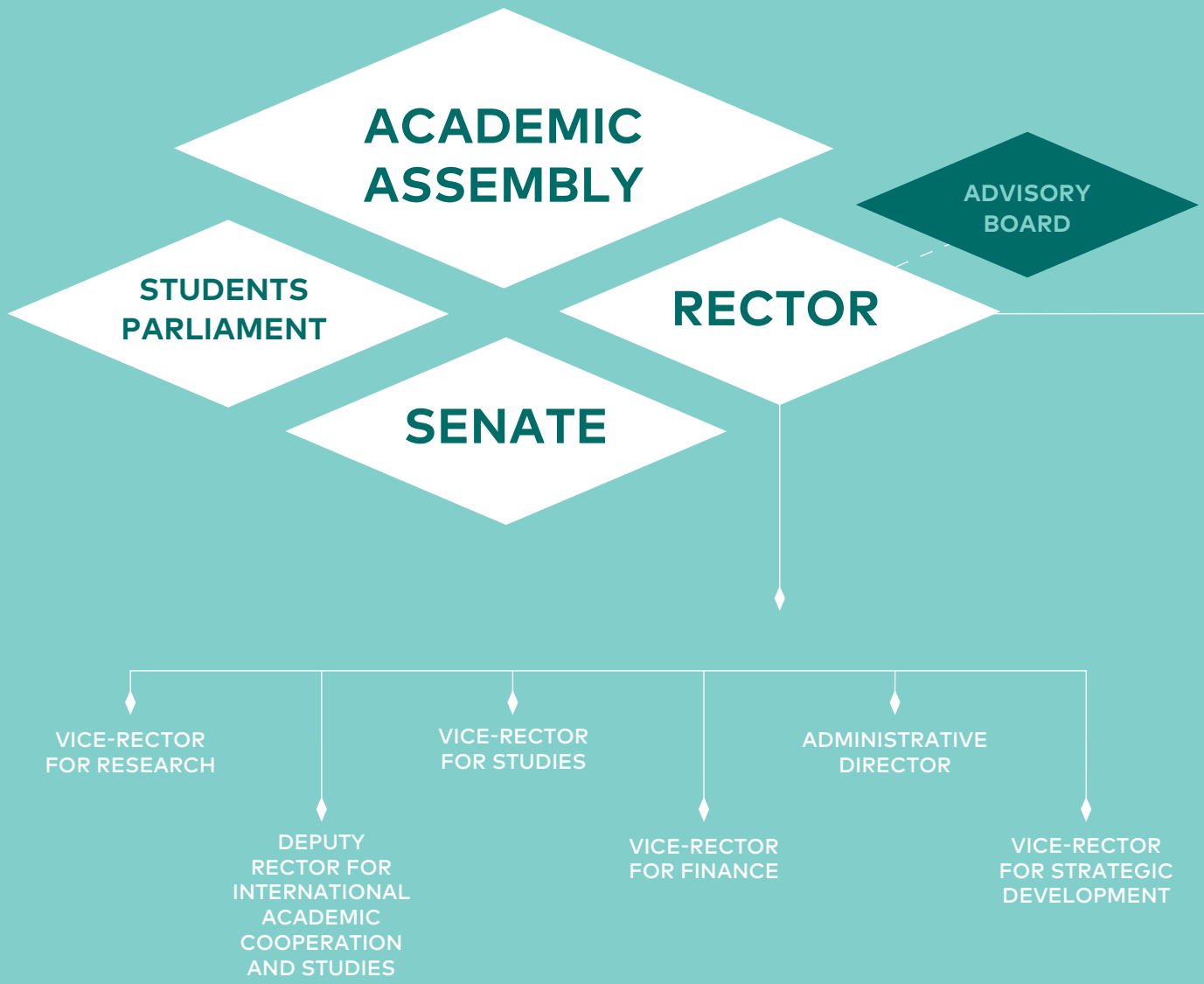
Innovations created by RTU researchers play an important role in the development of the Green Ķīpsala concept. Innovations will be tested in Ķīpsala, promoting sustainable management of the campus.

RTU Contribution to the National Economy– 699 million euro

RTU contribution to the national economy in 2019 amounted to 844 m euro. It implies that considering the issue in state policy perspective, it is worth investing in high-quality tertiary education and research, it is also worth improving and supporting this sphere, since in future it will help provide for even larger contribution of the universities to the economy of Latvia.
Estimates were performed by the researchers of RTU Center for Knowledge Management, who analyze world, Latvia's and RTU data and tendencies in order to gain information based on the calculations and forecasts to be further used in decision making.
In order to estimate the economic impact of RTU on the national economy, RTU adopted the methodology developed by the Canadian researcher Walter Sudmant, which has been used for the assessment of economic impact of numerous leading universities, for example, the University of Calgary and the University of British Columbia.
W. Sudmant's methodology is based on five dimensions, whose impact is calculated in order determine how university added value is created:
Direct spending of the institution;

- Student spending;
- Visitor spending;
- Graduate premiums;
- Economic impact of research.

Direct spending of the institution is the first item in the calculations, it is actualized when the university pays for goods and services using own financial resources, thus contributing to money circulation in Latvia. In the case of RTU, in 2019 the overall impact of University spending on the Latvian economy was 94.2 m euro.
The second item – student daily spending – is estimated disregarding student tuition fees. The overall impact of student spending on the Latvian economy was 107.2 m euro.
The third item – visitor spending – amounted to 7.6 m euro.
Graduate premiums are the fourth criterion. It is used to denote the increase in remuneration received by the employees with higher level of education as compared to the employees with lower level of education. The overall impact of RTU alumni on the economy of Latvia in 2019 was 478.2 m euro.
Dynamic impact of research is the fifth criterion, in the case of RTU it reached 156.9 m euro.
Summing up the numbers presented above, the resulting figure 844 m euro is obtained, which attests that higher education and research generate great value for the country and that it is important to find the ways to increase this value in Latvia under conditions of resource scarcity.


ACADEMIC ASSEMBLY
ADVISORY BOARD
STUDENTS PARLIAMENT
RECTOR
SENATE
VICE-RECTOR FOR RESEARCH
DEPUTY RECTOR FOR INTERNATIONAL ACADEMIC COOPERATION AND STUDIES
VICE-RECTOR FOR STUDIES
VICE-RECTOR FOR FINANCE
ADMINISTRATIVE DIRECTOR
VICE-RECTOR FOR STRATEGIC DEVELOPMENT

FACULTIES

- FACULTY OF ARCHITECTURE
- FACULTY OF BUILDING AND CIVIL ENGINEERING
- FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
- FACULTY OF ELECTRONICS AND TELECOMMUNICATIONS
- FACULTY OF ELECTRICAL AND ENVIRONMENTAL ENGINEERING
- FACULTY OF E-LEARNING TECHNOLOGIES AND HUMANITIES
- FACULTY OF ENGINEERING ECONOMICS AND MANAGEMENT
- FACULTY OF MATERIAL SCIENCE AND APPLIED CHEMISTRY
- FACULTY OF MECHANICAL ENGINEERING, TRANSPORT AND AERONAUTICS

REGIONAL CENTRES

- RIGA TECHNICAL UNIVERSITY CESIS STUDY AND SCIENCE CENTRE
- RIGA TECHNICAL UNIVERSITY DAUGAVPILS STUDY AND SCIENCE CENTRE
- RIGA TECHNICAL UNIVERSITY LIEPAJA STUDY AND SCIENCE CENTRE
- RIGA TECHNICAL UNIVERSITY VENTSPILS STUDY AND SCIENCE CENTRE

- RIGA BUSINESS SCHOOL

04
Decision-Making Bodies

a. Constitutional Assembly

Constitutional Assembly is an authorized highest collegiate representative and administrative decision-making body of RTU.

THE CHAIRMAN
OF THE CONSTITUTIONAL
ASSEMBLY
Professor
Bruno Grasmanis

On 23 October 2014, the Parliament of Latvia (Saeima) approved the law "On the Constitution of Riga Technical University", which took effect on 5 November 2014. On 8 December 2014, RTU Academic Assembly approved the Regulation on RTU Constitutional Assembly. On 11 May 2015, RTU Academic Assembly was renamed as the Constitutional Assembly.

200 members of the Constitutional Assembly are elected by an open ballot by the students, academic and general personnel for the term of three years. The Constitutional Assembly comprises all members of RTU Senate, the remaining members of the Assembly are elected by the University administration, faculties, legally autonomous organizational units and student self-government to ensure their proportional representation. Representation wise, the proportion of the academic personnel is minimum 60% and the proportion of students is 20%.

b. Senate

THE CHAIR
OF THE SENATE
Professor
Elīna Gaile-Sarkane

The Senate of RTU is a statutory collegial administrative and decision-making body that approves the internal code of conduct and regulations governing all spheres of RTU activity. Since December 2014, RTU Senate consists of 50 members.

Meetings of the Senate are organized in such a way that any RTU Senator could be involved in discussions to actively represent the opinion delegated by their organizational units. Beyond the Senate meetings, the Senators actively participate in the work of Senate commissions. Senate commissions are established in the areas that are significant for the University operation and are intended for considering and providing statements on proposals submitted for consideration at the Senate meetings and conformity of the documents to be approved to the RTU strategic goals. Since 2016, the Senate meetings are held in the new building of RTU Scientific Library or Student House. Its modern meeting hall ensures excellent working conditions, it is equipped with multimedia equipment that facilitates the work of the Senators.

In total, during ten regular (planned) working meetings of the Senate a year, on average from 160 to 200 draft projects are considered. A competition is announced annually for minimum 30 positions of professors and associate professors, the titles of RTU Honorary Employees are granted, 30–40 regulations of different kind are approved, 25–30 amendments to different regulations are introduced and a lot of significant decisions are drawn up.

In order to ensure successful information exchange and raise awareness of all RTU employees about the current events at the University, valid regulatory enactments are available to any RTU employee and student in the RTU Documents section of the intranet platform Ortus. At the same time, the decisions made by RTU Senate are published in the weekly RTU brief «Jaunais Inženieris».

05

Administration

a. Rector

RECTOR
RTU RECTOR,
ACADEMICIAN

Leonīds Ribickis

Rector is the highest official of RTU who implements general administrative management and represents RTU without special authorization.

At the end of 2015, Leonīds Ribickis was re-elected as RTU Rector. His candidacy was supported by the vast majority, namely, 159 members of the Constitutional Assembly.

L. Ribickis noted, "Our strategic goals, such as high-quality higher education, excellence in research, valorization and digitalization, can be achieved not by the Rector alone, but by all of us together. We have a lot of talented youth, and it is worth working for their sake."

According to the Regulations for the Election of RTU Rector, a person holding the position of RTU professor for not less than five years may be elected Rector. Rector is elected by the Constitutional Assembly of RTU for the term of five years, but not more than for two consecutive terms. Rector is elected if at least two-thirds of RTU Constitutional Assembly members participate in the voting and the candidate wins more than a half of the casted Constitutional Assembly member votes.

b. Vice-Rectors

VICE-RECTOR
FOR RESEARCH,
ACADEMICIAN

Tālis Juhna

The Office of RTU Vice-Rector for Research administers, promotes and supervises research activity at RTU, as well as manages procedures for obtaining scientific Doctoral degrees by RTU researchers at the accredited study programs approved by RTU Senate.

VICE-RECTOR FOR
ACADEMIC AFFAIRS,
PROFESSOR

Uldis Sukovskis

The Office of RTU Vice-Rector for Academic Affairs coordinates implementation of the study programs and supervises the study process.

VICE-RECTOR
FOR FINANCE,
PROFESSOR

Ingars Eriņš

The aim of the Office of Vice-Rector for Finance is to administer financial management processes and to perform accounting, allocation and planning of resources and funds at RTU to ensure implementation of University activities and implementation of its development strategy.

VICE-RECTOR
FOR STRATEGIC
DEVELOPMENT

Artūrs Zeps

The aim of the Office of Vice-Rector for Strategic Development is to draw up RTU development strategy and to ensure its successful implementation, monitoring significant development projects of RTU, as well as representing RTU interests cooperating with public authorities, partners and the public.

c. Administratīvais direktors

ADMINISTRATIVE DIRECTOR

Jans Šlihte

Administrative Department ensures implementation of the administrative processes and procedures that correspond to RTU strategic goals, develops and implements personnel management, administrative work, quality management, information and communication technology system security policies; supervises development and implementation of strategies in the areas of information technology, document management, library, sports and cultural activities; controls implementation of decisions of
RTU Senate, Deans' Council and the Rector's Council, as well as the orders of RTU Rector.

d. Deans of RTU Faculties

DEAN OF THE FACULTY OF ARCHITECTURE
Professor Uģis Bratuškins

DEAN OF THE FACULTY OF CIVIL ENGINEERING
Professor Juris Smirnovs

DEAN OF THE FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
Professor Agris Ņikitenko

DEAN OF THE FACULTY OF ELECTRICAL AND ENVIRONMENTAL ENGINEERING
Associate Professor Oskars Krievs

DEAN OF THE FACULTY OF ELECTRONICS AND TELECOMMUNICATIONS
Professor Jurģis Poriņš

DEAN OF THE FACULTY OF E-LEARNING TECHNOLOGIES AND HUMANITIES
Professor Marina Platonova

DEAN OF THE FACULTY OF ENGINEERING ECONOMICS AND MANAGEMENT
Professor Elīna Gaile-Sarkane

DEAN OF THE FACULTY OF MECHANICAL ENGINEERING, TRANSPORT AND AERONAUTICS
Professor Ēriks Geriņš

DEAN OF THE FACULTY OF MATERIALS SCIENCE AND APPLIED CHEMISTRY
Professor Māris Turks

06
Advisors

a. RTU Advisory Board

CHAIRMAN OF THE ADVISORY BOARD

Āris Žīgurs

Chairman of the Board, JSC Latvenergo

DEPUTY CHAIR OF THE ADVISORY BOARD

Juris Gulbis

Chairman of the Board, Ltd Tet

The main aim of RTU Advisory Board is to promote RTU growth, determining the course of its strategic development in accordance with the needs of the national economy of Latvia.

The Advisory Board consults the Senate and Rector on the issues concerning RTU Development Strategy and supports the formation of material and financial resources of the University.

The Advisory Board evaluates RTU performance four times a year and provides recommendations and proposals on University development in general.

Members of the Advisory Board

Normunds Bergs	Chairman of the Board of Latvian Electrical Engineering and Electronics Industry Association; Chairman of the Board of JSC SAF Tehnika
Juris Binde	President of Ltd «Latvijas Mobilais Telefons»
Ivars Puksts	
Maksims Jegorovs	Head of Latvian Branch of «Accenture»
Andris Vanags	Chairman of the Council of Ltd «Sakret»
Raina Dūrēja-Dombrovska	Executive Director of Association of the Latvian Chemical and Pharmaceutical Industry
Leonīds Jākobsons	Executive Director of the Association of Manufacturers of Building Materials
Māris Gorodcovs	Director of SA «Civilā Aviācijas Aģentūra»
Juris Savickis	CEO of Ltd «ITERA Latvija»
Vitālijs Gavrilovs	Head of the Employers' Confederation of Latvia
Vilnis Rantiņš	Chairman of the Board of Association of Mechanical Engineering and Metalworking Industries of Latvia
Ieva Jaunzeme	Director General of the State Revenue Service
Aigars Zariņš	Chairman of the Board of Ltd «Balsts»
Andris Lauciņš	Partner, audit and professional services company «EY» (Ernst & Young Baltic)
Visvaldis Sarma	CEO of Ltd «Sarma & Norde»
Mārtiņš Straume	Chairman of the Board of the Latvian Association of Construction Engineers
Normunds Talcis	Chairman of the Board of JSC «Rīgas Siltums»
Viktors Puriņš	Ex-president of the Latvian Builders Association
Aigars Kalvītis	Chairman of the Board of JSC «Latvijas Gāze»
Andris Lubiņš	CEO of Ltd «Grandeg»
Atis Sausnītis	Chairman of the Board of Ltd «Baltijas Lāse»
Ivars Alksnis	Technical Director of Ltd «Kārlis
Andrejs Vasiļjevs	Chairman of the Board of Ltd «TILDE
Andris Bērziņš	Leading Partner of Ltd «Change Venture»
Andrejs Aleksejevs	
Juris Gulbis	Chairman of the Board, Ltd «Tet»
Normunds Grinbergs	President of the Latvian Builders Association

b. Faculty Advisory Boards

Faculty Advisory Boards have been established to consult faculty administration, provide advice to the faculty councils and deans on the faculty development strategy issues, support the formation of material and financial resources of the faculties, as well as evaluate operation of the faculties and make proposals on the development of the faculties and RTU, study process improvements, planned financial investments, changes to the management model and other significant issues concerning faculty activities.

Currently, Advisory Boards have been established and function at several faculties of RTU.

Advisory Board of the Faculty of Engineering Economics and Management

Viktors Tihomirovs	Director General of «Vollers Rīga»
Raimonds Zukuls	Deputy Director General of the State Revenue Service in Customs
Aleksandrs Grigorjevs	Chairman of the Board of Ltd «Grif»
Mārtiņš Baltmanis	Head of VUGD Board of Civil Protection
Linda Mežs-Talapina	Member of the Board of Ltd «LATSIGN»
Kaspars Zakulis	Director of «Latvijas Zaļais Punkts»
Dzintars Putnis	Chairman of the Board of Ltd «Leilands un Putnis»
Uldis Vītoliņš	Executive Director of the Association of Regional Development Centres (Reģionālo attīstības centru apvienība)
Dace Gaile	Head of the Procurement Monitoring Bureau
Helēna Endriksone-Severnaja	Deputy Chair of the Board of Latvian Association of Construction Engineers; Chair of the Board of Ltd LBS-Konsultants

Advisory Board of the Faculty of Electronics and Telecommunications

Valdis Vancovičs	Chairman of the Board of Ltd «Tele 2»
Didzis Liepkalns	Technical Director of JSC «SAF Tehnika»
Jānis Bokta	Chairman of the Board of the Latvian State Radio and Television Centre
Alfrēds Asars	Strategic Development Director for IT and Telecommunications of JSC «Latvenergo»
Vija Gēme	Member of the Board of SJSC «Elektroniskie Sakari»
Ilmārs Osmanis	Chairman of the Board of JSC «HansaMatrix»
Modris Greitāns	Scientific Director of the Institute of Electronics and Computer Science
Normunds Lapoško	Head of the Wholesale Roaming Services Department of Ltd «Latvijas Mobilais Telefons»

Advisory Board of the Faculty of Mechanical Engineering, Transport and Aeronautics

Vilnis Rantiņš	Chairman of the Council of the Association of Mechanical Engineering and Metalworking Industries of Latvia
Ēriks Geriņš	Dean of the Faculty of Mechanical Engineering, Transport and Aeronautics
Aivars Amoliņš	Member of the Board of Ltd «Auteko@TUV Latvija»
Jānis Druska	Head of Department of «LR CAA»
Dzintars Naglis	Director of Ltd «Naglis&Err»
Lolita Smiltniece	HR Director of SJSC «Latvijas Dzelzceļš»
Normunds Talcis	Chairman of the Board of JSC «Rīgas Siltums»
Gundars Ziemanis	Head of the Department of Laboratory Diagnostics of «Siemens Healthcare Diagnostics»
Ruta Bogdane	Compliance Monitoring Director of «SmartLynx Airlines» Ltd
Arnis Petrānis	Member of the Board of Ltd «Peruza»
Arnis Muižnieks	Director of the Department of Aviation of the Ministry of Transport

Advisory Board of the Faculty of Materials Science and Applied Chemistry

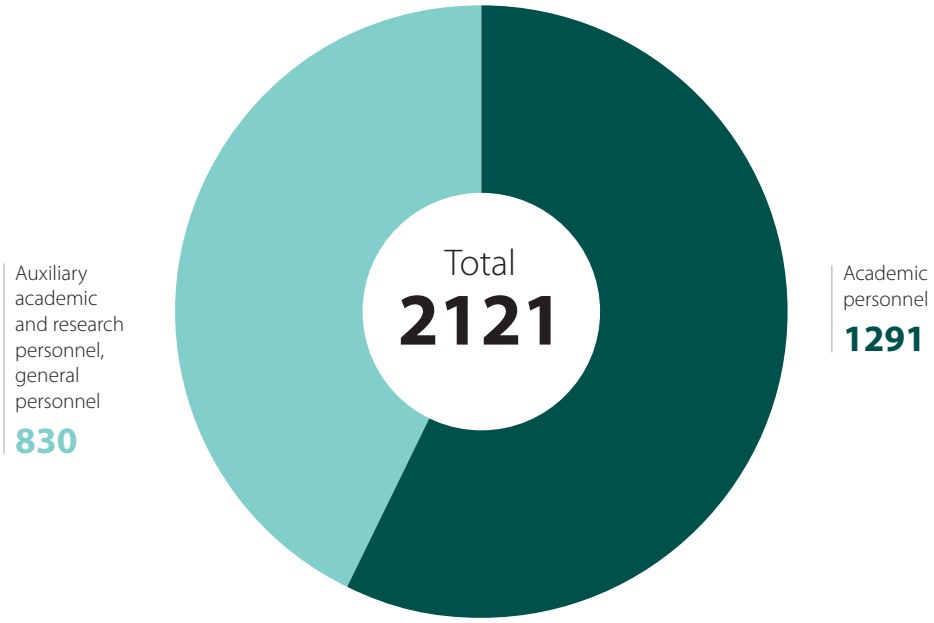
Andris Vanags	Director of «Ltd Sakret»
Bruno Andersons	Head of the Laboratory of Wood Biodegradation and Protection the Latvian State Institute of Wood Chemistry
Raina Dūrēja-Dombrovska	Executive Director of the Association of the Latvian Chemical and Pharmaceutical Industry
Ilga Gavare	Quality System Director of Ltd «Tenachem»
Andris Jegorovs	Director of Production of Active Pharmaceuticals of JSC Grindeks
Juris Gulbis	Head of Division of Production of Active Pharmaceuticals of JSC «Grindeks»
Raitis Kalniņš	Independent Expert in Environmental Issues
Ivars Kalviņš	Head of Laboratory of Carbofunctional Compounds of the Latvian Institute of Organic Synthesis
Indra Kramzaka	Deputy Director of the Environment State Bureau
Marians Ļahovskis	Director General of Ltd «Tenachem»
Vilnis Liepiņš	Representative of Ltd «BAPEKS»
Jānis Mārciņš	Advisor to the Latvian Association of Wood Processing Entrepreneurs and Exporters
Laila Pētersone	Head of the Production Development Department of JSC «Valmieras Stikla Šķiedra»
Vitālijs Skrīvelis	Chairman of the Board of the Association of the Latvian Chemical and Pharmaceutical Industry
Raimonds Terentjevs	Member of the Board of JSC «Olainfarm», Director of the Quality Management Department
Normunds Zelčāns	Representative of JSC «Olainfarm»

07
Personnel

Being aware that human resources are the main asset of RTU, the University creates an inspiring environment for both its employees and students. Flexible working practices and growth opportunities are provided to all stakeholders. The excellence system based on the EFQM model is incorporated within the RTU management model.

a. Total number of employees

As of 01 February, 2020



b. Number of academic personnel

As of 01 February, 2020

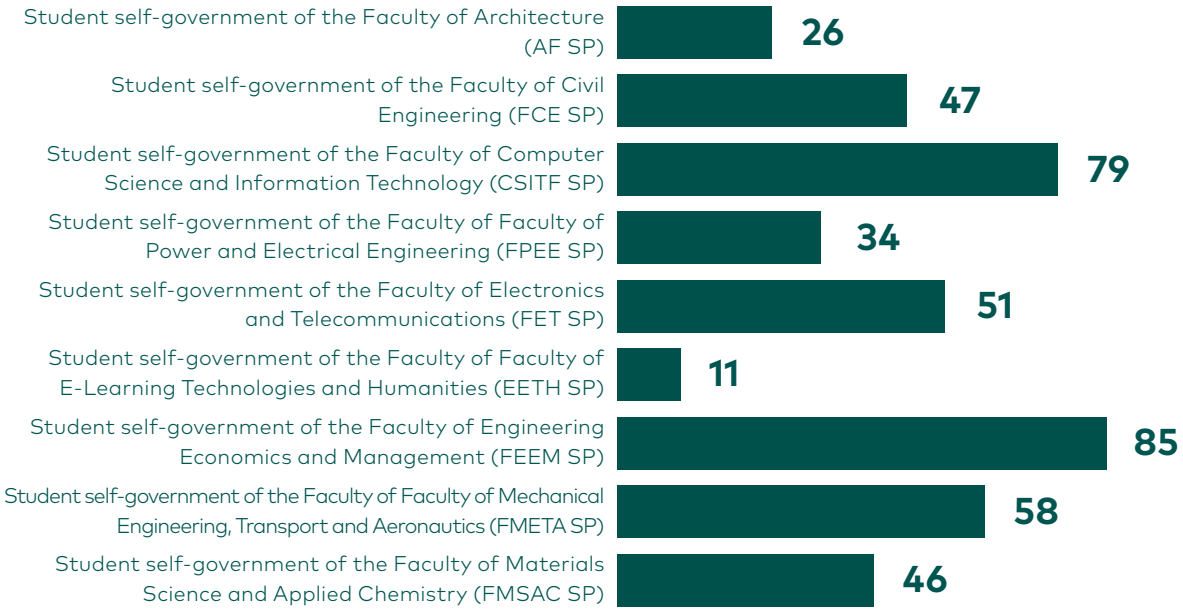
08

Student Self-Governments and Parliament

RTU Student Parliament (RTU SP) is a student organization with rich traditions. In 2019, it celebrated its 27th anniversary. The core of RTU SP is formed by RTU students who are interested in making their studies and extra-curricular life more qualitative and diverse, not only for themselves, but for all students of RTU.

