RIGA TECHNICAL UNIVERSITY
LATVIAN CENTRE OF ENGINEERING SCIENCE
ANNO 1862
LATVIA IN FACTS

AREA - 64 589 KM²
POPULATION - 2.2 MILLION
CAPITAL - RIGA (FOUNDED 1201)
MEMBER - EUROPEAN UNION, NATO
LANGUAGE - LATVIAN (BALTIC INDO-EUROPEAN)

ENROLLMENT RATE PER 10.000 POPULATION
552 (2ND HIGHEST IN THE WORLD)

6 PUBLIC UNIVERSITIES
~ 120,000 STUDENTS

WWW.LATVIA.LV
<table>
<thead>
<tr>
<th>Founded: 1862</th>
<th>Faculties: 8</th>
<th>Students: 16,000</th>
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</thead>
<tbody>
<tr>
<td>8 Faculties</td>
<td>1,000,000+</td>
<td>Academic Staff: 767</td>
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<tr>
<td>34 Institutes</td>
<td>502 Researchers</td>
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<td>134 Study Programs</td>
<td>13 Research Centres</td>
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<td>More than 100,000 Graduates</td>
<td>Research Fields:</td>
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<td>Energy</td>
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<td>Information &amp; Communication</td>
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<td>Material Science &amp; Chemistry</td>
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<td>Safety &amp; Security</td>
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<td>Smart Networks</td>
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HISTORICAL DEVELOPMENT

1862 - 1896 Riga Polytechnic
First polytechnical institute in Imperial Russia. Education in German language.

1896 - 1919 Riga Polytechnical Institute
Transformation into an official higher school of the Russian Empire and retaining of autonomy

1919 - 1958 Technical faculties within University of Latvia
Five faculties of RPI formed the core for the foundation of the Higher School of Latvia, later known as Latvian State University, today - University of Latvia

1958 - 1990 Riga Polytechnical institute
Technical faculties of Latvian State University were separated to form the renewed RPI

since 1990 Riga Technical University
NOTABLE STAFF AND ALUMNI

**SVANTE ARRHENIUS**
Nobel Prize in Chemistry 1903

RPI Honorary Member
Researcher of RPI
Founder of the science of physical chemistry

**FRIEDRICH WILHELM OSTWALD**
Nobel Prize in Chemistry 1909

Professor at Riga Polytechnic
Founder of the branch of physical chemistry
NOTABLE ALUMNI

MIKHAIL DOLIVO-DOBROVOLSKY
RPI student from 1878-1881
Inventor of AC induction Machine
Founder of 3phase 50Hz AC System

FRIEDRICH ZANDER
RPI Alumni
Pioneer of rocketry
Designer of first liquid fuelled rocket
NOTABLE ALUMNI

ANDRIS BERZINS
THE PRESIDENT
of the Republic of Latvia

VALDIS DOMBROVSKIS
THE PRIME MINISTER
of the Republic of Latvia

ILMARS RIMSEVICS
PRESIDENT
of the Bank of Latvia
NUMBER OF GRADUATES

1862-1912: 9931
1958-1990: 39941
1991-2012: 52252
MISSION AND STRUCTURE
VISION
RTU is a modern and internationally recognized science and innovation university.

MISSION
To create new knowledge for mankind and technologies for business world. To provide the Latvian national economy with qualified human resources for its stable growth and development.

STRATEGY
Excellence in research
Excellence in study process
Excellence in technology transfer and innovation
Modern infrastructure
8 Faculties

- ARCHITECTURE AND URBAN PLANNING
- CIVIL ENGINEERING
- COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
- ELECTRONICS AND TELECOMMUNICATIONS
- POWER AND ELECTRICAL ENGINEERING
- MATERIALS SCIENCE AND APPLIED CHEMISTRY
- TRANSPORT AND MECHANICAL ENGINEERING
- ENGINEERING ECONOMICS AND MANAGEMENT

34 Institutes, 1 independent institute, 44 departments, 48 professor’s groups, 27 laboratories, 19 centers
ADMINISTRATIVE STRUCTURE

Academic Assembly

Students Parliament

Students Selfgovernments

Counselors Convention

Senate

Rector

Chancellor

Prorector for Science
Prorector for Academic Affairs

Administrative Director
Vice Rector for Academic Policy & Quality
Deputy Rector for Business Relations
Deputy Rector for International Academic Affairs
Deputy Rector for Infrastructure Management

8 Faculties, 3 Affiliations,
Institute of Humanities, Institute of Languages, Riga Business School
Public Agency "Research Institute of Inorganic Chemistry"
SCIENTIFIC RESEARCH
RESEARCH FIELDS

ENERGY & ENVIRONMENT
Renewable and Alternative Sources of Energy & technologies for their Conversion
Energy saving and Efficiency
Environmental Technologies
Environmental Management

SMART NETWORKS
High Capacity Automatics
Power Supply for Transportation, Electrical Grids
Communications in Optical Grids, Smart Lighting Grids
Cleaning of Water Supply systems

