

# HIGHER EDUCATION AND SCIENCE IN LATVIA

## 2019

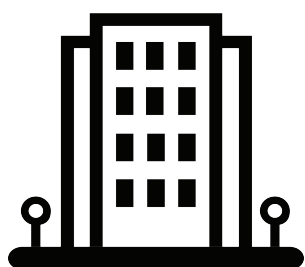
### Higher education

Higher education institutions – as «knowledge hubs» linking higher education and research in order to foster a creation of:

- ▶ **Knowledge base** in all fields of science and focusing R&D in areas that have the largest growth potential
- ▶ **Innovation** increasing the innovation capacity of enterprises
- ▶ **Human Capital** creating locally embedded and globally connected human resources
- ▶ **Collaboration** merging different resources and to collaborate with different universities in the region and around

#### Types of higher education institutions in Latvia:

university (universitāte), university college or university of applied sciences (augstskola), academy (akadēmija), college (koledža).



There are **6** state universities

**11** state higher education institutions and **17** state colleges

**11** private higher education institutions and **8** colleges

#### Access to higher education:

All holders of general secondary education certificates and vocational secondary educational diplomas are eligible for admission to higher education. Higher education institutions are free to specify additional requirements (which main subjects must be taken to qualify for admission to a chosen programme). Admission procedure may vary depending upon the competition level/ study programme.

#### Access to further studies:

The graduates, who have acquired any type of the Bachelor's degree – either academic or professional, – have the right to enrol into master studies, but those who have acquired a Master's degree – into doctoral studies. Holders of degrees acquired in the professional studies of medicine, dentistry and pharmacy (5 and 6 years) may continue studies in doctoral programmes.

### Academic higher education (EQF levels 6-7)

An academic bachelor study programme is 120-160 Latvian credit points (**180-240 ECTS credit points**). The length in full-time studies is 3-4 years.

An academic master study programme is 80 Latvian credits (**120 ECTS credit points**).

### Doctoral studies (EQF level 8)

## Higher education degrees and qualifications

- ▶ Bachelor's degree
- ▶ Master's degree
- ▶ Diploma of first level professional higher education
- ▶ Diploma of professional higher education or the diploma of higher professional qualification
- ▶ Professional bachelor's diploma or the diploma of higher professional qualification
- ▶ Professional master's diploma or the diploma of higher professional qualification
- ▶ Doctor's degree in sciences or in fine art

### Professional higher education (EQF levels 5-7)

**A professional bachelor study programme** (at least 160 Latvian CP or **240 ECTS credit points**)

**A professional master study programme** (at least 40 Latvian CP or **60 ECTS credit points**)

**Other types of programmes in professional higher education alongside bachelor and master programmes:**

**First level professional higher education (college) study programmes** (80-120 CP or **120-180 ECTS credit points**), they are basically intended for the acquisition of a profession, but the graduates may continue studies in second level professional higher education or bachelor's programmes;

**Second level professional higher education programmes** (least 40 CP or **60 ECTS credit points**) after the acquisition of a Bachelor's degree or at least 160 CP (**240 ECTS credit points**) after the acquisition of secondary education.



## Major universities of Latvia

### The University of Latvia ([www.lu.lv](http://www.lu.lv))

Since the foundation in 1919 the University of Latvia with its more than **15 000** students, **13** faculties and over **20** research institutes and independent study centres, is one of the largest state-funded comprehensive and leading research universities in the Baltics.

### Riga Stradiņš University ([www.rsu.lv](http://www.rsu.lv))

A state-funded university with **9100** students, **68** study programmes, **2200** international students from more than **50** countries which ensures the implementation of scientific projects, providing experts in health care and social sciences who work in Latvia and across the world.

### Riga Technical University ([www.rtu.lv](http://www.rtu.lv))

One of the leading state-funded engineering universities in the Baltic States with more than **15,000** students in nine faculties. Modern internationally recognized university, which conducts internationally competitive research and cooperates with reputable international research institutions (CERN, Royal Institute of Technology, Sweden, KTH) and international institutions as European Space Agency and others.

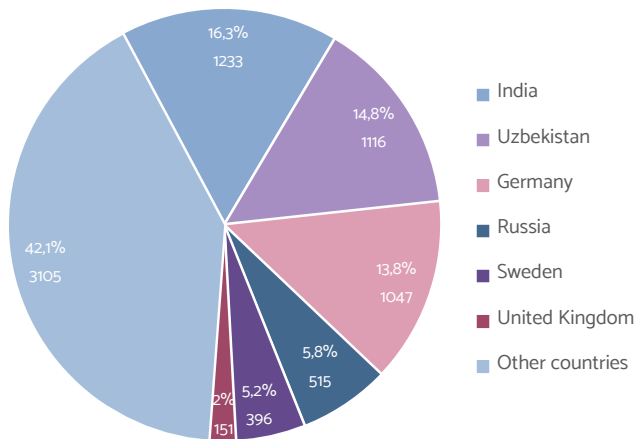
**For university ranking Latvia uses the European Union platform "U-Multirank":**  
[www.multirank.org](http://www.multirank.org)