RTU SP President in 2019 – a students of the Faculty of Computer Science and Information Technology Katrīna Rudoviča.

a. Members of RTU Student Parliament



b. RTU SP Activities in 2019

In 2019, RTU SP united the largest number of members as compared to the previous years – more than 400 students.

At the beginning of academic year 2019/2020, a new building of the Faculty of Faculty of Mechanical Engineering, Transport and Aeronautics was opened up, and faculty students and academic personnel moved to their new home in RTU Campus in Ķīpsala.

In cooperation with RTU Scientific Library, a 24/7 reading hall was opened to the public. It provides students with the opportunity to gain access to the library stock and study at the library 24/7.

A scientific student journal «Tuvāk Zinātnei» (Closer to Science) was published, it is available also in the stock of the National Library of Latvia.

Promoting cooperation between business and RTU, numerous guest lectures, discussions, project presentations and consultations were organized so that each RTU student could become more competitive.

The work of RTU SP International Student Council was improved, a position of Deputy Head was established, which would be taken by one of international RTU students, the Regulation on International Groups Monitors was developed.

A new user-friendly home page of RTU SP was launched on rtu.lv platform.

RTU SP organized many events

- Student self-government of the Faculty of Civil Engineering organized a traditional waffle tower building competition «Waffle Engineer»;
- FCE SP also organized a paper bridge building contest «Paper Bridges»;
- Student self-government of the Faculty of Architecture organized a gingerbread house building competition;
- Student self-government of the Faculty of Faculty of Mechanical Engineering, Transport and Aeronautics organized the Baltic Mechanical Engineering Student Competition "Zobrats";
- FMETA SP organized a spaghetti bridge building competition «STiKS» for the last time;
- Many new events were organized, for example, winter sports games «Briedīši» and a green ball «Studentu Saulgrieži» (Student Solstice).
- Moreover, the Fresher Ball (Fukšu balle) of 2019 uniting 2,800 participants was the largest student initiation event ever organized!

«Waffle Engineer» – the Most Delicious Completion of the Year

The team «TomsElvis» and its participants Elvis Tolmačovs and Toms Zolmanis won the competition «Waffle Engineer 10» organized by the student self-government of the Faculty of Civil Engineering in the category "The Highest Tower", having created a 2.02-meter-high tower. At the same time, the construction made from waffles and chocolate by the team «Man i' āķs' lūpā» was recognized as the best in the category «Design Object».

Spaghetti Bridge

A traditional spaghetti bridge building competition «STiKS» was organized in March. The bridge constructed by the team «JAM» – Artūrs Vēvers, Māris Puriņš un Jurijs Cirsis - was by far the strongest, it withstood the load of 419.997 kg.
The competition «STiKS» is organized by the student self-government of the Faculty of Faculty of Mechanical Engineering, Transport and Aeronautics in cooperation with RTU Student Parliament.

The Most Durable Paper Bridge

The team «Šneks» - Mārtiņš Arājs, Linards Hremenkins and Valts Segliņš - won the paper bridge building contest organized by the student self-government of the Faculty of Civil Engineering in the student bridge category. The bridge constructed by this team managed to withstand the load of 139.9 kg.
In 2019, the paper bridge building contest was held for the sixth time in a row attracting the record number of participants – 72 teams.
The bridges had to be constructed from 50 A4 format paper sheets and glue. The teams also received the tools for processing the paper – 30 cm ruler, paper knife, and pencil. Two hours were allocated for building a paper bridge, then the bridges were assessed – the bridges were placed in the loading machine, the borne load was recorded. The bridge that withstood the largest load was recognized the winner.

09
High-Quality Education

RTU offers a wide range of study programs at the college, Bachelor, Master and Doctoral level, providing the largest number of study positions funded from the state budget in Latvia.

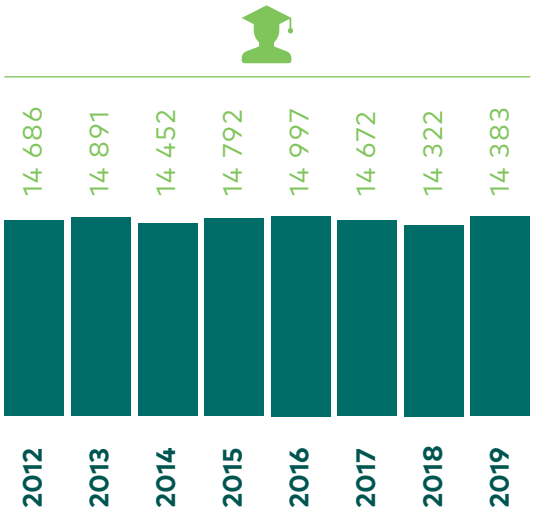
Many programs are also available on part-time or extramural basis, providing opportunity to study in the evenings during the week or on Saturdays. Studies at RTU are implemented by nine faculties in Riga, as well as at affiliations in Cēsis, Daugavpils, Liepāja and Ventspils.

In the academic year of 2019/2020, 14,383 students studied at RTU.

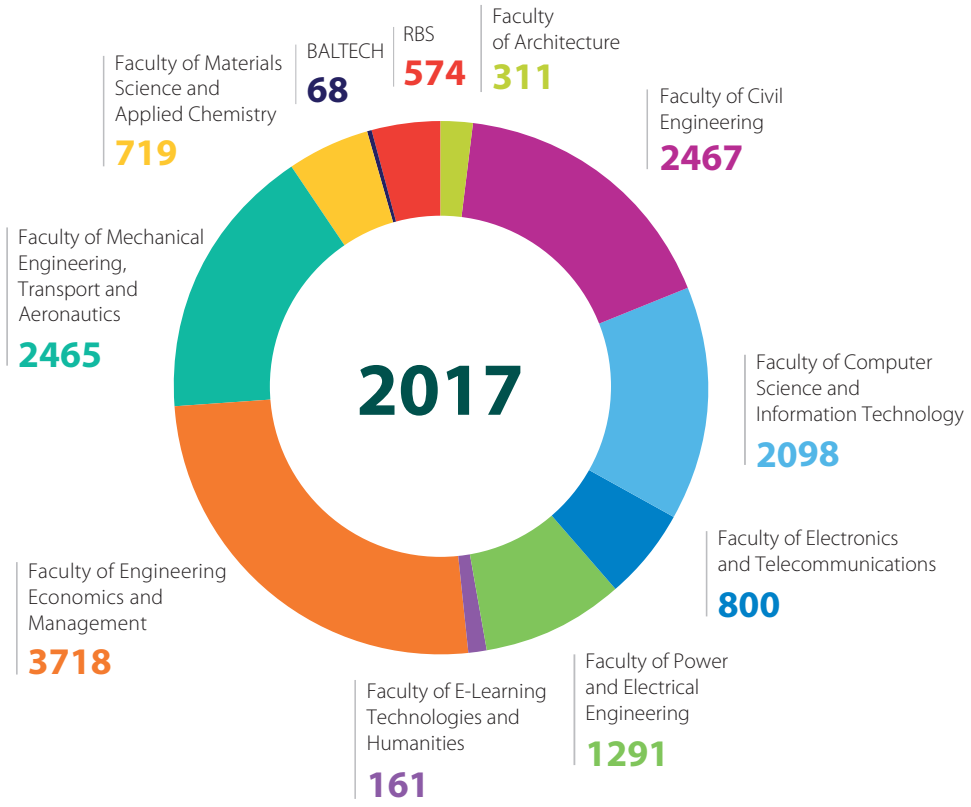
a. Study Fields

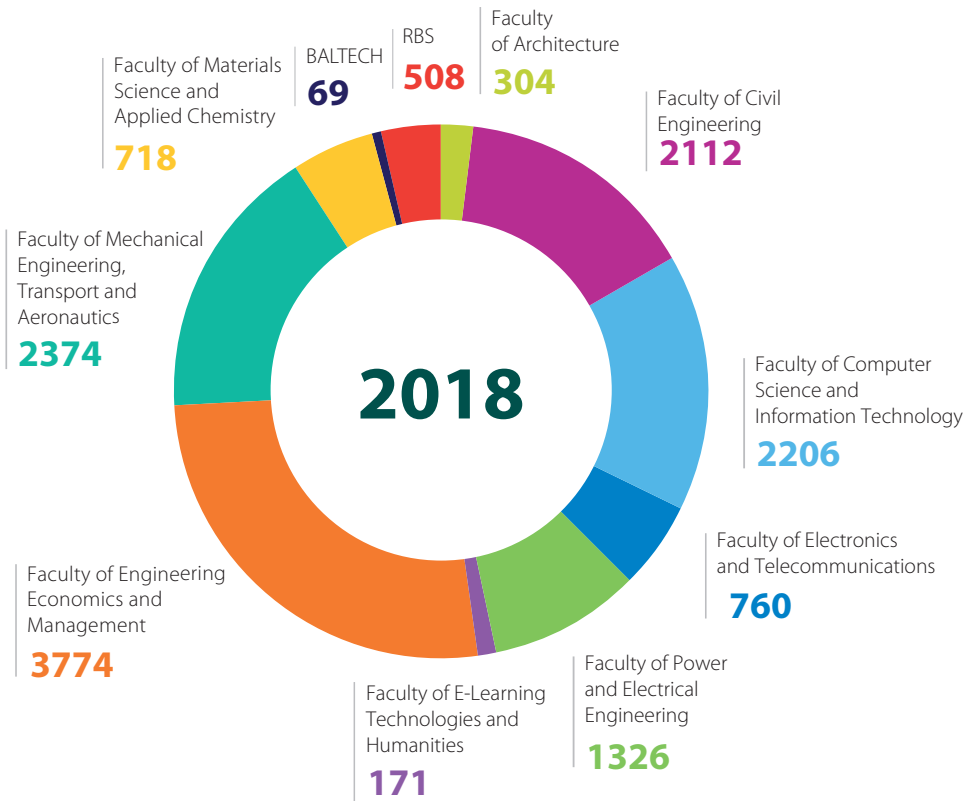
- Architecture and construction
- Economics
- Energy, electrical engineering and electrical technologies
- Physics, materials science, mathematics and statistics
- Internal security and civil defense
- Information technology, computer engineering, electronics, telecommunications, computer control and computer science
- Chemistry, chemical technologies and biotechnology
- Mechanics and metalworking, thermal energy, thermal engineering and mechanical engineering
- Production and processing
- Translation
- Management, administration and real estate management
- Environment protection

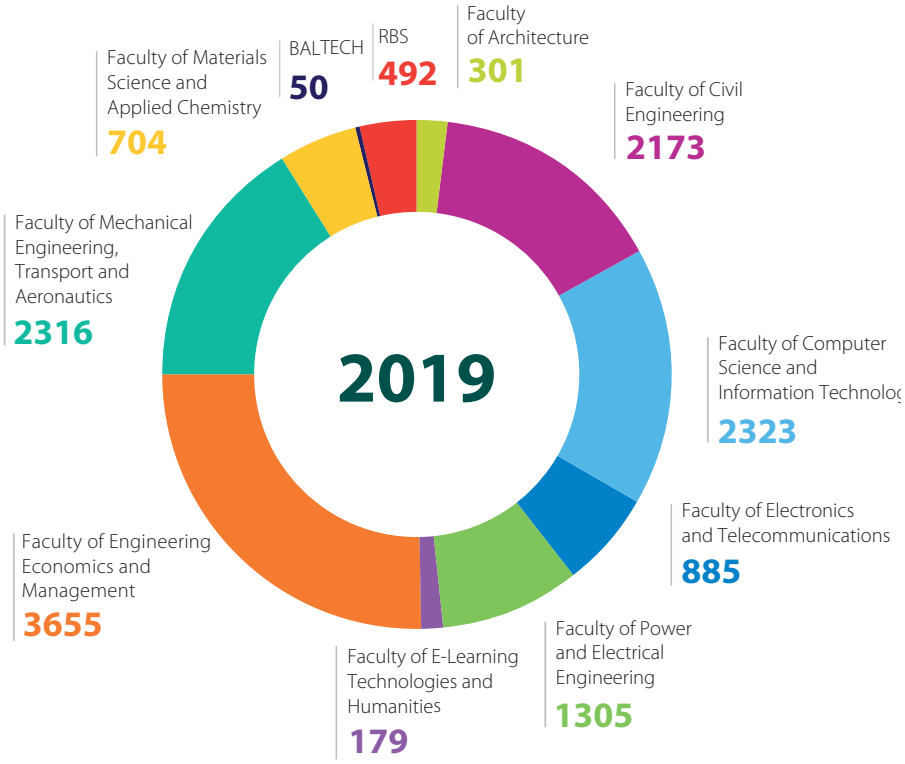
b. Total Number of Students



c. Number of Students at the Faculties







2019	1st level programs	Bachelor programs	Master programs	Doctoral programs
Number of study programs	7	50	57	19
Enrolled	251	3720	1354	117
Graduated	85	1215	661	39

d. Achievements of RTU Students

RTU Student Teams Bring Prizes from the Pneumobile Competition Organized in Hungary

One first, two second, and one third place in various disciplines, which is a new Latvian record – these excellent results were demonstrated by two student teams of RTU Faculty of Mechanical Engineering, Transport and Aeronautics at the international competition of self-made pneumobiles «XII International Aventics Pneumobile Competition», which was held in Eger, Hungary. RTU was represented by the team «Riga Fresh» with a four-wheel pneumobile and «Riga Airmobile» with a three-wheel pneumobile. Students designed, constructed and drove pneumobiles themselves under supervision of RTU instructors, accumulating valuable experience and knowledge in this field in the course of several years.

Awards to the Students of Geomatics

Students of geomatics of RTU Faculty of Civil Engineering received prizes in the annual student paper contests organized by the State Land Service and the Latvian Association of Surveyors.
Jolanta Butlere received a Certificate of Appreciation and award in the category «The Best Master Paper» for her work «Building Information Modelling and Laser Scanning», Vilis Čekšs - for the work «Underground Infrastructure Representation and Application in 3D Environment» and Jānis Kokins - for his paper «Compatibility of ADTI and Cadastral Geospatial Information».
At the same time, Kristiāna Krūmiņa received award for her Bachelor Paper «Levels of Detail in Building Modelling Based on LiDAR Data».

A student of the FCE Master study program «Innovative Solutions in Geomatics» Dagmāra Krūmiņa received an award in the contest of student research papers organized by the Council of European Geodetic Surveyors. Her work «3D Reconstruction of Cultural and Historical Monuments from Historical Documents» was recognized the best in the category of papers on geographic information systems and mapping.

Transportation Engineering Students Win the International Olympiad

The team of students of the study program "Transportation Engineering" of RTU Faculty of Civil Engineering including Romāns Kornišovs, Miks Mežvēvers and Kārlis Dedumietis won first place at the 4th International Transport Engineering Student Olympiad held in Minsk, Belarus.
At the Olympiad, students competed demonstrating their knowledge and skills in various fields related to organization of transportation, road pavement design, road building materials, technologies and related topics. During the Olympiad, participants also made measurements in real field conditions.

Triumph of Young RTU Designers in the Contest « Design Arena 2019»

Students of the Institute of Design Technologies (IDT) of RTU Faculty of Materials Science and Applied Chemistry took all the credit in the university competition «Design Arena 2019» organized within the international design exhibition «Design Isle 2019».
IDT students took all three top positions in the category «Product Design». Anastasija Ribaka won first place for the modular children furniture «Luni». She also received the title «Design Student of the Year».
The second place was taken by Kristaps Zvirgzds for the set of bedroom design accessories «Usma» developed within his Bachelor Paper, in turn, an auxiliary tool for improvement of children ability to concentrate «Kosmoss» developed by Vaira Monta Meldere was ranked third.

Sustainable Ideas Got Recognition

- Many papers by RTU students and graduates were highly evaluated at the competition «Sustainability in Architecture, Civil Engineering, Design 2019», having received the top prizes and certificates of recognition in the nomination «The Most Sustainable Student Idea 2019».
- The first place was won by the graduates of the Faculty of Architecture Rūdis Rubenis and Ritvars Krastiņš, as well as Andrejs Domkins and «MeKA» for the exposition «Viedais koks» (Smart Tree).
- Application of a composite material from recycled denim in panel production suggested by a student of the study program «Materials Technologies and Design» of the Institute of Design Technologies of RTU Faculty of Materials Science and Applied Chemistry Madara Ārente gained recognition.
- Apparel collection «COLLISION» from recycled materials that was developed by the students of the study program «Materials Technologies and Design» Nadīna Anija Poga and Marta Cimdiņa was also recognized.

Awards to Design Students

The works of a 3rd year students of the study program «Materials Technologies and Design» of the Institute of Design Technologies of RTU Faculty of Materials Science and Applied Chemistry were highly evaluated at the contest dedicated to centenary of Bauhaus organized by the company «Modernists». Paula Kristiāna Kalniņa won the contest with her round wall shelf, Alise Sietniece was second with her round coffee table, whereas the third place was taken by Svens Martuļevs with the table of his design.

PhD students of RTU Matijs Babris Receives a Runner-up Award from Baltic Architects Union Association

Matijs Babris, a PhD student of the Faculty of Architecture, received recognition of the jury of the Baltic Architects Union Association (BAUA) for his work «Tree Constructions for Promoting Nature Tourism, Strenči Water Tourism Center». 16 best papers of the students of Bachelor and Master study programs of seven Baltic schools of architecture were nominated for the prize, student performance was evaluated by the professional jury.

Learning Environment

«Bloomberg» Laboratory

In January, «Bloomberg» Laboratory was opened at RTU. It would provide students and academic staff with the access to comprehensive real-time data bases, research and analysis tools. In «Bloomberg» Laboratory, there are 12 specially equipped data stations available to all RTU students and researchers, which will allow increasing research quality as well as competitiveness of students and researchers in the labor market. «Bloomberg» data base is very large, it comprises financial data on the entire world, data on the enterprises, securities, transactions, marketing activities, real estate and other taxes. It provides both students and researchers with the access to big volumes of high confidence real-time data and allows increasing the quality of research work.

RTU Students Develop IT Solutions for the Enterprises

RTU Faculty of Computer Science and Information Technology maintains intense cooperation with prominent Latvian enterprises in organization of the study process, implementation of applied research and development of various practical applications. In the spring semester, cooperation with «Latvijas dzelzceļš» (Latvian Railways) and «Latvijas autoceļu uzturētājs» (Latvian Road Maintainer) finished successfully. Within the study course «Data Integration and Cloud Computing Seminar», 3rd year

students of the academic Bachelor study program «Information Technology» worked on the problems defined by the enterprise under supervision of Associate Professor Jānis Kampars. The suggested solutions envision including in the «Waze» app precise and comprehensive information on the expected railway crossing closure times, as well as summarized information on dangerous situations on the roads from various data sources, thus giving the opportunity to drivers to plan their route more precisely and to road maintainers – to timely react to emergencies on the roads.

Customs Control Laboratory Opened at RTU

Customs Control Laboratory was established at the Department of Customs and Taxes of the International Business and Customs Institute (SESMI), RTU Faculty of Engineering Economics and Management, with support of the National Customs Board of the State Revenue Service.
The laboratory is equipped with various measuring instruments and technical tools used by customs officers in their daily work while conducting inspections of the vehicles and individuals, for example, density and radiation measuring devices, metal detectors, drug tests and endoscopes, which allow checking vehicles for the hidden smuggled goods. The laboratory provides opportunity to get acquainted with the hiding compartments for transportation of prohibited goods frequently used in Latvia, it is also fitted with projection equipment for screening educational films on customs control.

150 Years of Architectural Education

In 2019, it had been 150 years since it was possible to obtain higher architectural education in Latvia. RTU Faculty of Architecture invited to celebrate the establishment of the Department of Architecture at Riga Polytechnicum in 1869, having organized a number of commemorative events. The cycle «Architectural Education in Latvia 150» provided opportunity to attend exhibitions, discussions, conference, architect convent and other events.

155th Anniversary of the Faculty of Mechanical Engineering, Transport and Aeronautics

In October, RTU Faculty of Mechanical Engineering, Transport and Aeronautics (FMETA) celebrated its 155th anniversary. The faculty counts its years from 1864, when the Department of Mechanical Engineers was opened at Riga Polytechnicum (now – RTU). It became the cradle for mechanical engineering industry for the entire Russian Empire, of which Latvia was then part.
Mechanical engineering school continued developing at RTU. FMETA has experienced considerable changes and now educates and trains not only machine and apparatus building engineers, but also specialists in aviation and railway, as well as medical equipment engineers. The faculty has established fruitful cooperation with the industry in both educating and training the specialists required by the industry and implementation of joined projects.