CITIES & DEVELOPMENT
Interaction of Multifactor in Landscape Development
Real Estate Process Prognoses

TRANSPORTS
Unmanned Aircraft Design, Aviation Control Systems
Aeronautics & Space Technologies, Vehicles Design, Railways Transport
Transport Economics and Logistics
**RESEARCH FIELDS**

**MATERIALS, PROCESSES & TECHNOLOGIES**
- Sol-gel (optics, power supply)
- Surfaces of Polymercomposites
- Arterial Implants, Composite Materials (plains, ships)
- Biomaterials, Electrochemical Surface Coverage
- Nanoparticles, Organic Synthesis & Quality Control
- Microclimate Regulated Clothing
- Bionano & Microsensors, Superellastic Pressure Sensors

**INFORMATION & COMMUNICATION**
- Modeling (vehicle, groundwater) & Imitation
- Artificial Intelligence, Intelligent Robotics
- Viable Systems Approach
- Hybrid Simulation-Based Optimization Tools

**SAFETY & SECURITY**
- Electrical Controls, Power Quality & Delivery Safety
- Water Safety & Security, Cyberphysical systems, Customs & Border Protection
RESEARCH CENTRES

EMC Research Centre
Biomaterial Research and Development Centre
Water Research Centre
Laboratory of Polymer Testing
Research Laboratory for Fuel Quality Control
Laboratory for Analytical Control of Environmental Pollution Construction
Materials Laboratory
Laboratory for Road Building Materials
Laboratory for Concrete Mechanics
Laboratory for Non-destructive Testing Methods Environment Modelling Centre
Research Laboratory for Machine and Mechanism Dynamics Institute of Inorganic Chemistry
Laboratory for Testing Silicate Materials
The centre offers the most update and comprehensive electronic and electrotechnical equipment testing facilities in the Baltic. There is an anechoic measurement chamber with the intensity range up to 40 GHz, which ensures the testing results of complex electromagnetic compatibility and electric security in accordance with 28 Standards and Directives of the EU.

www.leitc.lv
RIGA CENTRE OF BIOMATERIAL INNOVATION AND DEVELOPMENT

The **BIGGEST AND MOST MODERN** biomaterial research centre in the Baltics.

**FIELDS OF RESEARCH**

development of biomaterials from nanopowders, metals, ceramics, textiles, so that they could be implanted in a live body to substitute broken tissues and fully integrated in its other tissues.

//rbiac.rtu.lv/eng
RIGA CENTRE OF BIOMATERIAL INNOVATION AND DEVELOPMENT

INGA LAŠENKO, Dr.sc.ing., Senior Researcher
Inventor of AMBER THREADS
used in fashion industry, in surgery materials

Awards of World Intellectual Property Organization
2009
2010

Gold Medal for Innovation
Gold Medal for Science
BALTIC INSTITUTE OF RESEARCH, TECHNOLOGY AND INNOVATION

Cross border cooperation platform aiming at coordinated development of human resources and infrastructure in research, technology, development and innovation in all three Baltic States, focusing on developing research and innovation capacity and strengthening excellence in the Baltic Sea region.

Three clusters:

1. **BaltSmartTech** - smart technologies in engineering and ICT - *RTU leading partner*.
2. **NanoTechEnergy** - nanostructured materials and high energy radiation
3. **BioPharmAlliance** - biopharmacy and organic chemistry

Five specialisation fields - mechatronics; cyber-physical systems; functional materials; smart energy and water technologies; aeronautics and astronautics
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<th>SECURITY &amp; SPACE</th>
<th>ENERGY</th>
<th>ICT</th>
<th>INNOVATION FP (CIP)</th>
<th>TRANSPORT</th>
<th>PEOPLE</th>
<th>REGIONS &amp; INFRASTRUCTURE</th>
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PARTICIPATION IN RESEARCH CENTERS OF NATIONAL SIGNIFICANCE (RCNS)

ERDF ACTIVITY 2.1.1.3.1. DEVELOPMENT OF SCIENTIFIC INFRASTRUCTURE

RCNS for ENERGY and technologies of environmental resources extraction and sustainable use (incl. also development of a transport and mechanical engineering centre)

RCNS for PHARMACY and BIOMEDICINE (incl. also the establishment of a study and research centre of pharmaceutical technologies and biopharmacy centre)

RCNS for INFORMATION and SIGNAL PROCESSING technologies (incl. also the establishment of a space data processing centre)

RCNS for NANOSTRUCTURED and multifunctional materials, constructions and technologies
PARTICIPATION IN COMPETENCE CENTERS

- Competence Centre for Environment Protection, Bioenergy and Biotechnology
- Competence Centre for Information and Communication Technology
- Competence Centre of Latvian Electric and Optical Equipment Productive Industry
- Competence Centre for Transport Mechanical Engineering