# Student and academic personnel mobility

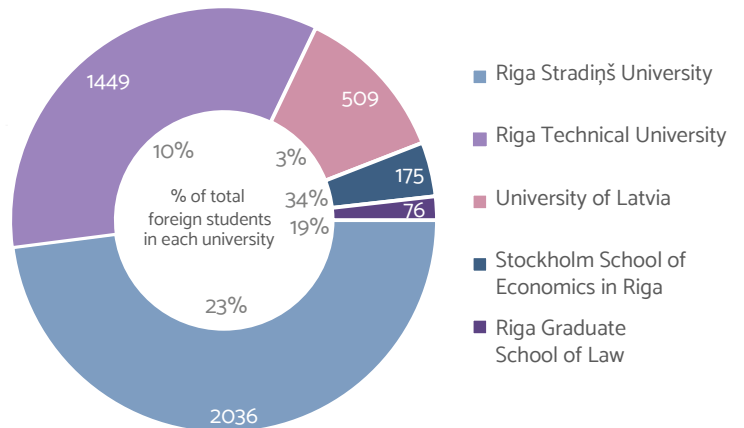
Number of students (2017/2018): **81 602**

Foreign students (degree and credit mobility): **8806 (11%)**

Foreign students (degree mobility)  
2017/2018



Number of foreign students studying  
in the most popular universities in Latvia  
2017/2018

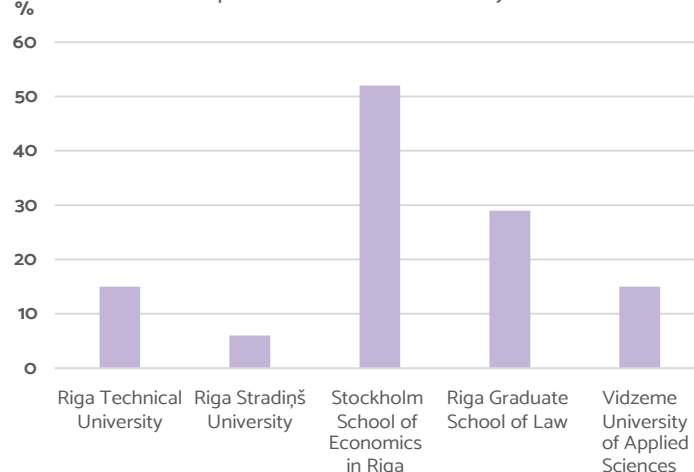


## Mobility of students from Latvia abroad credit mobility Erasmus+ (2017/2018):

1. Germany	212
2. Spain	84
3. Portugal	69
4. France	62
5. Sweden	46
6. United Kingdom	22

**1264**  
students from Latvia studying  
in universities in the United Kingdom  
(2017/2018)

Foreign university researchers and academic  
personnel working in Latvia  
(academic personal in each university) 2017/2018



# Science and Innovation

~ 7,400 researchers working in Latvia's research institutions in 2017/2018 (3152 FTE)  
 15% - industry employed  
 ~ 600 diaspora researchers from over 40 countries

## #1 in EU

Latvia is the leader in the EU with women employed in research - 52%. Also, the largest share of women among managerial positions is recorded in Latvia, the only Member State where women are a majority - 53% - in this occupation. The share of women among doctorates here is the highest in the world - 60%.

## New start-up generation:

According to the World Economic Forum (2017), Latvia is one of Europe's entrepreneurial hotspots, ranking 3rd after Estonia and Sweden. In terms of total early entrepreneurial activity in Europe, it is the 1st

## Latvia's Priority Directions in Science 2018 - 2021 :



Technologies, materials and systems engineering for increased added value products and processes, and cybersecurity



Strengthening security of energy supply, development of the energy sector, energy efficiency, and sustainable transport



Climate change, nature protection, environment



Research and sustainable use of local natural resources for the development of a knowledge-based bioeconomy