Olaine College of Mechanics and Technologies Officially Joins RTU

Implementing consolidation of the tertiary education, on 1 July Olaine College of Mechanics and Technologies (OCMT) officially became an agency of RTU. This is a successful example of how educational establishments in cooperation with the industry agreed to work together in order to educate and train the specialists required by the industry.
In the capacity of an agency, OCMT joined RTU by decision of the Cabinet of Ministers as of 21 November, 2018, having received the name of RTU Olaine College of Technology (OCT).
The decision about cooperation between RTU and OCT was made considering the need to promote concentration of

resources and greater synergy among Latvian higher education establishments that implement study programs in one field. The decision on closer collaboration was made by both Scientific Council of OCMT and RTU Senate.
Joining RTU, OCT will receive support in both curriculum development and access to the technical resources necessary for implementing study programs meeting the requirements of the labor market.

Further Education

RTU Further Education Department offers acquiring versatile and modern competences and skills, considering the need to acquire knowledge and experience in order to improve or change the existing qualification in accordance with the changing public and labor market needs and individual interests.

In 2018/2019, more than 1000 enthusiasts improved their knowledge within 30 different further education courses, including also professional advancement courses within the ESF supported project «Advancement of Professional Competence of Employees». The courses are organized at RTU faculties in Riga, as well as at the regional RTU study and research centers.

Almost 300 Employees Acquired Informal Education Programs Offered by RTU

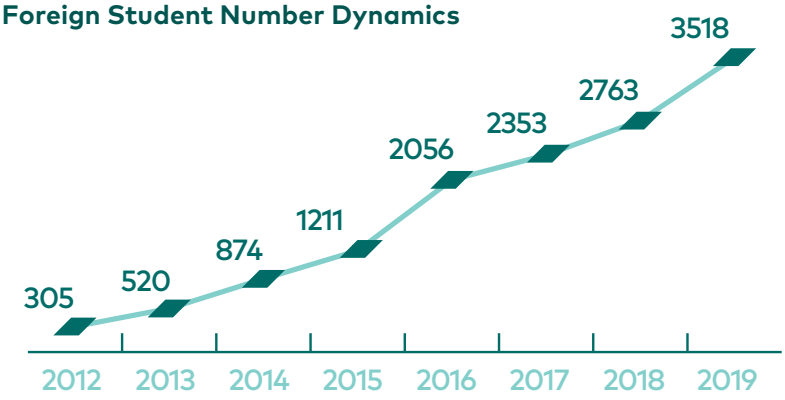
290 employees acquired knowledge and skills in 25 further education groups within ten informal education programs implemented by RTU. It became possible thanks to RTU participation in the projects of the State Education Development Agency «Advancement of Professional Competence of Employees», which gives employees an opportunity to develop new knowledge required in the labor market.
From August 2019 until March 2020 RTU offered opportunity to acquire skills in digital marketing, application of 3D visualization *AutoCad* software in manufacturing of different garments in the clothing industry, personal data protection and information safety, application of programmed controllers, programming languages *Java* and *JavaScript*, as well as other fields. Opportunity to acquire the programming language *Java* caused the largest interest – 9 study groups were organized for this purpose.

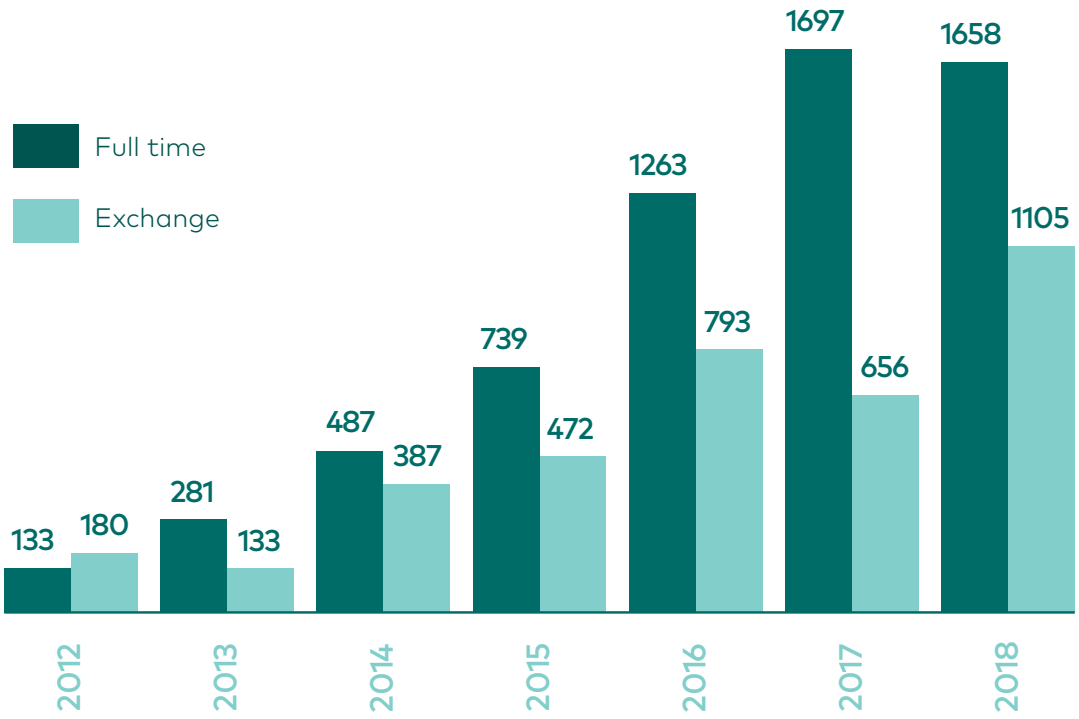
d. Number of Foreign Students

In academic year 2018/2019, the record number of foreign students studied at RTU – 3,518, which is by 755 students more than in 2017/2018. The number of foreign students at RTU has been growing considerably during the last years, having increased more than ten times in eight years.

Internationalization is one of the most significant strategic objectives of RTU and the growing number of foreign students is the result of the targeted activities in attraction of these students. The most significant increase of the number of students in recent years is recorded for such countries as India, Uzbekistan, France, Sri Lanka, and Germany.

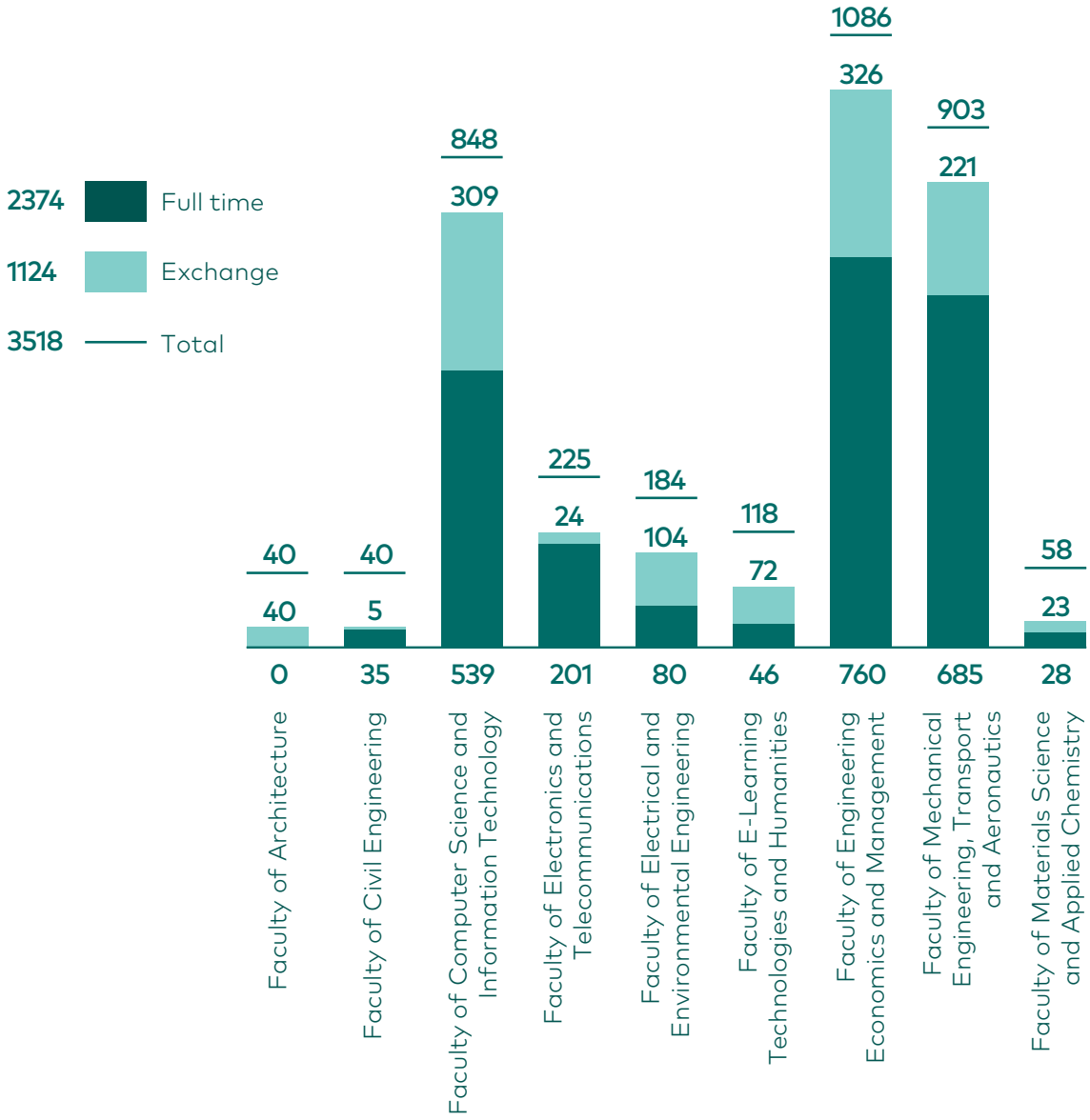
Foreign Student Number Dynamics





e. Number of Foreign Students by the Faculty

(01.10.2018.-01.10.2019.)



f. New Study Programs

In 2019, new study programs were offered to RTU students

«Computer Science and Organizational Technologies»

This new Baltic IT leadership program was jointly established by RTU and the University of Latvia in cooperation with the University at Buffalo, State University of New York, it is coordinated by RTU Riga Business School (RBS).
It is the first high level interdisciplinary IT program in Northern Europe, which offers students to acquire versatile knowledge in IT, educating and training high level specialists – potential enterprise managers, who are able not only capable of programming, but are also able to run enterprises, to see correlations, make strategic decisions and be competent leaders in the modern digital world.
The study program is implemented in English, it is four years long, and there is an opportunity to spend the last study year at the University at Buffalo

«E-Learning Technologies»

Students with the Bachelor degree in engineering, natural sciences and computer sciences may enroll in this program. Students develop a comprehensive knowledge base in e-learning technologies, as well as distance education. Graduates will learn about the newest tendencies in the fields of e- learning technologies, research and commercialization.

g. Scholarships

RTU students, who study on the state budget, can also receive a monthly scholarship. RTU students can also apply for other scholarships, which are financed and granted by different funds.

- **State-funded scholarships**

All students, who study on the state budget, who in accordance with the requirements of the RTU Regulation on Assessment of Learning Outcomes have passed all tests and examinations within the period set by RTU at the first attempt, and who have no academic liabilities, are eligible for the receipt of a scholarship on a competitive basis.

- **RTU Development Fund scholarships**

RTU Development Fund by attracting donations and gifts from organizations, legal and natural persons, grants scholarships to the students of RTU and other universities, as well as the students of vocational secondary education establishments.

In cooperation with the supporters, the Fund offers the following scholarships:

- For academic achievements;
- For achievements in science and research;
- To promote acquisition of practical skills;
- For achievements in sports.

Some Scholarships Granted for Achievements in Science and Research:

- Academic scholarship by Ltd «SCHWENK Latvija for the students in the field of power engineering, electrical engineering, engineering mechanics and mechanical engineering;
- Graduation paper scholarships by the Latvian Association of Electrical Power Engineering and Energy Constructors, Ltd «Schneider Electric Latvija», JSC «Augstsprieguma tīkls» and JSC «Draka Keila Cables» for the students in the field of power and electrical engineering;
- «ZIBIT 2019» graduation paper scholarships for the students majoring in computer science and information technology;
- Emīlija Gudriniece and Alfrēds Ieviņš Scholarships for the students of RTU Faculty of Materials Science and Applied Chemistry;
- «Accenture» scholarships for the students of RTU Faculty of Computer Science and Information Technology;
- Ivars Strautmanis Latvian Regional Architecture Scholarship for the students of RTU Faculty of Architecture;
- Jānis Alksnis Scholarship for the students of RTU Faculty of Architecture.

Scholarships Granted for Academic Achievement

Ltd «PERI» support scholarship for the students of RTU Faculty of Civil Engineering;

Ltd «HansaMatrix» Innovation support scholarship for the students of RTU Faculty of Electronics and Telecommunications;

Ltd «HansaMatrix» Innovation support scholarship for the students of RTU Engineering High School;

Ltd ITERA Latvija scholarships for the students of RTU and Latvia University of Agriculture;

Alfred Raisters Scholarships for the students majoring in different fields, who demonstrate excellent academic performance and who regularly deal with promotion of the field of engineering;

JSC EMERGN scholarships for the students majoring in computer science and information technology;

Ltd Light Guide Optics International scholarships for the students of RTU Faculty of Materials Science and Applied Chemistry;

Ltd Severstal Distribution excellence scholarships for the students of RTU Engineering High School;

Ltd Severstal Distribution excellence scholarships for the students of RTU Faculty of Mechanical Engineering, Transport and Aeronautics.

RTU Development Fund grants awards for excellent achievements in studies, research, and pedagogy:

- The Solomon Hiller Award granted to Doctors of Chemistry;
- Annual award by the Latvian Academy of Sciences, Ltd ITERA Latvija and RTU Development Fund;
- Annual Award for Academic Excellence and Annual Young Teacher Award.

RTU Students – Laureates of G. Boles and I. Strautmanis Awards

A graduate of RTU Faculty of Architecture (AF) Elza Taube became the winner of Professor Ivars Strautmanis Latvian Regional Architectural Award. In turn, AF graduate Raivis Jānis Mucenieks and a student of the Faculty of Civil Engineering (FCE) Marta Amoliņa received Guntis Boles awards.

The Award of the Latvian-born civil engineer Guntis Bole (1934–2018) is awarded once a year to one AF and one FCE student, evaluating their academic performance, professional extra-curricular activities and professional quality of the developed study papers. In 2019, G. Boles Award was granted to students for the last time.
Professor Ivars Strautmanis (1932—2017) Latvian Regional Architectural Award is issued annually since 2013 to one AF graduate. The aim of the award is to promote the overall harmony of the Latvian urban and rural environment development and encourage future architects to carefully consider the proposed range of techniques suggesting both planning and formal architectural solutions for the Latvian urban and rural environment development.

RTU Student Receives the Galenieks Scholarship by American Latvians

The 4th year student of RTU Faculty of Mechanical Engineering, Transport and Aeronautics Ņikita Kuzmins received American Latvian Valija and Modris Galenieks scholarship in academic year 2019/2020. Ņikita Kuzmins studies at the study program «Automobile Transport» and sees his ability to join work connected with the strategic tests in aviation with studies as his main achievement. The student received the Galenieks Scholarship already for the second time.
The Galenieks Scholarship was established in 2018, it is aimed to support the talented, industrious Latvian university students.

h. Engineering High School

RTU Engineering High School (EHS) was established in 2015 to support talented Latvian youth wiling to connect their future with engineering. EHS has been recognized the best school in Latvia, since for the fourth consecutive year it was ranked first in the Small School Ranking system of Atis Kronvalds Foundation. EHS students have demonstrated the highest results at the state centralized exams, as well as have won numerous national and international student olympiads.

«Large Owl»

RTU EHS was recognized the best school in the small school category and for the fourth consecutive year received Atis Kronvalds Foundation award «Large Owl», which is awarded for secondary school student achievements in the city and state level olympiads.

«Star Rating»

RTU EHS received the second place in the Star Rating drawn up by Atis Kronvalds Foundation, which lists the schools that demonstrated the top results in the international student olympiads.

Students of RTU Engineering High School Demonstrate Excellent Results at the State Olympiads

- Students of RTU Engineering High School received 12 awards in the 3rd round of the 61st State Chemistry Olympiad and thus became the school with the largest number of Olympic prizes.
- EHS students demonstrated excellent results also in the 3rd round of the 70th State Physics Olympiad, having received six awards.

Achievements at the International Olympiads

- Kārlis Šusters got the bronze medal at the International Olympiad in Informatics.
- Elīza Elizabete Bicāne won the bronze medal at the International Economics Olympiad.
- Agnis Salmiņš and Artjoms Ubaidullaevs received Certificated of Recognition at the International Mathematical Olympiad.

Awards of the Latvian Scientific Research Paper Conference

16 RTU EHS students received awards for 12 research papers they developed and presented at the 43rd Latvian Schoolchildren Research Paper Conference. The conference was held at RTU in April.

Friendly Appeal Foundation Awards

- **EHS – the best urban secondary school**

RTU EHS was recognized the best school in the Friendly Appeal Foundation Rating in the category of urban secondary schools. The work of EHS students and teachers was evaluated as the best among other urban secondary schools in two nominations – mathematics and natural sciences, EHS received the top awards in these nominations. At the same time, considering EHS student performance in the Latvian language and literature, the school was ranked second in the urban school group.
Awards of the Friendly Appeal Foundation to the best schools are granted taking into consideration the data on the results of centralized exams summarized by the National Centre for Education.

- **Awards to EHS graduates and teachers**

- RTU EHS awarded Certificates of Merit and medals of the Friendly Appeal Foundation to its graduates and teachers.
- A graduate of RTU Engineering Hight School Ernests Tomass Auziņš got award in the nomination «Graduate» for excellent achievements at the International Biology Olympiad, where he won the bronze medal. A graduate Roberts Pavlovskis was praised for brilliant performance, since he received the gold medal at the Economics Olympiad. A graduate Vladislavs Aščeulovs was acclaimed for winning the bronze medal at the International Chemistry Olympiad.
- Three RTU EHS teachers got awarded in the nomination «Teacher» for helping students achieve high results at the international student contests: biology teacher Dace Bērtule, economics teacher Uldis Kamols, as well as chemistry teacher Laura Fjodorova.

Accomplishments in the International Young Scientist Contest

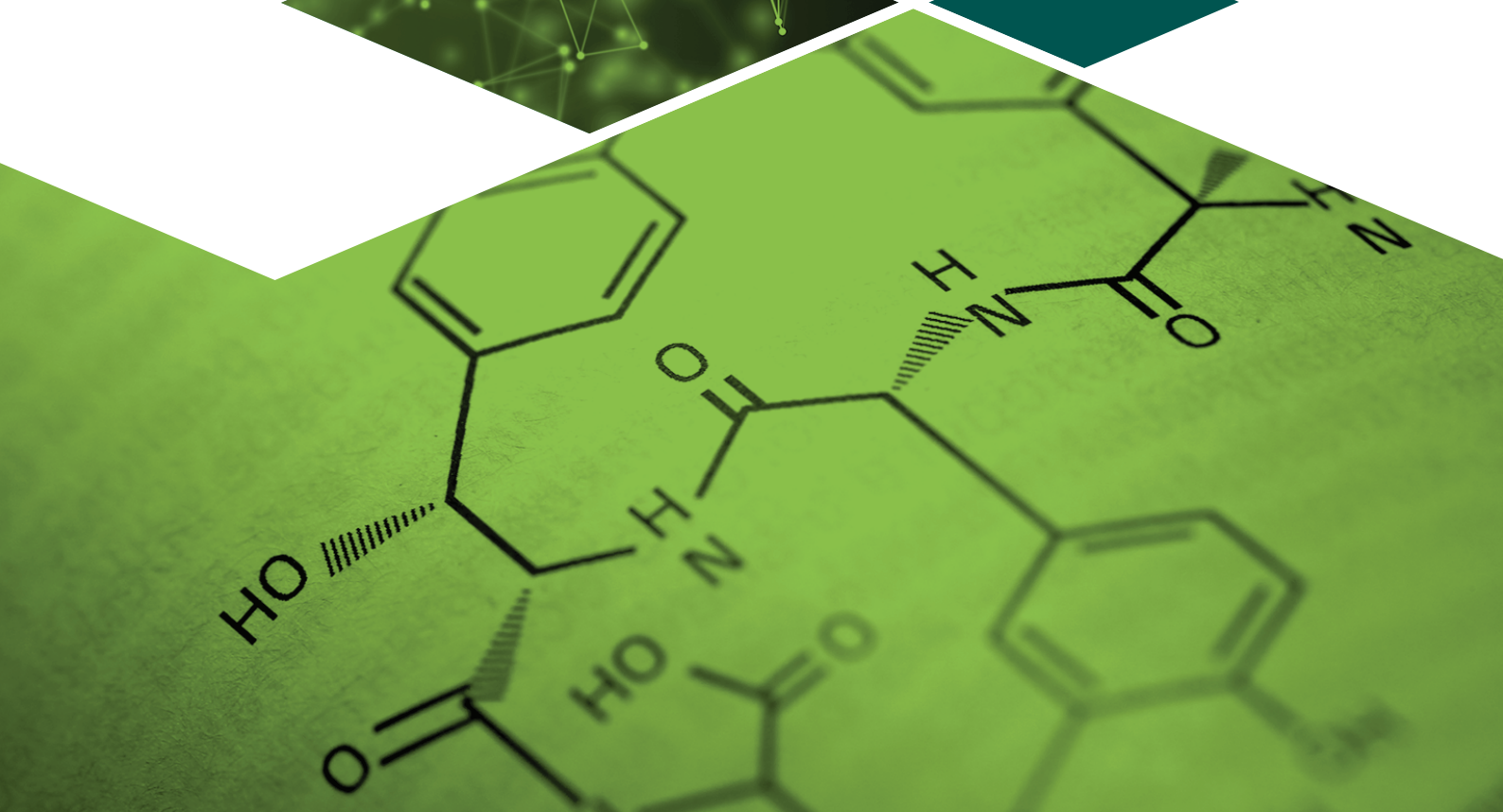
A student of RTU EHS Kārlis Rimaševskis received the bronze medal and his peer Uģis Vēvers – a Certificate of Recognition in the international young scientist contest «Genius Olympiad», which was held in Oswego, New York.
RTU EHS students participated in science category, presenting poster presentations in chemistry and biology.