TOTAL SCIENTIFIC FUNDING FOR COMPETENCE CENTERS 2011 - 2014  EUR 77 080 523
INNOVATIONS AND COOPERATION WITH BUSINESS WORLD
The aim of the Centre is to facilitate innovation and technology transfer:

RTU Innovation and Technology Transfer Centre

- promotes the inventions of RTU researchers and new technologies;
- helps bringing the inventions and new technologies to market;
- promotes information about intellectual property created at RTU;
- maintains database of research competences and research results.
BUSINESS SUPPORT UNITS
IN RIGA TECHNICAL UNIVERSITY

‣ Business Development and Support Centre
‣ Innovation and Technology Transfer Centre
‣ Technology Transfer Contact Point
‣ Riga Centre of Biomaterial Innovation and Development
‣ Latvia Technology Park
‣ Business Incubator of LTP
‣ RTU - Cesis Business Incubator
‣ Student Business Incubator
DYNAMICS OF NATIONAL PATENTS

- maintained patents
- applications

Year | Maintained Patents | Applications
--- | ------------------ | ------------
2007 | 35                | 30
2008 | 64                | 38
2009 | 122               | 48
2010 | 152               | 33
2011 | 198               | 60

Tuesday, March 19, 13
ECPE Network: 43 Industrial Members
STUDY PROCESS
STUDY PROCESS

Doctoral studies
(4 years)

Academic Bachelor studies
(3 - 4 years)

Professional Bachelor studies
(4 - 5 years)

1st level professional studies
(2 - 3 years)

Professional Master studies
(1 - 2 years)

2nd level professional studies
(2 - 3 years)

Academic Master studies
(2 years)
NUMBER OF STUDENTS

2007: 17665
2008: 16508
2009: 16541
2010: 15735
2011: 15500
2012: 14686
FULL TIME / PART TIME

- 77% Full time (Day Department) studies
- 23% Part time (Extramural and Evening Department) studies

Tuesday, March 19, 13
DYNAMICS OF DOCTORAL STUDENTS IN RTU

- State Budget
- Other financial sources

- 2008: 274
- 2009: 322
- 2010: 321
- 2011: 350
- 2012: 349

Tuesday, March 19, 13
Riga Technical University provide 35 Bachelor and Master study programs in English:

- Aviation Transport
- Computer Systems;
- Computerized Control of Electrical Technologies
- Geomatics
- Engineering Technology, Mechanics and Mechanical Engineering;
- Entrepreneurship and Management;
- Business Informatics (only Master program)
- Technical Translation
- Real Estate and Construction Management (only Master program)
- Telecommunications
DYNAMICS OF INTERNATIONAL STUDENTS

Tuesday, March 19, 13
COUNTRIES OF RESIDENCE OF INTERNATIONAL STUDENTS

- Europe: 31%
- Asia: 57%
- Africa: 11%
- America: 1%

Tuesday, March 19, 13
EMPLOYERS RECOGNITION

DARBA DEVĒJU IETEIKTĀKO IZGLĪTĪBAS IEŠĀŽU TOPS 2012. GADĀ

1.VIETA

RĪGAS TEHNISKĀ UNIVERŠITĀTE

INTERNATIONAL RECOGNITIONS

Internationally recognized programs

In Faculty of Computer Science:

**QUESTE EXCELLENCE COMMITMENT PROCESS CERTIFICATE**
(The Quality System of European Scientific and Technical Education)

**QUESTE - SI** label

**EQANIE EURO - INF** QUALITY LABEL

In RTU Riga Business School:

**CEEMAN INTERNATIONAL QUALITY ACCREDITATION**
INTERNATIONAL COOPERATION

More than 200 agreements with higher education institutions worldwide

International activities:

✦ exchange of students and staff within Erasmus program
✦ international study programs in cooperation with Scandinavian and Baltic states (BALTECH)
✦ International summer schools
✦ DAAD scholarship program
✦ Language courses
Riga Technical University involves students in sports activities more actively than any other university in Latvia.

Students of RTU can choose and show their abilities in any of the 23 kinds of sports offered at RTU -

Badminton, Basketball, Boxing, Freestyle wrestling, Judo, Body building, Frisbee, Floorball, Soccer, Table tennis, Swimming, Weight lifting, Chess, Tennis, Volleyball

RTU students, teaching staff and employees may use the RTU swimming-pool in Riga and the sports and recreational camp “Ronisi”, at the sea coast.
RTU / INSPECTA - EUROPEAN CHAMPIONS IN FLOORBALL
There are nine amateur groups in RTU:

- male chorus “Gaudeamus”
- female chorus “Delta”
- folk dance ensemble “Vektors”
- student brass band “SPO”
- youth vocal ensemble “Jauna Nianse”
- post-folk group “Vecpilsetas Dziedataji”
- drama studio “Spele”
- Russian student drama studio “Kamertonis”
- string ensemble “Gaiva”
INFRASTRUCTURE DEVELOPMENT
DEVELOPMENT OF RTU CAMPUS
ONGOING PROJECTS
THANK YOU FOR YOUR ATTENTION!