Latvia's statehood, language and values, culture and art



Public health



Knowledge culture and innovations for economic sustainability



Demographics, sports, open and inclusive society, welfare and social resilience



State and public safety, and defence

## Our research strengths



**Compact, modern and effective R&D ecosystem.** Home to 77 research institutions, 22 of which are state-funded.



**High number of publications:** Natural Sciences, Engineering and Technology



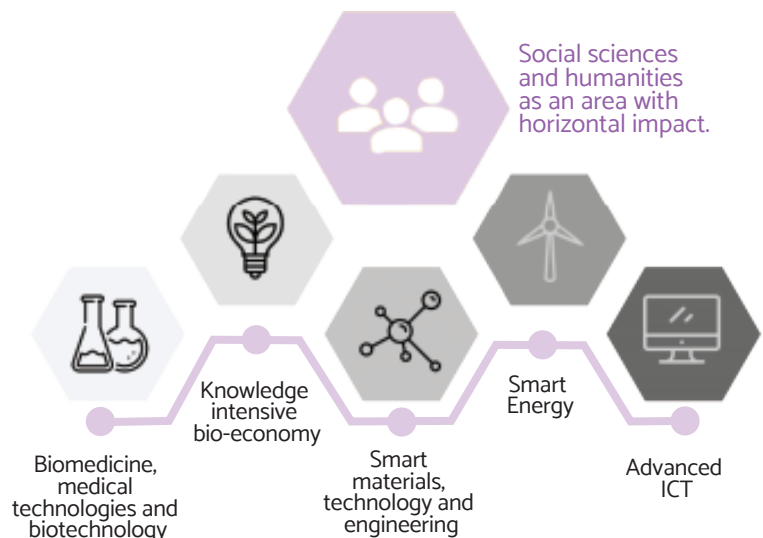
**High research quality (FWCI):** Medical and Health Sciences, Engineering and Technology, Natural Sciences



**High relative research activity:** Agricultural Sciences, Engineering and Technology

To concentrate public R&D investment in programs that create future domestic capability and interregional comparative advantage since 2014 Latvia has devised and implemented the Smart Specialization Strategy (RIS3). The strategy aims to provide a balanced and complementary support 'tool-kit' to strengthen innovation capacity of Latvia's economy. Latvia has defined five Smart Specialisation (RIS3) areas for transforming the economy towards higher added value products, increased productivity and efficiency.

## SMART SPECIALIZATION AREAS



## Major research institutions

### Priority research areas:



#### The University of Latvia

Innovative information technologies  
Atomic physics, optical technologies and medical physics  
Mathematical methods  
Nano and quantum technologies, innovative materials  
Climate change and sustainable use of natural resources  
Biomedicine, pharmacy  
Regenerative medicine, biobank  
Ecology and biodiversity  
Public health, quality of life and national sustainability  
Critical thinking, innovation, competitiveness and globalization  
Lettonic Studies, diaspora and intercultural communication  
Human and technologies, quality of education



#### Rīga Stradiņš University

Medical and health sciences  
Oncology  
Occupational and environmental health  
Infectious diseases and immunology  
Chemistry  
Pharmacy  
Pharmacology,  
Biology  
Neuroscience  
Nuclear medicine  
Imaging  
Social sciences



#### Rīga Technical University

Energy and Environment  
Cities and Development  
Information and Communication  
Transport  
Materials, Processes, and Technologies  
Security and Defence



#### Latvian Biomedical Research and Study Centre (BMC)

is the leading scientific institute in molecular biology and biomedicine in Latvia. BMC is a powerful scientific centre performing basic as well as applied research in five major directions: human genetics and disease mechanisms, cancer research, biotechnology and structural biology, molecular microbiology and virology, molecular pharmacology and drug targets.



LATVIJAS UNIVERSITĀTES  
CIETVIELU FIZIKAS INSTITŪTS  
INSTITUTE OF SOLID STATE PHYSICS  
UNIVERSITY OF LATVIA

#### The Institute of Solid State Physics

is a state research institute specialising in functional materials for electronics and photonics, nanotechnology, nanocomposites and ceramics, thin films and coating technologies, theoretical and experimental studies of materials structure and properties.



#### The Latvian Institute of Organic Synthesis (IOS)

is a state research institute specialising in pharmaceutical research, organic chemistry, molecular molecular pharmacology, drug targets and biobank.

## Research funding

### Nationally funded grants

Academically orientated competitive research and competitive funding for more applied research in the national Priority Directions in Science. The fundamental and applied research grants programme provides bottom-up, research-council style funding for science while the State Research Programmes address the knowledge needs of the various ministries.

### Institutional research funding

Funds to enable universities and research institutes to have and maintain internal research facilities and resources.

### International funding

EU Structural Funds, EU Framework Programme, EEA/Norway grants, other international funding which mostly relies on ERDF funding.

## Government focus and recent significant developments



**Focus:** Increasing study and research excellence and strengthening research capacity.

Since 2018 major improvements in all public funding instruments (including State Research Programmes and Fundamental and Applied Research Programmes) were made by implementing external evaluation by international experts for all R&D project proposals in those instruments.

Fragmentation of our R&D system was heavily reduced in recent years – as the result the number of state-funded research institutions were reduced from 40 to 22.

In 2019 all state-funded and majority of private research institutions in Latvia will participate in state organised international evaluation of scientific institution activity. The main criteria for the 2019 international evaluation exercise are:

1. Scientific Quality
2. Economic and Social Impact
3. Infrastructure and governance
4. Potential
5. Cooperation within the relevant sector

## Horizon 2020

**LV performance:** funding secured year 2014-2018: EUR **67.39M** (13/02/2019)

**Number of projects:** **290** (13/02/2019)

Top 5 partners (by number of Horizon2020 projects):