24 Talented Young People Finish Engineering Hight School

On 29 June, 24 young people received secondary school certificates upon graduation from RTU Engineering Hight School, it was the second graduate class of the school. They were greeted by RTU Rector Leonīds Ribickis, ex-President Andris Bērziņš, Administrative Director of JSC Latvenergo Arnis Kurgs, whereas Vice-President of the European Commission Valdis Dombrovskis sent his video greeting.
EHS graduates also received special certificates of gratitude and awards. Jana Boļmante received a certificate of gratitude from the Prime Minister for excellent academic achievements. Agnis Salmiņš received the Honors Student of the Century Award from the Ministry of Finance and Ministry of Education and Science, in turn, Rūdolfs Agris Stilve received RTU EHS Graduate of the Year Award, and Ltd «Tet» granted its award to Aleksejs Jekimovs.

10

Excellence in Research



Scientific research is an integral part of the study process at the University and it is implemented within all study programs. The strategic goal of the fundamental and applied research implemented at RTU is to analyze the topical technical and social issues and provide solutions thereto.

The scientific potential developed in the course of the fundamental and applied research is gradually applied in practice in business activities.
RTU aims to become one of the leading universities of science and technology in Europe.

a. Research Platforms

The rapid development of technologies in the industry requires complex solutions to the issues that surpass the borders of specialization of one faculty. Therefore, researchers from different faculties of Riga Technical University cooperate in interdisciplinary research within six research platforms that are of special importance for the national economy and society.

Energy and Environment

Vision

Leading competence center in the field of power engineering and environment in the Baltics

Fields of research

- Safety of energy supply systems and optimal operation modes to increase their performance and economic returns;
- Methods and technologies for increasing efficiency of electricity and heat generation, transmission, distribution and consumption;
- Methods and technologies for promoting the use of renewable energy sources to increase energy independence in the region and minimize environmental impacts;
- Climate technology and environmental methods for the circular economy.

Cities and Development

Vision

Significant competence center in the field of urban development in the Baltics

Fields of research

- Sustainable living environment;
- Efficient urban infrastructure;
- Identification, protection and development of cultural heritage;
- Urban development (development of new technologies);
- Urban planning economy;
- Evaluation of urban infrastructure activities and risks to economic growth.

Information and Communication Technologies

Vision

Internationally acknowledged, leading platform of knowledge society technologies in Latvia

Fields of researchs

- Exploration of the usability of e-learning systems and development of new e-learning technologies, methods and systems;
- Research of the Internet of Things and Big Data transfer and processing, information transfer;
- Research on ICT applications in linguistics;
- Development of technologies for smart cities and regions and creation of new e-services to increase the quality of life;
- Research and development of cyberphysical system technologies, based on innovative high-speed optical transmission system technologies;
- Comprehensive data processing research in complex distributed environments;
- Comprehensive intellect for development of smart and autonomous systems and their integration;
- High-performance signal processing and rapid transformations;
- Development of new generation radio frequency and microwave communication systems.

Research on communication systems of transport systems and complex information processing.

Transport

Vision

Excellent and internationally acknowledged center of research and expertise in the field of road and aviation transport in the Baltics

Fields of researchs

- Energy efficient and safe road and rail transport;
- Safe and financially efficient air transport;
- Efficient transport infrastructure;
- Reliable and safe methods for diagnostics of technical condition of vehicles and transport infrastructure.

Materials, Processes and Technologies

Vision

Leading competence center in the field of materials, processes and technologies in the Baltics

Fields of researchs

- Development and functionalization of biocompatible, biodegradable materials integrable within and outside the human body;
- Development of high value-added materials from local and renewable resources;
- Smart materials for environmental monitoring and purification – development, research and integration into the existing infrastructure;
- Development of smart materials for alternative energy generation (H2O cleavage, piezoelectric nano-structures);
- Electro-optical materials in construction, automotive industry and defense – research and development;
- Organic chemistry and pharmaceutical processes and technologies.

Security and Defense

Vision

Internationally acknowledged center of strategic significance in the field of development of security products and control of their circulation

Fields of researchs

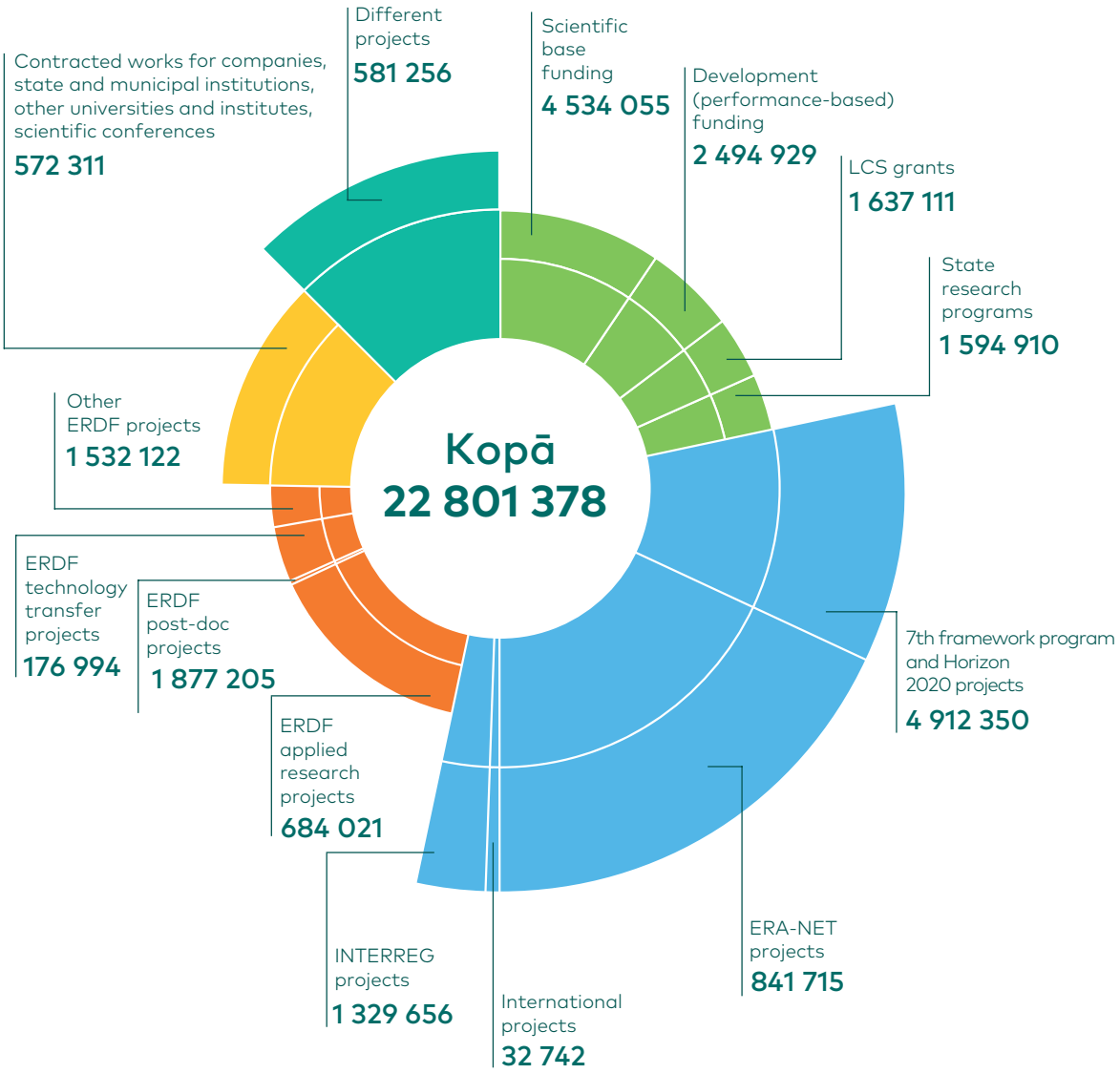
- Strategic products for international security;
- Border security;
- National economic security;
- Civil defense.

Four RTU Scientists Elected Corresponding Members of the Latvian Academy of Sciences

Two associate professors of RTU –Ērika Nazaruka, Associate Professor of the Department of Applied Computer Science of the Faculty of Computer Science and Information Technology and Andris Šutka, Associate Professor of the Department of Materials Physics of the Faculty of Materials Science and Applied Chemistry (FMSAC), as well as two leading researchers – Dagnija Loča, leading researcher of the FMSAC Institute of General Chemical Engineering and Sandris Ručevskis, leading researcher of the Institute of Materials and Structures of the Faculty of Civil Engineering were elected corresponding member of the Latvian Academy of Sciences.

b. Financing of Science

Financing attracted to science in 2019 (EUR)



State financing for science and state-funded research projects

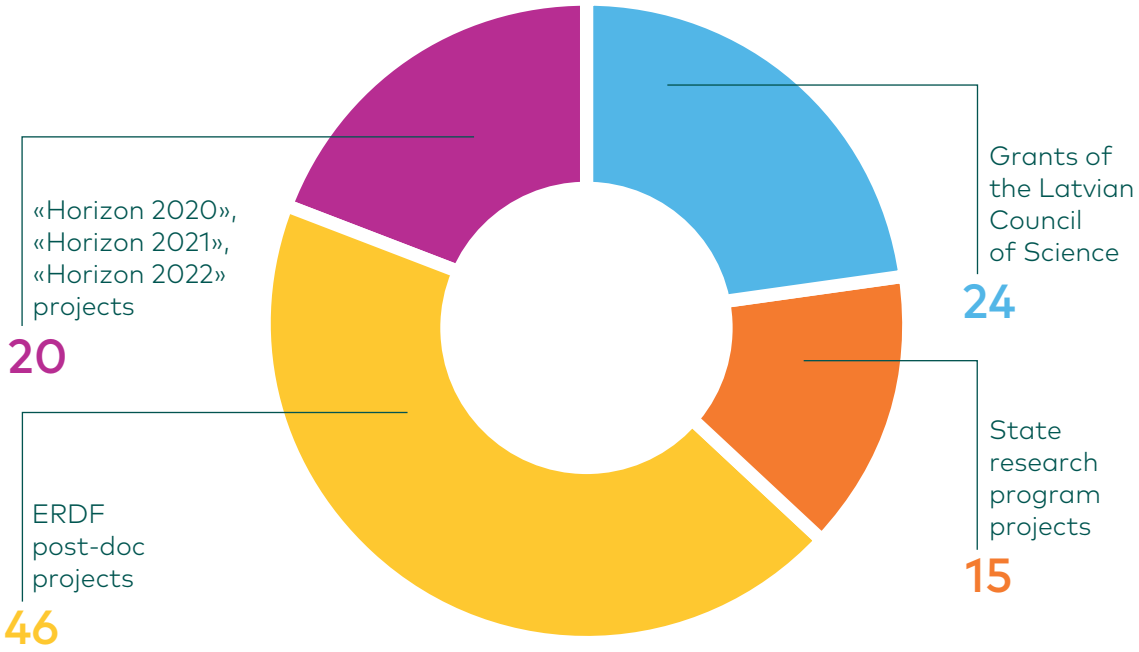
EU structural fund projects

Commissioned projects

International projects

Different projects

c. Scientific Projects



RTU Starts Research to Transform Climate Adverse CO2 into Fuel

A new laboratory was established at RTU Faculty of Materials Science and Applied Chemistry, where researchers study and develop catalysts that may help transform carbon dioxide (CO2), which is adverse for the climate, into valuable goods, for example, raw materials for fuel and chemicals. Research on the synthesis of hydrocarbons or synthetic oil for fuel production has also started at the new laboratory.

RTU Researchers Help Improve Luge Gear for the Latvian Athletes

In the 2019 season, the Latvian luge athletes made the name of RTU known at both local and international competitions, since RTU logo was demonstrated on their luges, in recognition of the fact that RTU researchers assisted in upgrading the luges of the Latvian national luge team at RTU Design Factory.
The Latvian Luge Federation has been cooperating with RTU already since 2017 on development and technical upgrading of luges and special gear. In this period, 3D laser scanning and modeling were performed at RTU Design Factory in order to improve aerodynamics and mechanical properties of the luges, customizing them to account for the height of each athlete. At the next stage, in cooperation with RTU Institute of Design Technologies, it is planned to produce custom-made race suits for the athletes using the height scanner and creating precise clothing patterns.

Technology for Reducing Building Energy Loss

How can the houses grow «fatty layers» – this problem is addressed by a researcher of the Institute of Environmental Protection and Heating Systems of RTU Faculty of Power and Electrical Engineering Ruta Vanaga. In her research, she considers such issues as reduction of energy loss in buildings and movement towards carbon-neutral society.
The researcher is looking for answers studying northern animals, her interest was stirred by sea mammals, specifically, by the thermoregulation process of whales, who use the subcutaneous fat layer as an energy storage. R. Vanaga believes that the same principle may be imitated in the building wall structures, if an envelope layer is used to save and store energy, using paraffine instead of fat, as it fits better with other building materials. In the sunny time, building walls will accumulate energy that will be further used in heating the building.
There is yet a long way to go to the definite result when building walls will be able to heat the building. At present, only a laboratory prototype of the potential technology has been developed, and after computer modelling it will be tested in practice.

Solutions for Flood Prevention in the Latvian Cities

Within an international project, RTU researchers are developing solutions for the maintenance of sewage water in cities to ensure robustness of infrastructure to the climate change and prevent pollution of the Baltic Sea.
Due to climate change, the Baltic Sea Region more and more frequently experiences intensive rainfall and windstorms. However, city sewage infrastructure cannot handle the increased amount of rainwater, thus, populated localities are prone to risk of flooding. Flooding of the cities may be prevented by improving the territorial planning and installing a powerful drainage infrastructure capable of handling large amount of rainfall. Solutions to these problems are sought for by an international team of researchers who jointly work in an international project «NOAH». The cities in the Baltic Sea Region, water supply companies, as well as academic and research institutions from Latvia, Sweden, Finland, Denmark, Lithuania, Estonia, and Poland take part in the project.
Within the project, RTU researchers deal with project modelling, geospatial information and pollution monitoring, as well as testing of project results.

RTU Researchers Study the Opportunities to Obtain Fish Oils from Manufacturing Waste and By-Products

The researchers of the Institute of Environmental Protection and Heating Systems of RTU Faculty of Power and Electrical Engineering are developing a technology for obtaining feeding oils containing omega-3 from food processing or manufacturing waste to feed the farmed fish. Such fish may not naturally develop fatty acids, which are among the reasons why this valuable product is recommended for use in nutrition.
Currently, fish feed producers widely use proteins and oils obtained from agricultural plants, for example, soy and rapeseed, however, they do not contain omega-3 fatty acids. RTU researchers try to solve this problem, looking for alternative sources of oils rich in omega-3, in order to obtain the end product – fish from aquacultures with higher nutrition value.
Many manufacturing companies have already expressed their interest in this technology. The product may potentially be of interest for the fishers, fish feed producers, fish oil and fish flour producers, as well as the owners of fish farms.

Cost-Efficient Technology for Purification of Private House Generated Fume Gases

Getting ready to meet the new EU requirements regarding private house heating systems, RTU researchers developed a technology that allows reducing solid particle pollution in the fume gases by 80%, simultaneously decreasing heating costs.
The researchers of the Institute of Environmental Protection and Heating Systems of RTU Faculty of Power and Electrical Engineering offer a solution – new fume gas purification technology that allows decreasing emission of solid particles and increasing energy efficiency of individual heat supply, which would ultimately result in heating cost reduction.
Fume gases from the heating boiler normally are exhausted through the chimney directly to the atmosphere. RTU researchers have developed an intermediate step – special reactor where fume gases are sprayed with tiny fog-like water drops. Water binds the solid particles present in the fume gases, they agglomerate in the humid environment, get heavier, larger and then set at the bottom of the reactor.
Heat is also gained in the process of fume gas purification, which can be channeled for premise and water heating.

RTU Cooperation with CERN

In January of 2018, the Latvian government made a decision to start the accession process to the European Organization for Nuclear Research (CERN), so that several years later Latvia could become a full member state of CERN. This is the result of the targeted work of RTU, which already in 2012 concluded a cooperation agreement with CERN and has been successfully cooperating with it within several scientific projects.
CERN has been the world leading scientific center for 60 years, the home of discoveries of global significance. It is exactly in CERN where the Internet was invented. One of the publicly most well-known discoveries was made six years ago – the existence of the Higgs boson was proven with the help of the Large Hadron Collider. Latvia expects to become an associate member of CERN in 2021.

- For the first time in Latvia, an experiment within the project ARIES (Accelerator Research and Innovation for European Science and Society) coordinated by CERN. In the course of experiment, researchers sough for solution to a severe environmental problem - purification of ship emissions using innovative method that involves particle acceleration. The innovative method was tested at Riga Shipbuilding Yard, linear particle accelerator was used for purification of ship exhaust gases. This experiment is unique, since so far nobody in the world has tried to place a particle accelerator on a ship. If researchers recognize this experiment as successful and it will be possible to use the particle accelerator to purify ship exhaust gases from harmful waste, this will radically reduce world ocean pollution. The world fleet consists of about 60 thousand ships, and sea transport is one of the largest emission sources. In order to reduce pollution, the European Commission has ruled that starting with 2020, emissions should be radically reduced. The project is coordinated by RTU Center of High Energy Physics and Accelerator Technologies.

- To promote Latvia on its way to admission to CERN, following the initiative of RTU professor and corresponding member of CERN Toms Torims, delegation of the Ministry of Education and Science (MES) visited CERN in October 2019. Parliamentary Secretary of MES Anita Muižniece met with a large delegation of CERN researchers and representatives,

including also a Doctoral student of RTU and CERN researcher Artūrs Ivanovs. During the visit, such issues as participation of Latvian researchers in CERN experiments, joint research projects, as well as future plans and activities of the CERN Baltic Group were discussed.

- In order to promote cooperation between Latvian scientific institutions and industry with CERN, an interdisciplinary national CERN working group was established in November. Establishment of the working group attests the interest of the stakeholders to join CERN and demonstrates common understanding of the benefits that the Latvian science and national economy may gain in case Latvia becomes a country-member. The working group includes RTU, University of Latvia, Riga Stradins University, Latvian manufacturers, Latvian Chamber of Commerce and Industry (LCCI) and industry associations to promote technology transfer and mutual trust between scientists and entrepreneurs. Activities of the working group are coordinated by the national contact point for CERN, the function performed by RTU Center of High Energy Physics and Accelerator Technologies.

- The movement of Latvia to CERN is supported by the Ministry of Education and Science, Ministry of Economics and Ministry of Foreign Affairs.

- The CERN Baltic Group works along the Latvian group, it unites scientific institutions form Latvia, Estonia and Lithuania in order to coordinate cooperation with CERN and reinforce high-energy particle physics community in the Baltics.

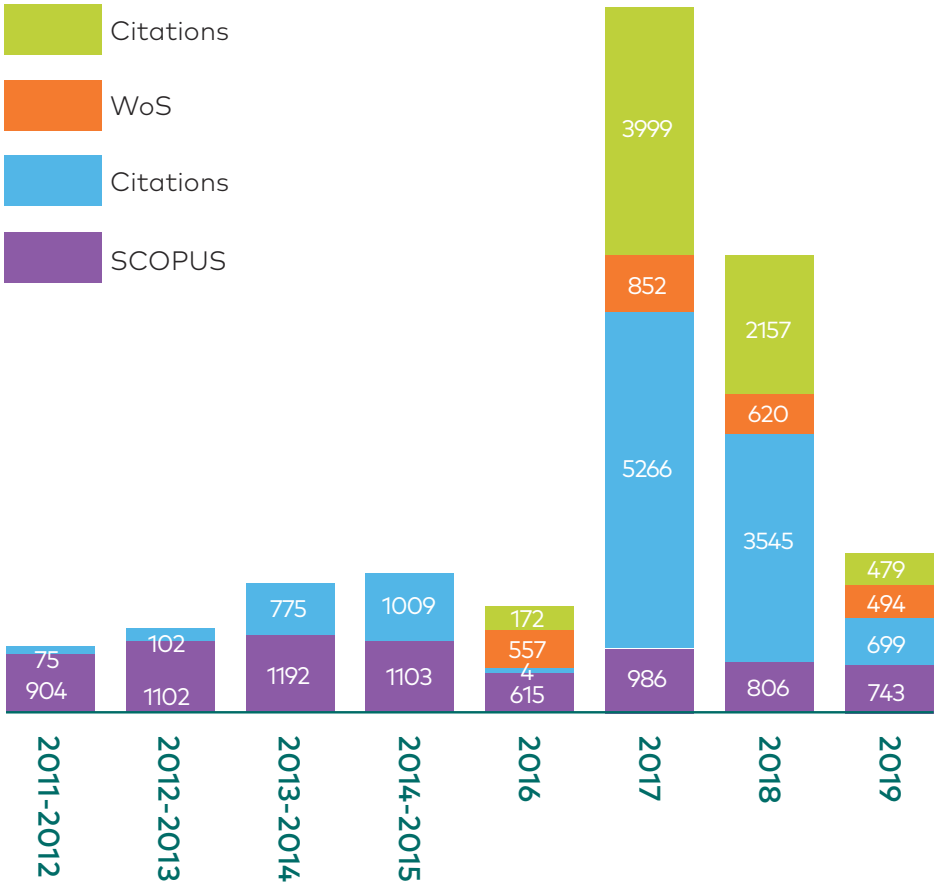
- For the fourth consecutive year, physics teachers from the Latvian schools came to visit CERN. This opportunity was provided by RTU Center of High Energy Physics and Accelerator Technologies and the Latvian Association of Physics Teachers. This year for the first time the Latvian teachers were accompanied by their colleagues from Estonia. Visits to CERN provide the teachers with the opportunity to widen their horizons and gain fresh impressions of the achievements of modern nuclear physics research, transferring these impressions to schoolchildren and colleagues.

- In February, when the Shadow Days are traditionally organized in Latvia, four Latvian schoolchildren went to CERN in order to shadow RTU researchers working there. For the second year, this opportunity was offered by RTU Center of High Energy Physics and Accelerator Technologies. Schoolchildren could get acquainted with CERN, the work of RTU researchers and research on high-energy particle physics, taking part in an unforgettable adventure at the largest research laboratory in the world.

- In order to explain the essence of CERN activities to the Latvian youth, in May a lecture on CERN was organized at Daugavpils Russian Secondary School-Lyceum. The online lecture from CERN was delivered by the Doctoral student of RTU Artūrs Ivanovs, he also demonstrated a CMS experiment. The lectures were held in cooperation with RTU Daugavpils Study and Science Centre.

d. Publications

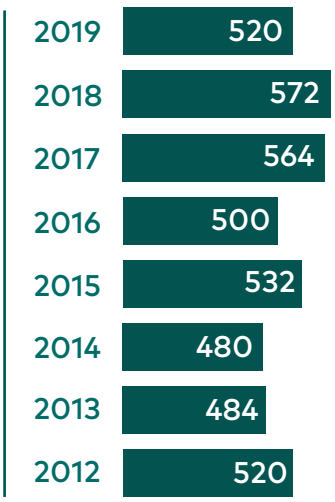
RTU publications indexed and quoted in SCOPUS and WoS databases



e. Doctoral Studies

RTU implements 20 accredited Doctoral study programs in engineering, natural sciences, architecture, social and service sciences.

Number of Doctoral students



Doctoral Studies

- Development of research skills

Doctoral students and other stakeholders are offered a series of seminars and activities for the development of different general skills, including the introductory seminar "Brief Doctoral Course" for the first year Doctoral students, a cycle of seminars on the preparation of the applications for scientific projects and other topical issues.

- Quality assessment

Since 2011, the annual polling of Doctoral students and Doctoral graduates has been conducted to evaluate the quality of Doctoral studies at RTU and identify opportunities and challenges for program improvement.

RTU together with LMT are First in Latvia to Start Industrial Doctor Project

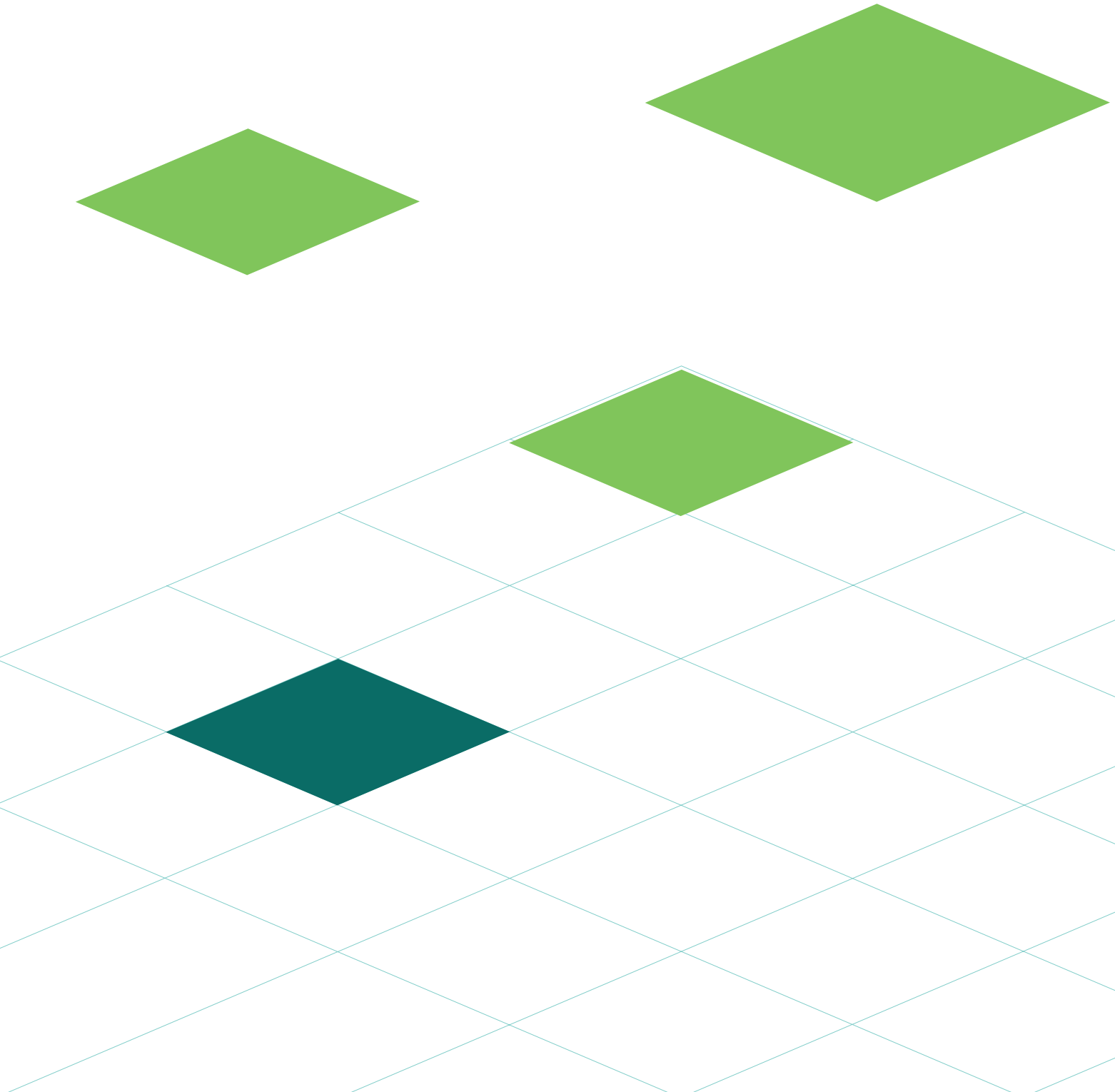
RTU and company «LMT» launched a unique initiative in cooperation between business and science «Industrial Doctor» to promote innovation for the Latvian economy. First two industrial Doctoral students of RTU stared research on the development of drones and digital road technologies for the needs of LMT.
Two Doctoral Theses are being developed, which were commissioned by LMT. In his Doctoral Thesis, RTU student Rūdolfs Rumba is developing a body of methods for regulation and control of autonomous drone traffic in order to make the movement of these devices simpler and safer. In turn, a Doctoral student of RTU Jānis Braunfelds plans to create a universal technology for the processing of the signals of digital road sensors in real time. Taking into account that the Internet of Things opportunities grow along with the development of 5G, this device will allow summarizing information about temperature, pressure, humidity and deformations on the roads, this information is necessary for efficient traffic control and safety.

The aim of the program «Industrial Doctor» is to promote closer cooperation between business and science, involving industry representatives in research. Within the program, financial support from the European funds, University and enterprises is provided to young scientists who develop Doctoral Theses on the themes that fall within RTU scientific competences and are essential for innovation projects of the respective enterprises. «Industrial Doctor» is part of RTU Student Innovation Grant Program.

Post-Doc Studies

Since 2017, RTU has started providing post-doc research projects within the operational program "Growth and Employment" in the framework of the specific objective 1.1.1 "To Increase the Research and Innovative Capacity of Scientific Institutions of Latvia and the Ability to Attract External Financing, Investing in Human Resources and Infrastructure" of the 1.1.1.2 measure "Post-Doctoral Research Support".

Currently, RTU implements 46 post-doc research projects, encompassing a wide range of topics and directions. The majority of the projects are devoted to development of new technological solutions and resolution of societal challenges.



11

Sustainable Valorization

a. Innovation and Technology Transfer Center

The Innovation and Technology Transfer Center supports the involvement of RTU scientists in valorization activities, ensures the monitoring and protection of the intellectual property of the University, promotes innovation and technology transfer, ensuring the implementation of scientific research results in a commercially exploitable manner, and develops sustainable relations and professional communication with external partners, representing the interests of RTU and promoting local its and international visibility.

Main activity areas:

- Support to RTU scientists in valorization activities;
- Technology transfer;
- IP protection and supervision;
- Cooperation with the industry and external partners.

Support to Commercialization of Research Results

One of the most significant technology transfer activities is involvement of RTU scientists in the program administered by the Investment and Development Agency of Latvia (LIAA) "Support to Commercialization of the Research Organization Results". Within the framework of this program, RTU has already attracted almost 1.8 m EUR for development of new technologies. The Innovation and Technology Transfer Center assists researchers by providing support in drawing up and submission of project applications, ensuring training in idea presentation skills, coordinating the process and maintaining communication with LIAA.

Using the attracted financing, RTU researchers develop various technologies to be later offered to the manufacturers.

- RTU Research Laboratory of Functional Materials Technologies is developing a zero-energy technology for treatment and purification of wastewater of pharmaceutical companies from particularly persistent organic pollution. Associate Professor of RTU Andris Šutka is the head of the project «Treatment of Pharmaceutical Industry Wastewater».

- Researchers of RTU Institute of Materials and Structures are developing high-strength hybrid fiber for 3D printing, which will significantly increase the market for 3D printing materials and expand 3D printing possibilities. The project «Thermoplastic Hybrid Fiber for Additive Manufacturing Technologies – 3D TEHART» is led by the leading researcher of RTU Kaspars Kalniņš.

- Within the project «Natural Thermo Packaging», RTU Institute of Environmental Protection and Heating Systems is developing a technology for production of secondary thermo packaging and construction panels from wood-processing waste – conifer needle foliage – which is widely available in Latvia, but is not really used. The project team includes RTU researchers Alise Ozarska, Lauma Žihare and Indra Muižniece.

- RTU Institute of Environmental Protection and Heating Systems is developing a technology for obtaining oils suitable for fish feeding from biodegradable by-products of other industries with the help of microorganisms. Krišs Spalviņš is the leading researcher of the project «Supercritical Omega-3 Oil from Processing By-Products».

- RTU researchers are developing multi-robot systems for maintenance of industrial premises. The project is led by of the Head of the Department of Artificial Intelligence and Systems of RTU Faculty of Computer Science and Information Technology Professor Agris Ņikitenko.

Superfood Spirulina Grown by RTU Researchers Enters the Market

In two years time, RTU researchers transformed the idea about cultivation of a valuable tropical microalga spirulina in the cool climate into a ready product, which was launched in the market in 2019. Traditionally one of the oldest algae is cultivated in shallow ponds in Africa, on the industrial scale – in desert regions in the USA and China. In Europe, it is cultivated in greenhouses in only in some countries – Italy, Spain and Southern France. 99% of commercially traded spirulina is available only in the dried form. Still this powder has a specific pond flavor not acceptable to everyone. Fresh spirulina growing in the innovative bioreactor constructed by RTU researchers, ensuring the temperature, lighting and nutrients, or alga "menu", necessary for the growth of algae, does not have any distinct scent or taste, that is why it is more appealing to the customers.
A researcher of the Institute of General Chemical Technologies of RTU Faculty of Materials Science and Applied Chemistry and co-founder of SpirulinaNord Agnese Stunda-Zujeva, a leading researcher of RTU Water Research Laboratory Kristīne Veģere and experienced entrepreneur Kaspars Veģeris work in Ltd SpirulinaNord team.
Currently, control of spirulina cultivation conditions is automated, but harvesting and packing is done by hand. Keeping expansion plans in mind, SpirulinaNord plans to increase the reactor volume and automate production.

Thermo Packaging from Conifer Needles instead of Foam Plastic

Considering the problem of world drowning in plastic waste, the researchers of the Institute of Environmental Protection and Heating Systems of RTU Power and Electrical Engineering offer a technology for manufacturing environmentally-friendly thermo packaging from a material widely available in Latvia– conifer needle foliage, that is, tiny off-shoots and needles.
Heat insulation material made from conifer needle foliage and organic binder is environmentally-friendly and not harmful for human health, biodegradable, thus will not create new mountains of waste, its thermal conductivity is compatible with other heat insulation materials available in the market.
Business interest is an important precondition for commercialization of a scientific idea. Researchers plan to develop the technology in two years time until the stage when a license agreement may be signed with one or several manufactures.

intellectual Property Protection

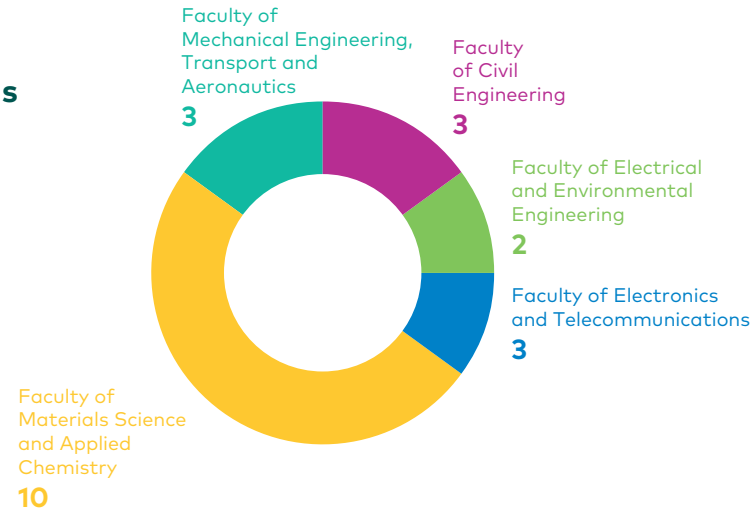
RTU intellectual property protection and supervision are significant tasks performed by the Innovation and Technology Transfer Center, which includes provision of support to RTU researchers and students in drawing up patent application and their submission for the Latvian and international patents, as well as patent maintenance. Special attention is paid to raising awareness about the importance of intellectual property issues, particularly in the commercialization process.

Patents

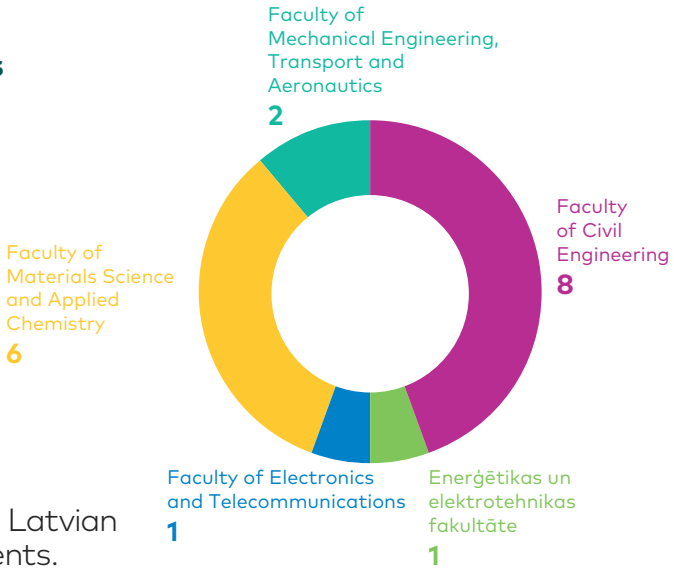
In 2019, 19 applications for the patents of the Republic of Latvia were submitted, as well as one application for the European patent. The largest number of patent applications – 11 in total including the application for the European patent – were submitted by RTU Faculty of Materials Science and Applied Chemistry.

In 2019, the Patent Office of the Republic of Latvia registered 13 RTU patents. The largest number of registered patents – 8 Latvian patents – were received by RTU Faculty of Civil Engineering, followed by the Faculty of Materials Science and Applied Chemistry with 6 Latvian patents.

Latvian Patent Applications by Faculty in 2019

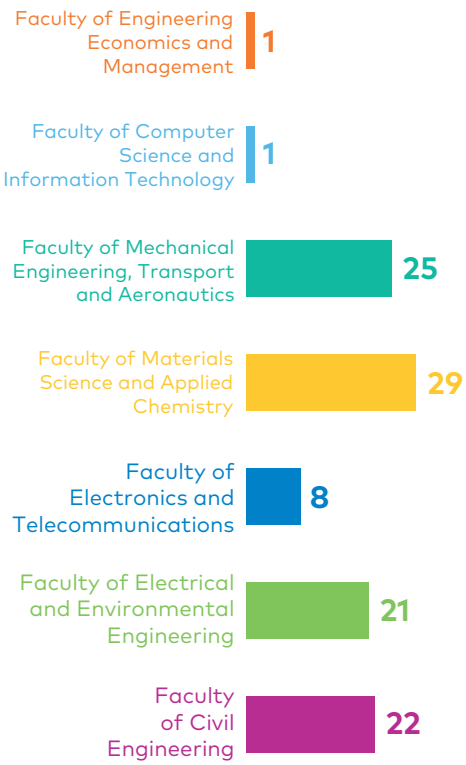


Registered Latvian Patents by Faculty in 2019



In 2019, RTU held 93 effective Latvian patents and 9 European patents.

Maintained Latvian Patents by Faculty in 2019



Technology Licensing and Commercialization

RTU suggest licensing or transfer to the enterprises of the intellectual property – inventions, objects of copyright, trademarks, design samples or know-how, which may be potentially used in the development of new products or services or problem solutions.
In the case of licensing, enterprises are granted rights or permission to use intellectual property of RTU for commercial purposes. In the case of selling or transfer, intellectual property rights are fully transferred to the enterprise that acquired the intellectual property.
Both licensing and transfer promote development and circulation of the intellectual property to the wider audience, as well as provide an opportunity to use new technologies and knowledge in manufacturing of completive products. In total, in 2019 RTU had 6 effective licensing and intellectual property transfer agreements.
Licensing of technologies is ensured by RTU Innovation and Technology Transfer Center.

Cooperation with the Industry and External Partners

RTU researchers actively cooperate with the Latvian and foreign companies and organizations, ensuring an opportunity to improve the existing products and services, as well as to develop new ones. RTU provides services of various kind, starting from consultations to new product design.
Every year, on average 150 contractual works are implemented. Ltd Mobilly, SJSC Latvenergo, JSC Augstsprieguma tīkls, Ltd Skonto Concrete Cladding, SJSC Latvijas autoceļu uzturētājs, JSC Latvijas Valsts meži, Ltd Latvijas Mobilais Telefons, Ltd ZZ Dats, SJSC Latvijas Valsts ceļi, Ltd Tenax Panel, JSC Grindeks, JSC Rīgas Elektromašīnbūves rūpnīca, Ltd AVIATEST LTD; SJSC Latvijas Dzelzceļš; Ltd Rīgas ūdens can be mentioned as the most significant cooperation partners of RTU.

Companies are invited to invest in innovative knowledge and technology projects in order to create products with high added value in cooperation with RTU researchers.

Company «Erica Synths» Praises Cooperation with RTU in Development of a New Sound Synthesizer

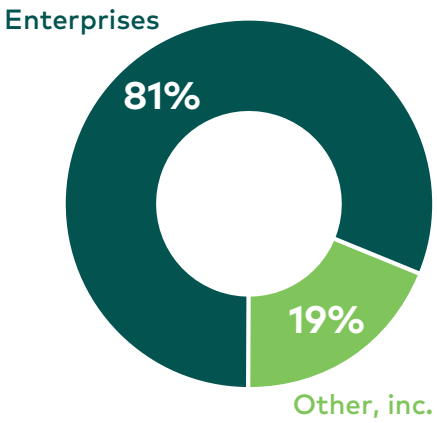
At Christmas of 2019, Ltd Erica Synths unveiled a new analogue sound synthesizer, which was developed in cooperation with the researchers of RTU Faculty of Electronics and Telecommunications (FET).
RTU FET researchers developed part of «Syntrx» electronic circuits, for example, a connection matrix using the microchips developed by the Latvian company JSC Alfa RPAR. In the 1970s in Great Britain, a synthesizer «Synthi AKS» was created, which is considered to be one of the most outstanding devices for experimental music. It inspired the design of «Syntrx» user interface. In «Synthi AKS», the connection matrix was mechanical – signals were connected

mechanically with the help of a plug-in. In turn, «Syntrx» signals are mixed electronically, in such a way ensuring better signal transfer and opportunity to keep connections in the memory of the synthesizer.
The head of Erica Synths Ģirts Ozoliņš highly evaluates cooperation with RTU, pointing out that RTU researchers did something that seemed impossible – they ensured that «Syntrx» generators can work precisely in the range of 12 octaves. The Latvian company Erica Synths is well-known among the world manufactures of musical technologies.

Young RTU Scientist Jānis Lungevičs Helps Enterprises Conduct Precise Measurements

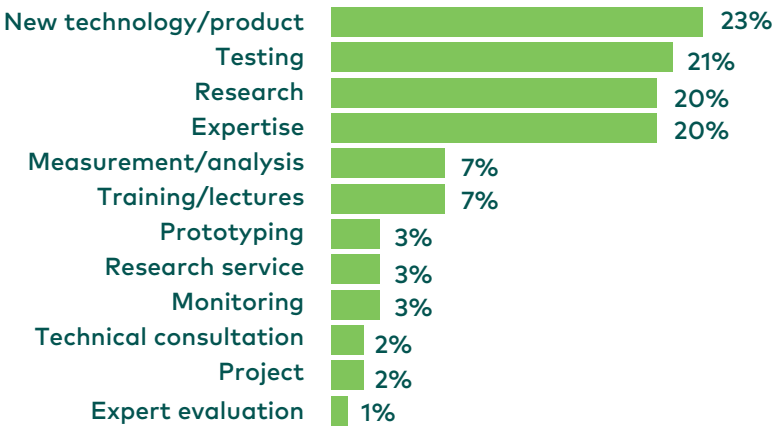
A Doctoral student of the Faculty of Mechanical Engineering, Transport and Aeronautics Jānis Lungevičs notes, «University should show the industry, what opportunities it may offer to business, since we have made a considerable progress in the area of technology».
He manages RTU Metrology Laboratory, which houses the largest stock of sophisticated measuring devices in the Baltics. It is possible to measure various parts with up to 3.5 micrometer precision. Modern equipment was presented to RTU one year ago by a Japanese company Mitutoyo. RTU continues cooperation with the company, which uses the laboratory it equipped as a training base for the employees of the company representative office. Establishment of the laboratory has facilitated cooperation between RTU and industry, since earlier companies had to test precision of the self-made or purchased products outside Latvia, and now it may be done at RTU.

Contractual Work Partners of RTU in 2019, (%)



State institutions – 4%
Municipalities and municipal institutions – 4%
Association – 1%
Societies – 2%
NGO – 1%
Research institutions/centers – 2%
HEI – 2%
General education institutions – 2%

Types of Contractual Work Performed by RTU in 2019, (%)



c. RTU Design Factory

RTU Design Factory is an innovation and entrepreneurship platform with the best-equipped prototyping workshop in the Baltics and a team of highly qualified experts providing support to entrepreneurs, researchers and students in developing innovative ideas, high value-added products and engineering solutions

RTU Design Factory offers:

- product and concept design development services;
- prototyping;
- R&D or research and development;
- entrepreneurship support programs.

RTU Dizaina fabrikas inženieru un produktu dizaineru komanda ir uzkrājusi pieredzi visdažādāko produktu, prototipu un augstas pievienotās vērtības risinājumu izstrādē. Konkrētiem produktu izstrādes projektiem pēc vajadzības tiek piesaistīti arī papildu eksperti vai RTU pētnieki atbilstošajās jomās.

"theLAB" Workshop Is Opened

"theLAB" is an open-type workshop established under the patronage of RTU Design Factory, where students, employees and scientists have an opportunity to materialize their inventions by using technological capabilities provided by 3D printing, laser cutting and gradation, plotting, large-format printing and other auxiliary tools. 13 trainees work at the trainee program of «theLAB». In 2019, a branch of «theLAB» was opened in Cēsis.

Innovation Student Grants

In 2019, the leading Latvian universities launched a unique project aimed at development of employability skills of the students. Within the project «RTU Innovation Grants to Students» (project co-financed by ERDF No. 1.1.1.3/18/A/001), RTU offers students to get involved in the activities and programs that are aimed at development of innovative thinking, support of technology transfer, commercialization of research results, development of business propositions and new product development, and receive scholarships and support grants.
In 2019, 137 students were involved in innovation grant activities, scholarships in the amount of 244.9 thousand euro were allocated. RTU students most actively participated in the project. RTU implements many activities and programs in cooperation with other universities, in 2019, in total 15 university students and students of RTU Engineering High School participated in the project.

«EIT Climate-KIC Hub Latvia»

«EIT Climate-KIC Hub Latvia» of RTU Design Factory implements the programs of Knowledge and Innovation Community «Climate-KIC» of the European Institute of Innovation & Technology (EIT) in Latvia, as RTU is a partner of «Climate-KIC» already since 2016. These programs are implemented in two areas – support to entrepreneurship and education.
«EIT Climate-KIC Accelerator Latvia» is an accelerator of green technology companies, where enterprises can gain access to a wide network of contacts, education opportunities, intensive mentoring and financial support amounting to up to 50,000 euro. In 2019, five start-ups were supported within «EIT Climate-KIC Accelerator Latvia». Two start-ups started active trading in the period of acceleration, two were mentioned in the Forbes magazine in the top of the most promising Latvian research-intensive enterprises. In total, the companies attracted investment of 219,600 euro during acceleration.
Students had the opportunity to apply

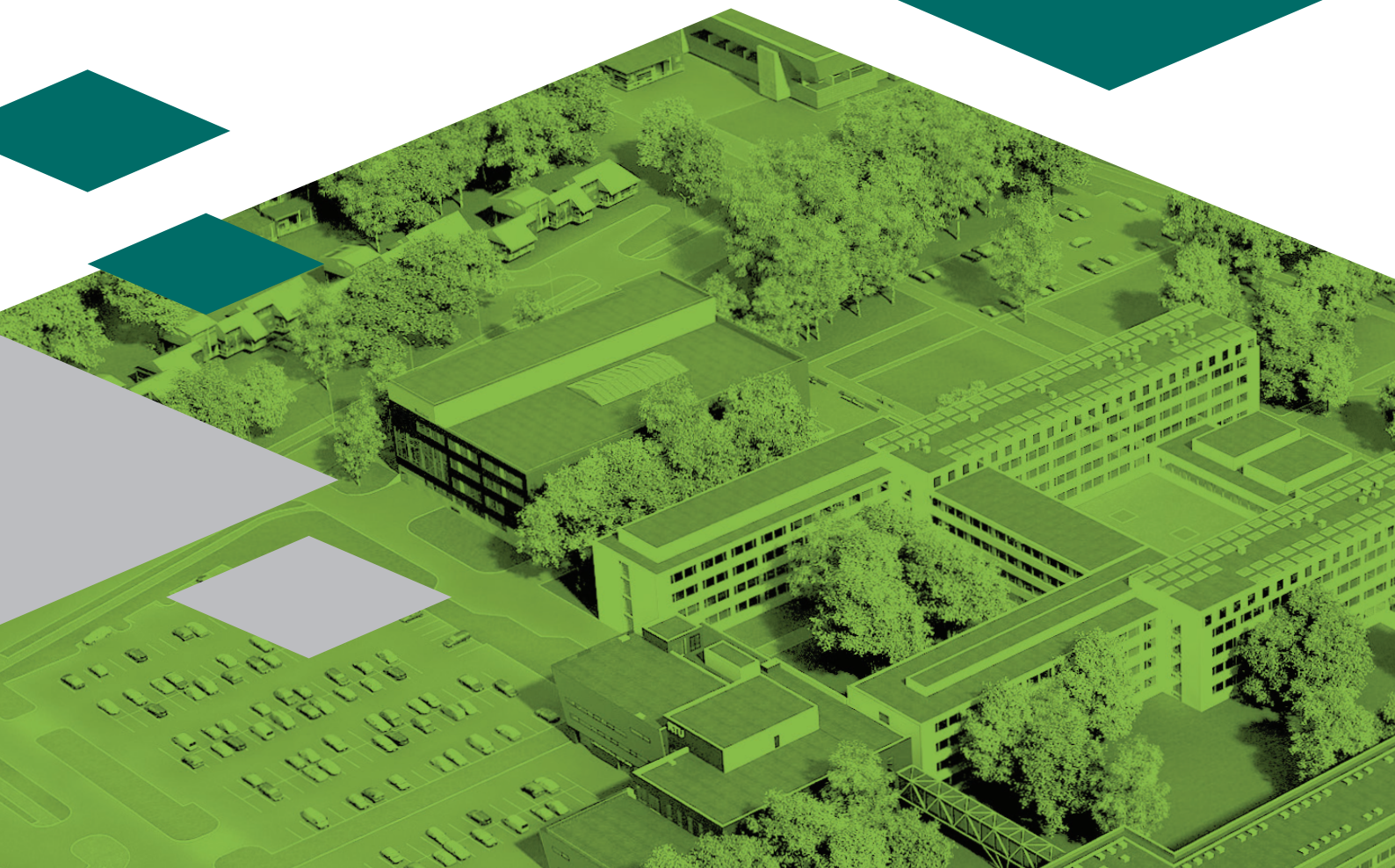
for the program «Journey» and mobility program «Pioneers into Practice» organized by EIT, which are aimed at mitigation of climate change. 40 youngsters participated in «Journey» summer school, in turn, 12 young professionals participated in «Pioneers into Practice». At the end of the year, «Copernicus Hackathon and Climathon 2019» was organized at RTU Cēsis Branch. More than 40 participants sought for solutions in using satellite data to maintain the city in an environmentally-friendly way.

«EIT Food Hub Latvia»

«EIT Food» is a Knowledge and Innovation Community of the European Institute of Innovation & Technology, which RTU joined in 2019 gaining rights to establish an innovation and co-creation contact point or HUB in Latvia. Activities of «EIT Food Hub Latvia» are implemented in cooperation with Riga Stradins University, Latvia University of Agriculture, Food and Veterinary Service, and the Institute of Food Safety, Animal Health and Environment BIOR.
Creating close ties among the customers, enterprises, start-ups, researchers and students from all over Europe, «EIT Food» supports innovations and sustainable economic initiatives that increase access to high-quality food, improve the environment and health, as well as create new jobs and increase competitiveness of Europe. «EIT Food» promotes innovations in the food industry, starting with agriculture and production up to delivery and customer service, offering entrepreneurship support programs and education and mobility programs to professionals, opening research and innovation project calls. Activities are aimed at supporting commercialization of new ideas, providing training, mentoring, couching, early incubation, acceleration, and help in prototyping. It is also essential to promote cooperation among industry, start-ups and researchers and creation of the network.
In 2019, «EIT Food Hub Latvia» organized the contest of innovative ideas «Innovation Prize». 10 food processing start-ups participated in the contest, they represented the entire food farm-to-table line, starting from new food products to logistics solutions and packaging. Two first prize winners received monetary prizes of 10,000 euro and 5,000 euro. «EIT Food Hub Latvia» also implements internship programs «RIS Talents» and «RIS Fellowships», which allow Master and Doctoral students to receive paid internship positions in large European food enterprises, as well as «Government Executive Academy» that unites state administration officers dealing with food-related issues.

12

Development of RTU Campus in Ķīpsala



Planned investments in 2017-2021

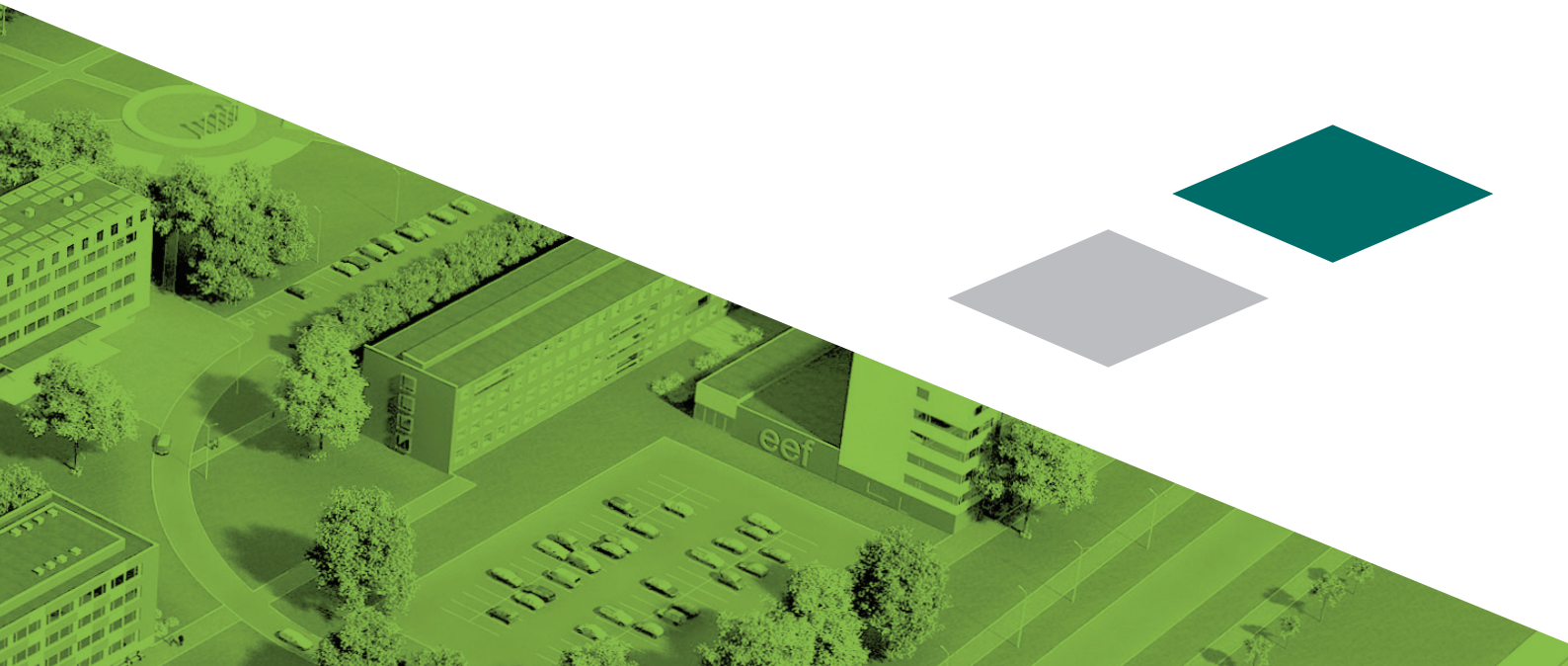
In order to improve the infrastructure of RTU as a higher education institution capable to implement a modern study process, it is necessary:

- to build a modern building to house a research unit of the Faculty of Computer Science and Information Technology in Ķīpsala to comprehensively implement the development and study process within the research platform "Information and Communication";
- to reconstruct the building at 6A Ķīpsalas Street, where the Faculty of Civil Engineering (FCE) is currently located and which in the future will be part of the Centre of Engineering Sciences and Smart Technology;
- to reconstruct the building at 6B Ķīpsalas Street in order to relocate the Faculty of Mechanical Engineering, Transport and Aeronautics (FMETA) to Kipsala and fully implement the research platforms "Transport", "Cities and Development", "Materials, Processes and Technologies" and promote the study process.

By modernizing the infrastructure, RTU will ensure the territorial concentration of the academic and research work in Ķīpsala.

Through ERDF funding for 2017-2021, RTU will continue working towards the next phase in the further development of RTU. A number of projects are currently being implemented in synergy:

- "Development of the infrastructure of Riga Technical University to modernize STEM study programs";
- "Development of infrastructure of the Centre of Engineering Sciences and Smart Technology of Riga Technical University in smart specialization areas";
- "Increase of energy efficiency of the Centre of Engineering Sciences and Smart Technology of Riga Technical University at 6B Ķīpsalas Street, Riga";
- "Increase of energy efficiency of the Centre of Engineering Sciences and Smart Technology of Riga Technical University at 6A Ķīpsalas Street, Riga".



1. New Home for the Faculty of Mechanical Engineering, Transport and Aeronautics

In academic year 2019/2020, the students of RTU Faculty of Mechanical Engineering, Transport and Aeronautics (FMETA) started learning in the new premises and the new environment — RTU Campus in Ķīpsala, the new home of the faculty. It was opened at a solemn ceremony on 29 August in the presence of the Minister of Education Ilga Šuplinska.
The renovated faculty building at 6B Ķīpsalas Street, which earlier housed the Faculty of Civile Engineering, was put into operation in spring of 2019. The reconstruction of the building started in 2017 to accommodate FMETA in Ķīpsala. The spatial planning of the building has been modified during the reconstruction process, while maintaining the passageways and the location of the stairways. All engineering communications have been changed. In order to increase the useful space of the premises, the areas of the technical shafts once constructed have been reduced. Another floor has been built on the lower part of the building, leveling the height of the two connected buildings and providing additional area for lecture-rooms and space for the research staff. The windows have been changed, selecting triple-glazed-windows, as well as the facade and the roof have been renovated and insulated, thus significantly improving the thermal performance of the building.

2. Reconstruction at the Faculty of Civil Engineering

Reconstruction of the building of the Faculty of Civile Engineering (FCE) at 6A Ķīpsalas Street, which after renovation will also house the Centre of Engineering Sciences and Smart Technology, started in August 2019. It is planned to finish construction works in spring of 2021. Within the redevelopment process, the spatial planning of the building will be modified, while maintaining the passageways and the location of the stairways. All old engineering communications will be replaced. In order to increase the useful space of the premises, the areas of the technical shafts once constructed will be reduced. Another floor will be built on the lower part of the building, leveling the height of the two connected buildings and getting additional area for lecture-rooms and space for the research staff. It is planned to replace the windows by selecting triple-glazed-windows and to renovate and insulate the facade and the roof, significantly improving the overall thermal performance of the building. Within the renovation project, it is planned to build a new air recovery ventilation system to manage the building's engineering communications and maintain a comfortable microclimate. A building management system will be constructed. To prevent unnecessary warming of the premises during the warm period of the year, sunscreen surges will be installed on the south front. The building will meet the latest fire safety standards applied to public buildings.

3. Development of the Centre of Science and Innovation

It is intended to integrate the Centre of Science and Innovation in the building at 6A Ķīpsalas Street, where the Faculty of Civil Engineering is located. Reconstruction works started at the end of the summer and will finish in spring of 2021.
The development of the Centre of Science and Innovation will provide students with much wider opportunities to engage in science and various research projects, while researchers will have greater opportunities to transfer their knowledge, experience and skills to the students. Emphasis is made on higher-level (Master and Doctorate) studies, research and innovation as well as on the activities in the education and research service market. Such centers of excellence and innovation act as generators making a significant contribution to the international competitiveness of the country.

4. New Building of the Faculty of Computer Science and Information Technology

Continuing the concentration of RTU in the campus in Ķīpsala, it is planned to build an educational building for the Faculty of Computer Science and Information Technology (FCSIT). The building will also hose the Centre of Engineering Sciences and Smart Technology at 10 Zunda Krastmala, including the construction of a center of the joint-use lecture-rooms. At the end of 2019, a building design project was developed and approved by Riga City Construction Board, providing for construction of a new educational building and joint-use lecture-room center. It is planed that the FCSIT will move to Ķīpsal Camous in spring of 2021.

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International Cooperation

Promoting and implementing of international institutional cooperation is one of the cornerstones of the RTU Development Strategy. Based on the vast network of partner universities worldwide, as well as participation in international organisations and alliances, academic and scientific cooperation is being pursued, the mobility of students and teaching staff is promoted, providing extensive opportunities for exchange of experience and enabling active participation in global scientific centres.

Meeting of the Partners of the EuroTech Universities Alliance in Riga

The European Universities Initiative is an international alliance that will become a model for future universities, promoting the spread of European values and identity and revolutionising the quality and competitiveness of the European higher education. RTU, jointly with seven universities from Bulgaria, Cyprus, France, Germany, Ireland, Romania and Spain, established the EuroTech Universities Alliance and drew up an application for the European Universities Initiative seeking support of the European Commission. Over the next three years, the European University of Technology (EUt+) has committed to ensure a sustainable future for students and learners in the European countries, for employees of each institution involved, and for the areas in which each EUt+ campus is located. The universities involved in the EUT+ alliance share the vision of human-directed technologies and the aim of creating an original and federated institution.

Visits of RTU and University of Bergamo Rectors to Bergamo and Riga

In March, an RTU delegation headed by the Rector Leonīds Ribickis visited the University of Bergamo (UniBg), Italy, and in September, a UniBg delegation headed by its Rector Remo Morzenti Pellegrini paid a return visit.
During the visits, the parties discussed the achieved progress in the fields of study and science and outlined a vision for strategic cooperation, with particular emphasis on possible cooperation in the fields of engineering, translator training and culture.

Visit of RTU Delegation to Latin America

In November, RTU delegation visited Mexico, Peru and Argentina. The purpose of the visit was participation in the conference "Transforming Higher Education for the Future" held by the International Association of Universities (IAU) in Mexico, attracting new cooperation partners in all three countries, as well as visiting the existing partners in order to strengthen cooperation.
During the visit, two new cooperation agreements were concluded with Albert Einstein University in Mexico and the Faculty of Engineering of the University of Buenos Aires in Argentina.

a. Erasmus+

During the academic year 2018/2019, RTU continued its activities in the Erasmus+ programme by implementing a number of projects. One of them was KA103 project – "Higher Education Student and Staff Mobility within Programme Countries"). Within the project, RTU students have an opportunity to go to one of the RTU partner schools for exchange studies or to the European Union companies for internship, while RTU employees may get involved in mobility for teaching or experience exchange at RTU partner universities, organisations or companies, receiving the Erasmus+ grant.

There were 326 effective Erasmus+ programme agreements for cooperation with the European national universities.

The leading positions in terms of the number of agreements are taken by Germany (56 agreements), France (39), Poland and Italy (26).

During the academic year 2018/2019, the following mobility trips were organised to the European countries:

- 173 study mobility trips
- 42 internship mobility trips
- 207 staff mobility trips

There is a growing number of internship mobility trips performed by RTU graduates within a year upon completion of their studies. During the academic year 2018/2019, 81 RTU graduates went for internship after their studies.

The number of foreign students involved in the Erasmus+ mobility is also increasing. In 2018/2019, 117 RTU students with foreign citizenship participated in the Erasmus+ project for mobility to European countries.

The most popular destination countries among RTU students for study mobility trips include the Czech Republic (25), Italy (19), Lithuania (17), Sweden (16) and Spain (14).

The most popular countries for internship are Spain (18), Germany (14), Turkey (14), Lithuania (11) and Estonia (10).

The most popular countries for mobility for teaching among the employees of RTU are Lithuania (10) and Poland (6), and for experience exchange – Italy (23), Lithuania (16), Spain (16) and Cyprus (10).

The total financing used in the project reached EUR 1,019,074.

b. International Events

RTU Information and Study Centers Opened in Sri Lanka, India and Uzbekistan

In October 2019, RTU opened three Information and Study Centers in Sri Lanka, India and Uzbekistan, as well as signed an agreement in February 2020 about opening of such center in Turkey.

On 5 October, the premises of a new RTU Information and Study Center (operating since 2015) in Colombo, the capital of Sri Lanka, were opened by the Director of RTU International Cooperation and Foreign Student Department (ICFSD) Igors Tipāns and his deputy Zane Purlaura. The event was attended by representatives of academic circles of Sri Lanka, public servants from the ministries, current and future students of RTU and their parents.

On 6 October, I. Tipāns and Z. Purlaura opened RTU Information and Study Center in Chennai, India. After the solemn opening, held according to the local traditions, a press conference was held, which was attended by a large number of representatives of Indian press and television. The main objective of this center is to approximate the different

study systems of Latvia and India and to establish a permanent link between the Indian universities, colleges and RTU. The newly opened RTU Information and Study Center in Chennai was visited by the Latvian Ambassador to India Artis Bērtulis.

On 12 October, RTU Information and Study Center was opened at a solemn ceremony in Tashkent, the capital of Uzbekistan, by I. Tipāns, Z. Purlaura, the Ambassador of Latvia to Uzbekistan Mihails Popkovs, senior officials of the Ministry of Education of Uzbekistan, RTU cooperation partners from the Uzbekistan International Academy, as well as a wide circle of stakeholders and future students.

Two International Weeks – for Partners from the EU and Beyond

- In late May 2019, the International Mobility Division of RTU Study Department organized the 8th International Week, in which representatives of universities in the field of international cooperation and financial administration discussed good practices and challenges in internationalization, budgeting and disbursement of fund financing. The International Week was attended by 55 participants from 20 countries.

- The International Week is a significant event in establishing new contacts and strengthening of the existing partnerships. During this event, new cooperation agreements are initiated, which are later used successfully by RTU students, academic staff and employees.

- In October, RTU SSĀSD International Projects Division organized the Erasmus+ International Week, for the first time since the launch of the new Erasmus+ program in 2015, recruiting staff from RTU partner universities outside the EU.

- The event was attended by colleagues from universities of Algeria (Université Abdelhamid ibn Badis Mostaganem and Université Batna 2), Libya (University of Tripoli), Jordan (Princess Sumaya University for Technology), Egypt (Nile University), Iran (Amirkabir University of Technology), Mexico (Colegio Universitario De Yahualica), Argentina (Universidad Nacional de Santiago del Estero), Bosnia and Hercegovina (International University of Sarajevo) and Kosovo (University of Pristina).

- During the International Week, participants were involved in a variety of workshops dedicated to developing the new Erasmus+ KA107 mobility project and shared ideas for launching new Erasmus+ KA2 capacity-building initiatives. The academic staff members from Algeria, Bosnia and Herzegovina, Iran and Jordan delivered guest lectures to foreign RTU students on a variety of topics, including architecture and bio-textile materials. Guests could get acquainted with RTU infrastructure and met on an individual basis with the representatives of RTU Faculty of Architecture, the Department of Human Resources Management and Document Processing and other departments.

RTU Opens Confucius Classroom

On 8 November, the Confucius Classroom opening ceremony was held at RTU. It is a branch of the Confucius Institute and is located at RTU Faculty of E-Learning Technologies and Humanities (FETH). RTU Confucius Class started functioning already before its official opening with a library arranged in it. In 2019, the Chinese language was studied there by 47 people – RTU students and employees.

RTU Improves the Quality of Selecting Foreign Students

At the end of October 2019, representatives of 20 education agencies from India, Sri Lanka, Uzbekistan, Turkey,

Ukraine and Kazakhstan arrived to RTU to participate in the educational seminars and to familiarize themselves with the RTU requirements regarding foreign students, to learn about the requirements of Latvian regulatory enactments for students from abroad and other relevant issues.

Representatives of several national education agencies highlighted both the quality and competitiveness of the education provided by RTU and the relatively low cost of studying and living in Latvia.

Opening Finnish Corner at RTU Center for International Cooperation

In October, RTU made a significant step in strengthening its cooperation with Finland by opening the Finnish Corner in the premises of RTU Center for International Cooperation.

The Finnish Corner was officially opened by the author of the initiative – the RTU SSĀSD IDP representative Timo Turunen, the Director of RTU SSĀSD Igors Tipāns and the Ambassador of Finland to Latvia Riitta Korpivaara. The opening was also attended by representatives of several Finnish companies who had provided support in implementing the initiative.

The aim of the Finnish Corner is to promote cooperation with Finnish higher education institutions and businesses, as well as to contribute to understanding and raise awareness of the Finnish culture and language.

c. International Summer Schools

"Nonlinear Life" Summer School Organized in Italy by RTU and the University of Trieste

In August, RTU organized a summer school outside Latvia for the first time – in the Italian city of Trieste. The summer school "Nonlinear Life. Edition 3", jointly organized by RTU and the University of Trieste (UniTs), was attended by 18 students from 11 countries – Belarus, the Czech Republic, India, Italy, Russia, Latvia, Lithuania, Nepal, Poland, Serbia and Spain. In 2017 and 2018, the summer school "Nonlinear Life" took place in Riga and was conceived and organized by RTU.

Lectures on information technologies and their applications in medicine, the use of smart textiles in biomedicine, the interaction of biomaterials with human organisms, testing of non-destructive materials, computer tomography and other topics were conducted by 14 lecturers from the Czech Republic, Croatia, Italy and Latvia. The Latvian Ambassador to Italy Solvita Āboltiņa participated in the closing event of the summer school with a speech.

"Robotics. Real-Life Applications of Intelligent Design"

In July, RTU organized an international summer school in robotics for the sixth time. Within the initiative, 14 students from 10 countries – Australia, Azerbaijan, France, Greece, Mexico, Kazakhstan, Kyrgyzstan, Russia, Turkey and Ukraine – improved their practical and theoretical knowledge in robotics, 3D modelling, artificial intelligence and other sector-related areas.

To realize their plans, students of the Robo Camp summer school used the intellectual and technical support provided by RTU Faculty of Computer Science and Information Technology, the Design Factory, the Laboratory Home and the robot developing company RobotNest.

The students got acquainted with the Latvian companies representing information technologies, mechanical engineering, mechatronics and electronics industries – HansaMatrix, Mass Portal, Gamechanger Audio and SAF Tehnika.

"3D Animation World"

In July, RTU organized an international summer school "3D Animation World" for the first time, attracting 11 students

from 10 countries – Azerbaijan, Greece, Kyrgyzstan, South Korea, Lithuania, Mexico, Spain, Tadzhikistan, Turkey and Uzbekistan. The summer school participants gained a more profound understanding of the process of creating an animation, improving their knowledge getting involved in drawing, character design, cinematography story, object animation, editing, a 3D modelling program, and presentation-related issues.

Other Summer Schools Organized by RTU in 2019

- "International Economic Relations and Globalization"
- "Cultural Shock and Social Innovations"
- "Cultural Aspects of Latvian Language"
- "Intensive English"
- "Intensive English and Intercultural Communicative Competence" (summer school for a group of students from the Kumamoto University, Japan)
- "Global Leadership" (summer school for a group of students from the Kumamoto University, Japan)
- "International Economic Relations and Globalization" (summer school for a group of students from Russian Presidential Academy of National Economy and Public Administration)
- "Chemical Technology" (summer school for a group of students from the Shandong University of Technology, China)
- "Internship – Social Innovations, Entrepreneurship and IT Perspectives" (summer school for a group of students from EPITA School of Engineering and Computer Science, France)
- "Cultural Shock. Social, Business and Engineering Perspectives" (summer school for 10 students majoring in management and engineering sciences from Georgia)

e. International Projects

Intercultural Communication Training Platform

RTU implements the international project called "WeLearn" to promote relations between university communities in different countries, improving intercultural communication skills. The task of RTU within the project is to develop a mobile application and provide expertise in sociology. The University of Tampere in Finland, the Film University Babelsberg Konrad Wolf in Germany, the Catholic University of the Sacred Heart in Milan, Italy, the Aalborg University in Denmark and the Suleyman Demirel University in Turkey also participate in the project.

Joint Study Programs with Universities of Great Britain

RTU signed cooperation agreements with the Coventry University and the University of Strathclyde in Great Britain on implementing a joint Bachelor study programs 'Telecommunications' and 'Electronics and Mobile Communications'.

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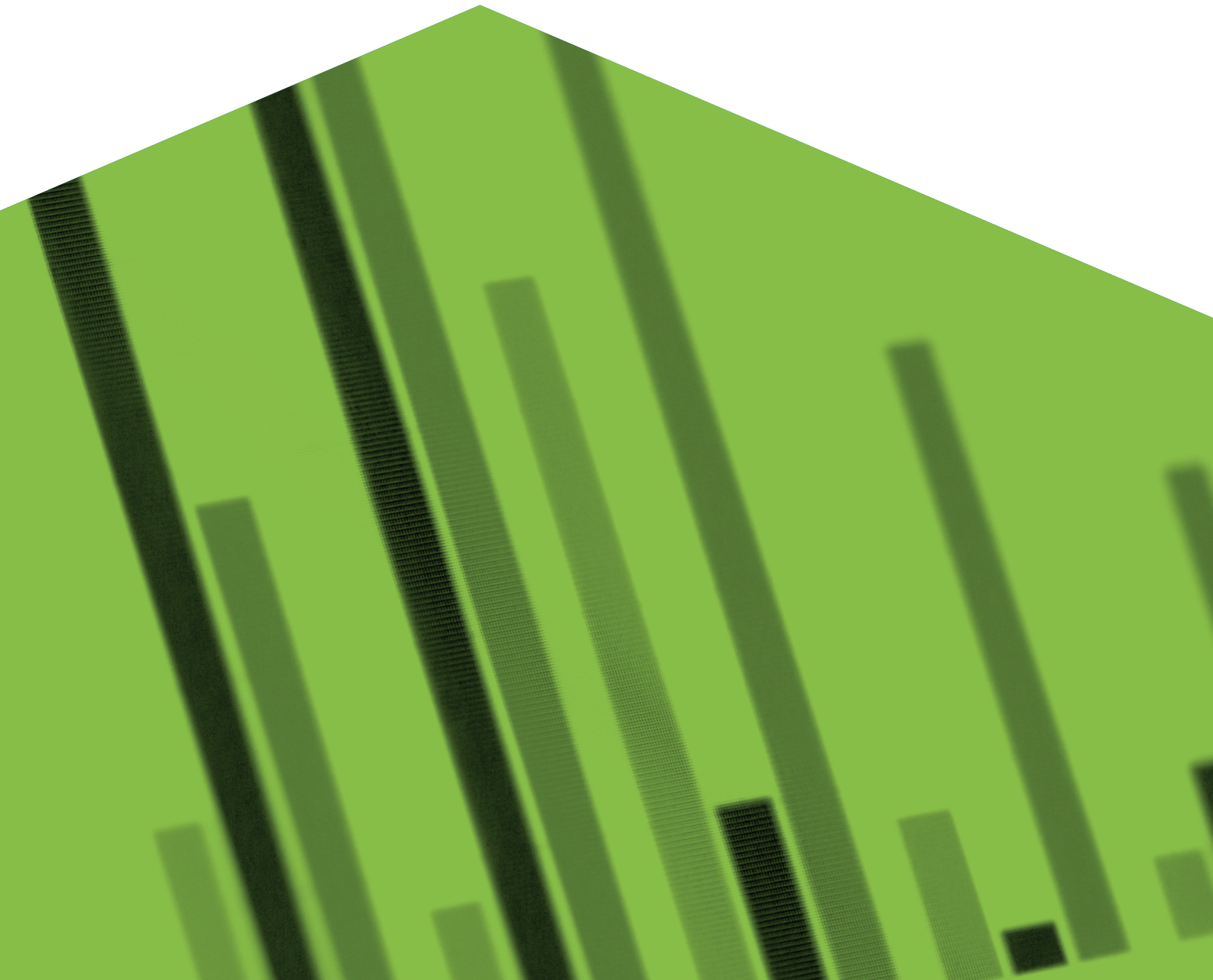
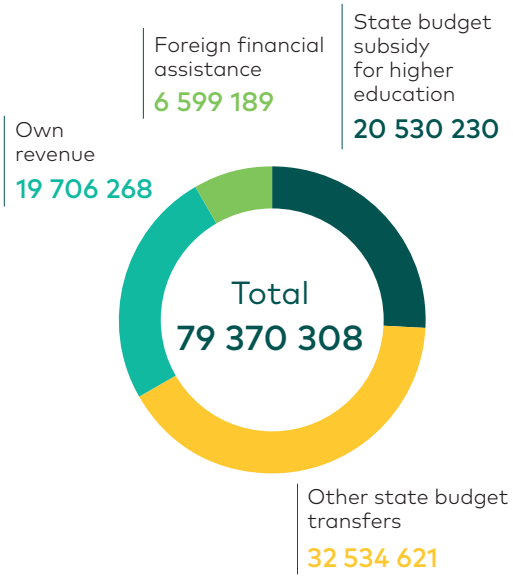
Finances

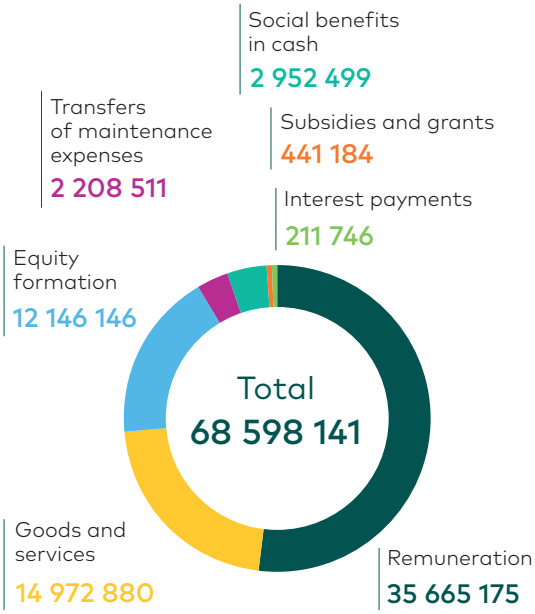


Budget in 2019

Revenue in 2019, m EUR

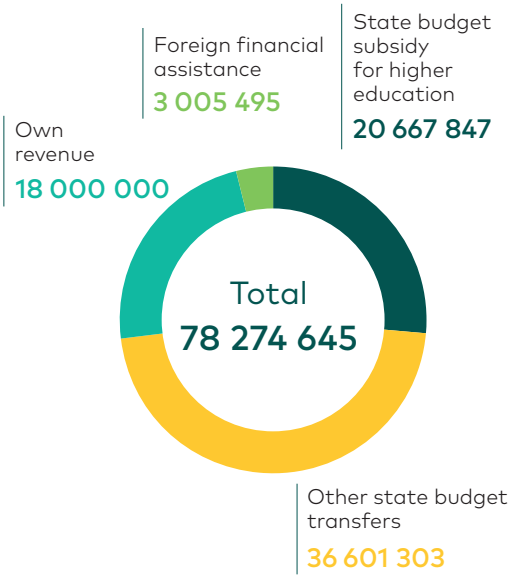


Expenses in 2019, m EUR

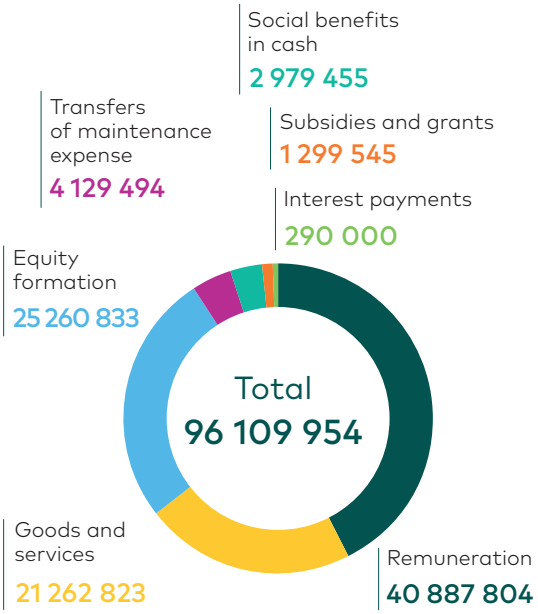


Planned Budget in 2020

Planned Revenue in 2020, m EUR



Planned Expenses in 2020, m EUR



RTU Development Fund

The foundation Riga Technical University Development Fund is an organization that cooperates with different companies, organizations and private individuals to offer scholarships for students, implement different projects and provide for the development of RTU as a modern center of education, science, culture and sport.

Main tasks of the Fund are:

- to promote the development of tertiary education in Latvia that meets social and market needs;
- to promote the advancement of the level of education and training of new specialists;
- to support the implementation of tertiary education institution development programs not only for obtaining education, but also for conducting scientific research;
- to award scholarships and allowances to students for studies, scientific work as well as for improvement of professional skills of the academic staff and employees

The Ministry of Finance granted the status of a public benefit organization to RTU Development Fund to support education, science, culture and sport.

In 2019, RTU Development Fund attracted over EUR 432,000 in donations. This financing was used for different projects:

- RTU Grand Graduation Ceremony;
- Exhibition of diploma projects and the reception dedicated to the 150th anniversary of the Faculty of Architecture;
- Reception dedicated to the 155th anniversary of the Faculty of Mechanical Engineering, Transport and Aeronautics;
- RTU badminton team;
- Folk dance ensemble "Vektors";
- Business idea incubator "RTU IdeaLAB";
- Engineering High School of RTU;
- Creative student laboratory of the Faculty of Power and Electrical Engineering;
- Exhibition of the periodic table of chemical elements at the Faculty of Material Science and Applied Chemistry;
- Digital Construction Education Day.

The biggest donation of 2019 – more than EUR 250,000 – was received from Ltd MIKROTĪKLS (MikroTik brand).
These funds were used for implementation of the following projects in 2019:

- Code software research and development laboratory was opened;
- Modernization of the Training Laboratory for Telecommunications and Computer Networks;
- Creation of the content of the study courses in telecommunications;
- RTU Children and Youth University Centers were established in Riga District;
- Development of optical flow positioning sensor;
- Support to RTU Design Factory;
- Support to the Week of Electronics and the Olympiad of the Faculty of Electronics and Telecommunications;
- A solar panel with an active positioning system was purchased.

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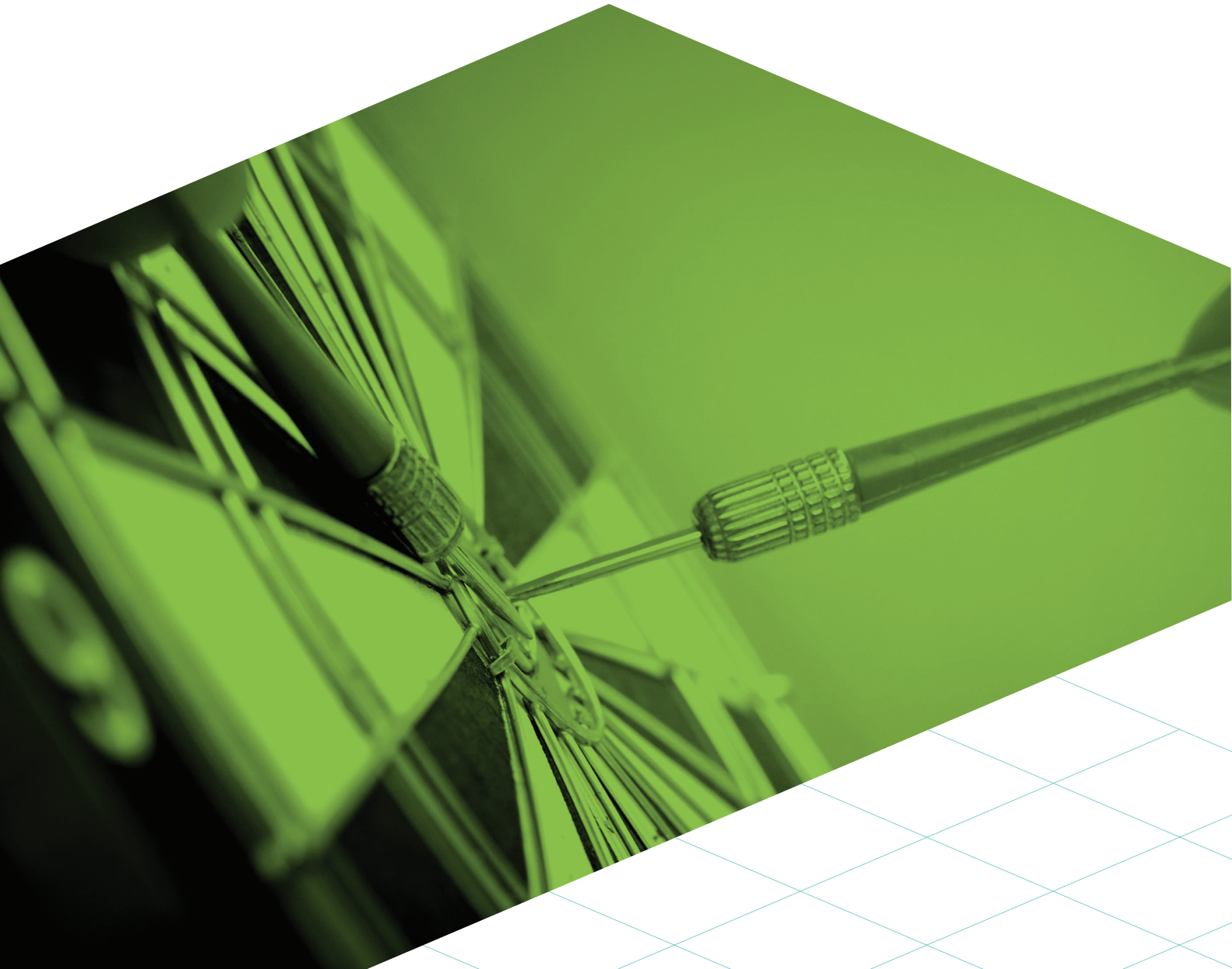
Achievements and Awards



RTU – Higher Education Institution Most Recommended by Employers

In 2019, for the eighth consecutive year, RTU gained the title of employers' most recommended higher education institution in a survey organized by the Latvian Employers Confederation in cooperation with the career and education portal prakse.lv. It is a clear indication that engineers and high-tech specialists are needed in the labor market and that they are best prepared for professional life by RTU.

a. Ratings

International ratings enable RTU to assess progress according to internationally defined criteria and to compare itself with other higher education institutions in Latvia and in the world. Based on the assessments obtained from ratings, it is possible to draw conclusions and set new objectives for the sustainable growth and development of the study process, scientific activities and the entire university.

"Times Higher Education World University Rankings" 2020

RTU is ranked in the 1000+ rating group. Compared with the previous year, the rating of RTU has climbed in three out of five key valuation criteria. Indicators related to science and research, internationalization and cooperation with the industry have shown high valuations. RTU has been ranked among 300 best universities in the world for the second consecutive year. The rating includes the best universities in the world, assessing their performance in studies, cooperation with industry, internationalization, science and citation rate.

"Times Higher Education BRICS & Emerging Economies University Rankings" 2020

RTU is ranked 251-300 in the rating of universities of the emerging economies. Overall, the ranking includes 533 universities from 47 countries and regions. The rating assessed the performance of universities on the basis of the Times Higher Education World University Rankings methodology, adapting it to the priorities for the development of emerging economies, in five areas of activity: studies (study environment), research (volume, revenue and reputation), citation (research impact), international perspective (staff, students, research) and industry income (knowledge transfer).

"Times Higher Education Impact Rankings" 2019

Having evaluated the performance of RTU in the framework of the United Nations (UN) Sustainable Development Goal (CDG) 17 cooperation program, RTU was ranked 201-300 in the 2019 rating of best universities. The highest assessment received by RTU is for its activities in achieving the industry innovation and infrastructure objectives, allowing the University to be ranked as high as the 39th in the world. In turn, in the development of sustainable cities and communities, RTU was assessed as the 77th best. This rating was developed for the first time and it assessed the overall performance of more than 450 universities from 76 countries in the implementation of the CDG 17 program.

"QS World University Rankings" 2020

RTU rating has climbed 701-750 compared to the previous year, which is the highest position among the three Latvian universities included in the rating. The rating highlights the increase of the number of foreign students at RTU, rated as 437 on a global score, while RTU reputation among employers ranks it 449th. There is also a significant increase in the share of foreign academic staff, ranking RTU as 543rd. It is the indicator of the proportion of foreign academic staff where RTU has shown the fastest rise, increasing its position by 39 places since the previous year. The ranking includes 1001 best universities in the world from 82 countries.

"QS University Rankings: EECA" 2020

RTU was ranked 54th in the European and Central Asia rating. "QS University Rankings: EECA" is a regional university rating for Europe and Central Asia and it includes a total of 350 leading universities in the region. At the regional level, the reputation of RTU among employers and the level of internationalization, reaching a high share of foreign academic staff and students, as well as the academic reputation, have been highly evaluated.

"QS Graduate Employability Rankings" 2019

In QS Graduate Employability Rankings, RTU holds 301–500th place in the university group. The rating reflects the status of higher education graduates on the labor market and their careers after graduating from higher education institutions. The ranking is based on five criteria: university reputation among employers, graduate performance, university cooperation with employers, student interaction and cooperation with entrepreneurs and graduate employment.

"QS Stars" 2018

RTU has received an excellent assessment – five stars – of the international "QS Stars" university ranking. The five-star system evaluates the university performance in eight categories and RTU has scored five stars in six of them. The performance of RTU has been assessed with five stars in the following categories: quality of studies, graduate employment, internationalization, study environment, innovation and social responsibility.

"UI GreenMetric World University Ranking" 2019

In the global rating of green policy and sustainability, RTU ranks 95th among the 100 greenest universities. This is a remarkable climb compared with 2018, when RTU was ranked as the 128th greenest world university. Moreover, RTU is the only Latvian university that ranks so high. The GreenMetric ranking rates world universities according to their commitment to minimize harmful effects on the environment. The approach of universities to the green principles has been assessed considering six criteria: total infrastructure, energy efficiency and climate change mitigation activities, waste management, efficient use of water resources, transport infrastructure and environmental education. In 2019, the ranking included 780 universities from 85 countries.

"U-Multirank" 2019

RTU has been highly valued in the international university ranking "U-Multirank", the only Latvian university receiving the biggest number of highest or A-level rankings in 11 evaluation criteria. This year, compared to 2018, RTU has significantly improved its results, achieving an increase in seven rating criteria and nearly doubling the number of the highest A ratings. RTU received A assessment for attraction of additional funding for science, the proportion of post-doctoral students in the academic staff, spin-off for enterprises, the share of enterprises established by graduates, Bachelor programs in English, international publications

with foreign co-authors, graduate employment and regional training, and graduation from Bachelor study programs within the scheduled time limits.

RTU Business and Management Education is Highly Valued

For the fourth consecutive year, RTU Faculty of Engineering Economics and Management (FEEM) and RTU Riga Business School (RBS) are included in the 4 Palms League of the international Eduniversal ranking of the world's best business schools, which denotes a particularly high academic level, excellent quality and strong international influence in business and management education. The FEEM Master's program "Innovation and Entrepreneurship" has been assessed as the best in Eastern Europe.

b. Achievements

Platinum Category in "Sustainability Index 2018"

RTU has been awarded the "Innovation Leader" Award for investing in innovation. In the "Sustainability Index", RTU has been ranked in Platinum Category for the second consecutive year. High assessments have been received due to targeted efforts to develop innovation as well as efforts to promote green lifestyle and make scientific contributions to the development of environmentally-friendly technologies. According to the "Sustainability Index" methodology, the companies in the Platinum Category have fully integrated corporate responsibility into their activities and have assigned responsible persons at the level of both administration and performers. Companies are systematically collecting the data and assessing the impact, as well as are accounting for their activities with a high-level transparency and engagement of impact audiences, and their published data have been approved by an external auditor.

"Family-Friendly Enterprise"

In evaluating the business principles implemented by the Latvian employers, the Ministry of Welfare has included RTU among companies that have been granted the status of Family-Friendly Enterprise for the fourth consecutive year. The well-being and self-fulfillment capabilities of each employee and student are important for RTU as an employer and educational institution. Ensuring family-friendly conditions and measures aligns with the values of RTU – stability and sustainable development, since the family is one of the foundations of a strong society, which ensures that traditions are inherited and developed.

c. Awards

RTU, celebrating its 157th anniversary, traditionally rewarded the best scientists for both their contribution to science and commercialization of the developed technologies and products.

Scientists of the Year 2019

The honorary title "RTU Scientist of the Year 2019" was awarded to Professor Aleksandrs Korjakins, the Head of the Department of Building Materials and Products of the Faculty of Civil Engineering (FCE).
The honorary title "RTU Young Female Scientist of the Year 2019" was awarded to leading researcher of the Institute of Radioelectronics of the Faculty of Electronics and Telecommunications Anna Litviņenko.
The honorary title "RTU Young Scientist of the Year 2019" was awarded to a researcher of FCE Institute of Materials and Structures Māris Šinka

Annual Valorization Award

In order to evaluate significant activities in valorization – commercialization of the products created at the University and promotion, patenting, and launch of results of applied research, the Annual Valorization Award was presented in 2019 for the third time. It was awarded to a leading researcher of the Institute of Polymer Materials of the Faculty of Materials Science and Applied Chemistry Jānis Zicāns. The Annual Valorization Award was also granted to a student and it was received by a researcher, PhD student of the Faculty of Mechanical Engineering, Transport and Aeronautics Jānis Lungevičs.

RTU Scientists Receive Awards from the Latvian Academy of Sciences

Latvian Academy of Sciences (LAS) recognized three research projects conducted by RTU scientists as significant achievements in science in 2019.

- The new DC electricity supply system for the manufacturing industry developed by the Institute of Industrial Electronics and Electrical Engineering of RTU Faculty of Power and Electrical Engineering was recognized as the most important achievement in applied science in 2019. It is a unique system that allows saving up to 15% of electricity, and this is the first step towards the idea of future factories where energy-efficient and sustainable robotic production can be provided through innovative tools, methods and technologies.
- A group of scientists from RTU Faculty of Materials Science and Applied Chemistry (FMSAC) and Riga Stradins University received LAS President's recognition for research and introduction of innovative bone replacement materials in oral, facial and jaw surgery. The new method offers an innovative use of bioceramic materials that ensure recovery of bone density and volume for patients with osteoporosis and bone atrophy.
- Another team of FMSAC scientists received LAS President's recognition, which, jointly with colleagues of the Institute of Solid State Physics of the University of Latvia and the Latvian Institute of Organic Synthesis, created a new approach to the development of phosphorescent organic materials in organic light-emitting diodes prepared from solutions.

Professor Valdis Kampars Receives the Order of the Three Stars

In 2019, Professor of RTU Faculty of Materials Science and Applied Chemistry (FMSAC) Academician Valdis Kampars was awarded the Order of the Three Stars, the highest award in Latvia, for special merits to the State and was appointed an Officer of the Order.
V. Kampars is the Director of the FMSAC Institute of Applied Chemistry and Academician of the Latvian Academy of Sciences. The areas of scientific research of the professor include specific intermolecular and intramolecular interaction, the use of organic compounds in optical information recording systems, photonics and optoelectronics, organic compounding technology, fuel chemistry and technology, renewable fuels and the use of a complex of local raw materials. He established a new research area – "Biomass conversion in fuels and chemical products, biofuel chemical and thermal chemical synthesis, fuel properties and their provision", performing systematic researches on optimization of first-generation biofuel extraction processes and extraction of second-generation biofuels as a result of catalytic hydrogenation, hydrothermal treatment and hydrooxydegenation as well as thermochemical processes for biomass processing.

RTU Academic Personnel Receive the Crosses of Recognition

Three representatives of RTU academic staff were granted the state award – the Cross of Recognition for significant research activities and contributions to

the development of science and higher education – leading researcher of RTU Faculty of Materials Science and Applied Chemistry Jānis Grabis, the Dean of the Faculty of Mechanical Engineering, Transport and Aeronautics (FMETA) Professor Ēriks Geriņš and FMETA Professor Jānis Vība.

Awards for Research in the Energy Sector by the Latvian Academy of Sciences and Latvenergo

Director of the Institute of Environment and Energy Systems (VASSI) of RTU Faculty of Power and Electrical Engineering (FPEE) Professor Dagnija Blumberga was awarded the Professor Alfrēds Vītols Prize, granted by the Latvian Academy of Sciences (LAS) and Latvenergo, for the outstanding and lifetime contribution to the Latvian energy sector.
VASSI Professor Ivars Veidenbergs received the Annual Award for significant contribution to the energy sector.
The awards established by Latvenergo and LAS for achievements in the energy sector were received also by young scientists of RTU – researcher of the FPEE Institute of Industrial Electronics and Electrical Engineering Kaspars Kroičs, VASSI researcher Vladimirs Kirsanovs and young RTU Doctors Aivis Ašmanis, Viesturs Zimackis, Deniss Bezrukovs and Artis Riepnieks.
The Annual Award is announced by LAS jointly with Latvenergo, it aims at motivating Latvian scientists to carry out research, particularly in business, for promoting energy development and creating the innovation environment.

Videvuds Ārijs Lapsa is Awarded the World Intellectual Property Medal to Inventors

Leading researcher of the Institute of Construction Technology of RTU Faculty of Civil Engineering Videvuds Ārijs Lapsa was awarded the World Intellectual Property Medal to Inventors.
The award is granted for innovative activities, making inventions in the field of concrete and reinforced concrete technologies, new construction materials and structures, thermal insulation of buildings, and promotion of knowledge on the protection of intellectual property.

Jānis Krastiņš and Andris Krēsliņš Receive Awards for Lifetime Contribution to Construction

The Head of the Department of History and Theory of Architecture of the Faculty of Architecture Jānis Krastiņš and a leading researcher of the Department of Heat Engineering and Technology of the Faculty of Civil Engineering, Andris Chairman, received the great award of the construction industry for the lifetime contribution "Pamatakmenis".
J. Krastiņš is a world-renowned expert in architecture, especially Art Nouveau, and one of the most prominent and productive researchers in the theory of the Latvian architecture. At the same time, A. Krēsliņš is the author of many important publications. His areas of specialization include construction physics, heating, ventilation and air conditioning, and energy performance of buildings.

RTU Scientist Receives Paul Walden Medal

RTU Professor Aigars Jirgensons was awarded the medal of the distinguished scientist Paul Walden for excellent achievements in the organic chemistry methodology – development of new methods of synthesis for obtaining of amino alcohol and amino acids, olefin metathesis and Lewis acid-catalyzed alkyl substitution reaction studies, and development of methods for administering hydroxyacetic acid functions in a molecule. Professor works successfully also in the field of medical chemistry conducting studies on the development of new types of antimalarial and antibacterial drugs.

P. Walden Memorial Medal was also awarded to the scientific co-worker and internationally known chemistry researcher Gisela Boeck from the Department of Organic Chemistry of the University of Rostock. Her studies relate to the history of chemistry and many publications and speeches are devoted to two famous chemists from Riga – Wilhelm Ostwald and Paul Walden.
RTU FMSAC awards the P. Walden Memorial Medal every two years to honor the most prominent scientists in the field of chemistry, chemical technology and material science and history researchers in this area, who work in Latvia or are connected with Latvia.

RTU Academic Staff Receive Awards for Significant Contribution to the Development of Customs Service

Director of Institute of International Business and Customs (SESMI) of RTU Faculty of Engineering Economics and Management Aivars Vilnis Krastiņš and Assistant Professor Normunds Rudzītis received awards of the State Revenue Service (SRS) for significant contribution to the development of customs service.
RTU SESMI academic staff received the anniversary badge "Latvian Customs 100" in November, when the 100th jubilee of the Latvian Customs was solemnly celebrated.

RTU Young Scientist Armands Sebris Receives Emīlija Gudriniece Award in Chemistry

Young scientist of the Institute of Technology of Organic Chemistry of RTU Faculty of Materials Science and Applied Chemistry Armands Sebris received the Emīlija Gudriniece Award in chemistry for the Master thesis "Synthesis and Photophysical Properties of Amorphous Purine-Azole Conjugates". In this study, A. Sebris looked for a new type of chemical compounds that could be used to make cheaper OLED displays.

Academic Excellence Award of the Year

In 2019, for the second time, RTU praised its best academic staff members.
Professor Inga Lapiņa of the Faculty of Engineering Economics and Management (FEEM) received the Academic Excellence Award 2019.
The Honorary Title of Young Academic Staff Member 2019 was presented to FCE lecturer Raivo Kalderauskis.

Three more members of the academic staff – leading researcher of the Faculty of Electronics and Telecommunications Anna Litviņenko, FEEM lecturer Aleksandra Mihņenoka and FCE Professor Modris Dobelis – received development grants.
Money prizes to the best members of the academic staff and development grants were provided with support of the company Industry Service Partners established by RTU graduate Aigars Ločmelis.

Gratitude to RTU Academic Personnel

On the RTU anniversary day, members of the RTU academic staff who supported students of RTU Engineering High School were greeted.
Linda Mežule, Associate Professor of FCE, leading researchers of FMSAC, Dagnija Loča and Inese Mieriņa received Rector's gratitude for motivating students to research and support in the process of research development.
At the same time, a leading researcher of the Faculty of Computer Science and Information Technology Inta Volodko received gratitude for the organization and delivery of the classes in higher mathematics and FMSAC Professor Svetlana Čornaja - for organizing a cycle of classes in physical chemistry, preparing students for Olympiads.

RTU Honorary Alumnus

The traditional title of RTU Honorary Alumnus in 2019 was awarded to the

Chairman of the Board of Latvenergo Āris Žīgurs for his contribution to engineering education. He is also the Chairman of RTU Advisory Board.

RTU Scientists Receive L'Oréal Baltic Grants "Women in Science"

Two young researchers of RTU – Jana Vecstaudža and Laura Dembovska – received L'Oréal Baltic Grants "Women in Science" for their research on bio-materials for bone replacement and development of heat resistant materials for industrial use. J. Vecstaudža is a Doctoral student at the Faculty of Materials Science and Applied Chemistry and works at RTU Rūdolfs Cimdiņš Riga Biomaterials Innovation and Development Center studying materials for bone replacement and repair. Researcher of the Institute of Materials and Structures of RTU Faculty of Civil Engineering L. Dembovska is the first researcher from the field of civil engineering who was awarded the L' Oréal Baltic grant. The composite materials developed by her are low-energy consumption materials made from inorganic minerals or waste products and, compared to the insulation materials currently in use, produce minimal environmental impacts.

RTU Researcher Jānis Braunfelds Receives the Defense Industry Annual Award

Researcher of the Institute of Telecommunications of RTU Faculty of Electronics and Telecommunications Jānis Braunfelds received the Defense Industry Annual Award in science and research for the study "Optical Sensors of Fiber Bragg Grating". The technology is able to provide real-time monitoring of a building or territory several dozen kilometers away. Optical sensors can provide information on different physical parameters, such as temperature, deformation, pressure, tension and vibration. Analyzing the information obtained, it is possible to provide remote monitoring of buildings and sites in real time. One of the potential applications of the system is continuous surveillance of the border area.

Innovatively Solved Pilot Project of Heat Insulation of Historical Building Receives the Ministry of Finance Award

The pilot project of heat insulation of the building at 8 Maskavas Street, Riga, where innovative energy efficiency solutions for the preservation of historic buildings were found, received recognition, bringing the award of the Ministry of Finance "RegioStars Latvija 2019" to its implementers – RTU Institute of Environment and Energy Systems (VASSI). RTU VASSI successfully performed thermal insulation of the building by insulating it from the inside with three innovative thermal insulation materials, while painting it with a special color from the outside. However, VASSI researchers find their most important achievement to be the scientific publication on the implemented project, which was published in the internationally quoted "Energy and Building" journal and has already been quoted 54 times, which is very high index.

Award of the Latvian Academy of Sciences and ITERA Latvia

In 2019, the traditional award of ITERA Latvia and the Latvian Academy of Sciences (LAS), which is granted annually to prominent scientists and practitioners of Latvia, was received by Assistant Professor of RTU Faculty of Architecture Agrita Tipāne. She has made a significant contribution to the development of professional qualifications and skills of young architects, to the research of the architecture of churches, as well as to the creation of the Riga Art Nouveau Museum. The winner is the Director of the Riga Art Nouveau Museum.

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Sport

RTU has retained its title of the most athletic university. It is attested not only by the fact that students – members of the varsity teams participated in the Latvian competitions, but also by their international achievements.

Achievements in the 29th Latvian Universiade

RTU students won the second place in overall rating in the 29th Latvian Universiade in the competition of both women and men. 24 Latvian higher education institutions participated in the Universiade, competing in 23 disciplines. The winners of men's competition were RTU floorball players, badminton players and track and field athletes, while in women's competition, RTU athletes remained unbeaten in table tennis, powerlifting and badminton.

RTU Athletes Participated in International Student Competitions

- In the SELL Games held in Kaunas, Lithuania, in 2019, RTU ranked sixth overall with 4 gold, 5 silver and 6 bronze medals. The SELL Games are organized by Finland, Estonia, Lithuania and Latvia and are attended by students from these and other countries. In 2019, the competition was stiff – students from 50 universities and countries fought for prizes.
- With the help of RTU students, the Latvian hockey team won the sixth place in the 29th World Winter Universiade in Krasnoyarsk.
- RTU track and field athletes ranked second in the Baltic Technical Universities Cup.

Achievements of RTU Athletes

- Silver Awards for table tennis players Viktorija Majorova (FCE) and Aleksandrs Maskaļonoks (FEEM) in the BALTAIS Latvian TOP 10 competitions of the strongest Latvian players.
- The men's volleyball team RTU/Border Guards won the fourth place in the Baltic League won the Latvian Cup for men.
- RTU team ranked second in the 53rd Sports Games of academic staff and employees of the Baltic Technical Universities in Palanga, Lithuania.
- RTU team won in the Latvian Students Championship in 2019 in the team event.
- RTU table tennis team won the third place in the Latvian team championship in table tennis in the highest league.
- RTU student Kristaps Sietiņš (FMETA) won the second place in the 60-meter barrier run at the Lithuanian Athletics Federation Cup, while in the Latvian Championship, Kristaps won gold in the 60 m barrier run.

- RTU student, bobsleigh two-men pilot Ralfs Bērziņš (FEEM), together with the pusher Dāvis Spriņģis, won the second place in the European Cup in Sigulda, while in the junior assessment, they were nominated European champions.
- RTU volleyball team won silver in the national volleyball league, following closely the Vecumnieki volleyball team.
- Bronze medal of RTU floorball men's team "RTU/Rockets" in the first league.
- For the first time, RTU athletes won two silver medals in the international competitions the Baltic Martial Arts Olympiad 2019.
- The RTUcheer cheerleader team won the title of vice-champions at the 2019 European Championship in cheerleading sports
- Two gold medals were won at the Baltic Seniors Championship in badminton by Associate Professor of RTU Institute of Design Technologies and badminton coach of RTU Sports Centre Uģis Briedis.
- RTU student Patriks Gailums (FPEE), javelin thrower, won the high fourth place at the European U-23 championship in Sweden throwing javelin to the distance of 79.81 meters.
- Students of RTU swimming team repeatedly set a new hour record in the swim to commemorate the 14 military school cadets who lost their lives in the struggle for freedom, having swam 5,800 meters in total.
- The four-man bob of RTU student Ralfs Bērziņš (FEEM) with pushers Māris Priekulis, Reinis Nungurs and Dāvis Spriņģis won the shared third place in the European Cup stage for four-man bobs in Königssee.
- RTU student Lauris Kaufmanis (FCE), starting in the Oskars Ķibermanis crew, together with Arvis Vilkasts and Matīss Miknis, won the second place in the first stage of the Bobsleigh World Cup in Lake Placid, USA.
- For the first time, the RTU self-defense team "RTU/Customs", showing its growth and fighting vigor, gained the third place in the overall team ranking at the Open Championship of the Ministry of the Interior in close combat.
- RTU chess-players won gold in Latvian Clubs Cup.

RTU Supports Sports Talents

Every year RTU allocates special budget funded study places for young and perspective sports talents. In the academic year 2019/2020, ten sport talents were selected during the RTU competition to study at different study programs at the expense of the university. All athletes have demonstrated high achievements in sport and have performed well in their studies. Studies at RTU were started by volleyball players Anna Krasavina and Veronika Saļceviča, skeleton rider Dārta Estere Zunte, downhill skier Liene Bondare, track and field athlete Marks Aleksandrs Harčenko, orienteer Rihards Krūmiņš, freestyle and extreme skateboarding athlete Toms Ričards Baltmuguris and chess-player Elizabete Limanovska, whereas skeleton rider Ivo Šteinbergs and Paralympic curler and fencer Poļina Rožkova have already received their Bachelor's degree at RTU and continue their Master's studies at RTU.

RTU Students – Talented Athletes – Receive State Scholarships

Twenty RTU students – athletes receive annual sport scholarships. These are: skeleton rider Krists Netlaus (FEEM), table tennis player Viktorija Majorova (FCE), floorball player Uldis Dūniņš (FCSIT), bike orienteer Andris Sarksņa (FCE), downhill skier Liene Bondare (FEEM), track and field athletes Asnāte Kalniņa (FEEM), Valērijs Valinščikovs (FET), Patriks Gailums (FPEE), bobsleigh athlete Ralfs Bērziņš (FEEM), orienteer Rihards Krūmiņš (FCSIT), canoeist Kristaps Laube (FPEE) and chess-player Elizabete Limanovska (FCE).

Awards to RTU Sports Trainers

- RTU long-time sport coach Egils Pans received the Annual Award of the Latvian Basketball Union in the nomination Seniors.
- Associate Professor of RTU Institute of Design Technologies and badminton coach of RTU Sports Centre Uģis Briedis received the Latvian Badminton Annual Award granted by the Latvian Badminton Federation.

Doing Sports Together

RTU Staff Outdoor Activities Festival

- In June, the second RTU staff outdoor activities festival was held uniting about 300 participants. 13 teams from different faculties and departments competed in 14 different activities, and the winner was the team of the Faculty of Materials Science and Applied Chemistry.

Together in Tet Marathon

- RTU team started in the TET Rīga Marathon with 61 runners. 16 athletes ran 42 kilometers and others - 21 kilometers.

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Culture

Significant Anniversaries

- The year 2019 was important for RTU Culture Centre and its artistic groups, as both the Centre and its oldest artistic groups – the female choir "Delta" and the Folk-Dance Ensemble (FDE) "Vector" celebrated its 60th anniversary. Delta marked its anniversary by delivering an exuberant concert "Dziesmu dzelmē" for spectators and a new performance "Ir daudz pie debesīm zvaigžņu", with the participation of the composer Jānis Lūsēns. In turn, two hundred dancers in five generations of the Vectorians celebrated their important 60th anniversary by dancing in the concert "Tie esam mēs" at VEF Palace of Culture, devoting the first part of the concert to the Golden Fund dances and showing the characteristic features and exclusive creative dances of "Vector" in the second part.
- The student wind band SPO celebrated its 50th anniversary with a concert in the Large Guild, while the youngest of the artistic groups – RTU Bigbends –summed up its first five years of existence in the concert "Jazz Legends".
- Participants of the vocal ensemble "Jauna Nianse" of all periods met on the occasion of their 20th anniversary and sang together.
- At the same time, RTU male choir "Gaudeamus" marked their anniversary by arranging two concerts "Gaudeamus Latvijai un dabai" and "Gaudeamus Latvijai un drosmei".

Achievements

- At the start of the year, the finale of the XXI Creativity Dance Competition was held at Valmiera Centre of Culture, 38 dance performance were presented to the audience and the jury. Alongside with the experienced choreographer Jānis Ērglis, a new choreographer triumphed in the competition – the head of FDE "Vektors" Dagmāra Bārbale, as Vektors gained the first place with the dance "Trīs liepiņas upītē" and the choreography of "Skaista mana tēvu zeme", and the second place with the dance "Šodien saules meitu vedu" and "Mēness savas zvaigznes skaita".
- The 2019 RTU "Simbioze" Prize in culture was awarded to the artistic director and choreographer of "Vektors" Dagmāra Bārbale for ideal creative dance search and outstanding artistic results obtained through the mutually beneficial interaction and integration of the director and the ensemble.
- The long-term artistic director of FDE "Vektors" Uldis Šteins received the newly established Dance Award – the first Latvian highest award in professional dance art – for a lifetime contribution to the development of the Latvian dance art.
- Dagmāra Bārbale received the award as the choreographer of the most watched folk dance for the dance performance "Vēstījums rakstos".
- RTU student theatre "Kamertonis", with its director Ludmila Stančika, brought Grand Prix from the international festival of student theatres "Debut" in Georgia for the performance based on the cycle of poems "Sirds uz trotuāra" by Aleksandrs Čaks.

New Performances and Premieres

- In spring, a spectacular dance film was released. It featured 32 "Vector" dancers dancing not on stage, but in the open nature – in Kurzeme – on the steep shore of Jūrkalne, in Zemgale

– in the grasslands of Zemgale, in Vidzeme at Ellīte Cliff and in Latgale at Čertoka Lake, artistically covering all four parts of Latvia. In each place, the dance was danced in the ethnographic folk clothes of the respective region, thereby highlighting the individuality of each region. In the closing frames, the dancers in the clothes of the four parts gathered together, symbolizing the diversity, unity and strength of our motherland.

- Two more video clips were created in 2019 – one in collaboration with the RTU cheerleader team, the drum and bagpipe music remix by "Auļi" band and the DJ association "KK Rave" and the other featuring the Austrian folk song "Almerlied Huidirdio", in which the artist Albin Paulus together with the group "Auļi" and "Vektors" dances in the Alps between shepherd passages.
- In April, RTU mixed choir "Vivere" offered a new solo concert program "Saules meita" with participation of kokle player Dina Liepa. In November, on the Latvian national holiday, nine of the most recognized choirs of Riga gathered together for a joint choir concert "Rīgas kori Latvijai" in the Big Hall of RTU.
- Premieres of RTU Student theatres – "Meitas pie tēva" performance by Camertone Theatre (in Russian) based on Anton Chekhov stories, and "Spēle" student theatre presents the Lelde Jauja performance "Sapūtnieki", directors Sanita Toča and Kristīne Logina.

Festivals

- The international post-folklore festival "Gaviles" actualized the theme "Darba duna" on its eighth anniversary. RTU post-folklore group "Daba San" invited to the festival the well-known groups, both local and foreign.

Dances at RTU

On the last Tuesday of every month, those who like dancing come to RTU Big Hall for the "3 X 3 Dance Club", conducted by musician and folklorist Ilga Reizniece.

RTU Department of Public Affairs