RIGA TECHNICAL UNIVERSITY

FACULTY OF ELECTRICAL AND ENVIRONMENTAL ENGINEERING

Faculty dean
Prof. **Oskars Krievs**

FACULTY OF ELECTRICAL AND ENVIRONMENTAL ENGINEERING (FEEE) IN NUMBERS

- **242 employees in 2022**
- **645 students**, including **82 doctoral** students **in 2022**
- **3 doctoral study programs**, **4 master's study programs**, and 4 bachelor's study programs
- **Average age** of academic and research personnel: **44.5 years**

INFRASTRUCTURE of FEEE

- Since 2014 Faculty has experienced the largest research infrastructure improvements in its history - **moved to modern premises**, equipped with up-to-date technologies
- **Laboratories** are located **in the main building** and **in the laboratory building**

STRUCTURE of FEEE

FEEE incorporates three institutes:

- Institute of Industrial Electronics and Electrical Engineering
- Institute of Energy Systems and Environment
- **Institute of Power Engineering**

All three institutes **conduct research in specific areas** as well as **implement dedicated study programs** – starting from bachelor's and **up to the PhD level**

INSTITUTE OF INDUSTRIAL ELECTRONICS AND ELECTRICAL ENGINEERING of FEEE

Total of 102 employees - FTE of 58,9

The main research directions are related to power electronics, motion control and automation

- Power Electronics for Renewables, Energy Storage Systems, Electrical Drives and Power Flow Control
- Motion Control and Robotics
- Industrial Automation
- LED Lighting Systems
- Design and Diagnostics of Electrical Machines
- Electromagnetic Compatibility

Study programs: «Computer control of electrical technologies», «Adaptronics»

INSTITUTE OF ENERGY SYSTEMS AND ENVIRONMENT of FEEE

Total of 95 employees - FTE of 75,6

The main research directions are related to Energy Systems and climate technologies

- Heating systems
- Bioeconomy
- Waste Management
- Eco-design and Life Cycle Analysis
- Socio-economic Aspects of Energy Supply

Study program: «Environmental engineering»

INSTITUTE OF POWER ENGINEERING of FEEE

Total of 45 employees - FTE of 35,51

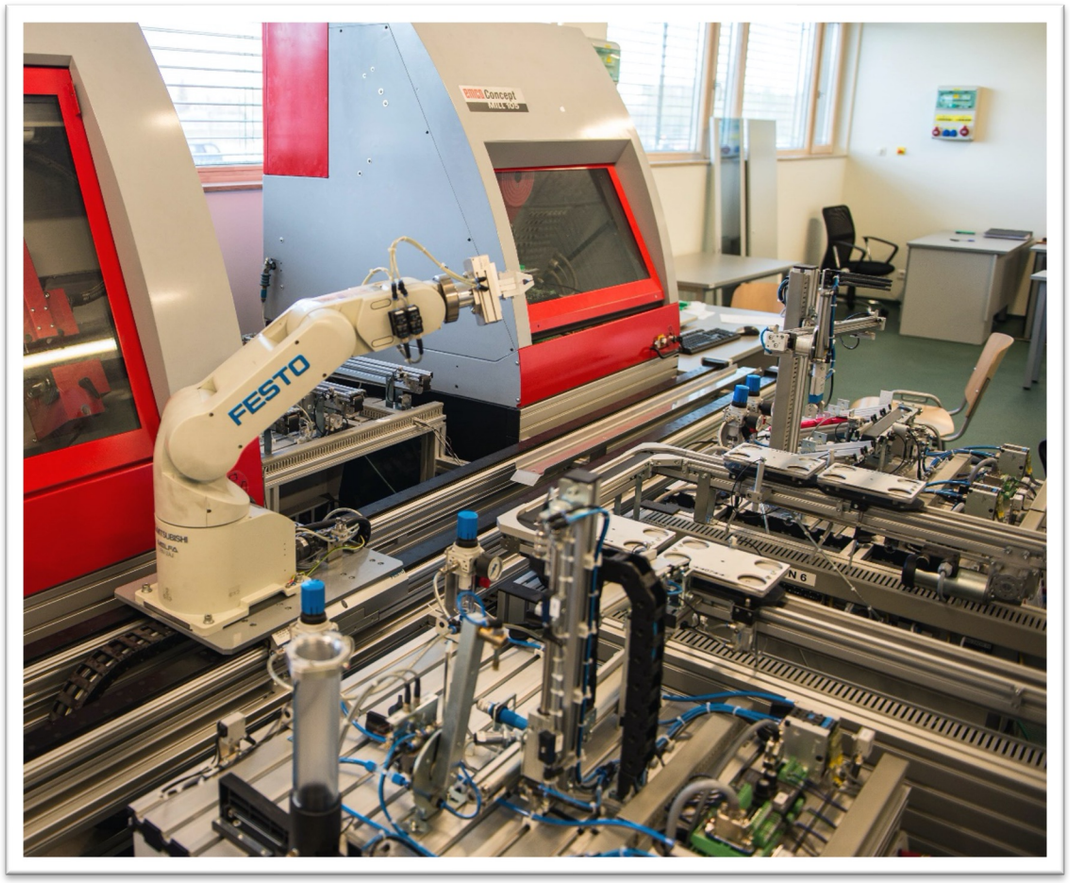
The main research direction is Intelligent Operation and Control of Power systems

- Control, optimization and automation of electricity generation, transmission and distribution
- Simulation of power systems and their elements
- Prediction of power system operation modes and behavior
- Technical and economic assessment and decision making for energy systems

Study program: «Smart power systems»

STUDY PROCESS in FEEE

Study programs «Computer control of electrical technologies» and «Adaptronics»



- **«Computer control of electrical technologies»** professional programs in **B, M levels**, academic in **D level**, **«Adaptronics»** – professional programs in **B, M levels**
- Knowledge and practical skills in **industrial automation** and **power electronics**
- Professional **qualifications** of **Electrical Engineer** and **Leading Electrical Engineer**
- **Internship in industrial enterprises** during studies

STUDY PROCESS in FEEE

Study program «Environmental engineering»

- «**Environmental engineering**» - academic programs in **B, M, D levels**
- Knowledge and practical skills in **heating systems, waste management, bioeconomy and life cycle analysis**
- Innovative study methods e.g. **field laboratory work, role plays**
- Optional **Internship in industrial enterprises** during studies
- **Double degree Masters** program **with Vilnius Tech (VGTU)**

STUDY PROCESS in FEEE

Study program «Smart power systems»

- **«Smart power systems»** professional programs in **B, M levels**, academic in **D level**,
- Knowledge and practical skills in **electricity generation, transmission and distribution systems**
- Professional **qualifications** of **Electrical Engineer** and **Leading Electrical Engineer**
- **Internship in industrial enterprises** during studies

RESEARCH in FEEE

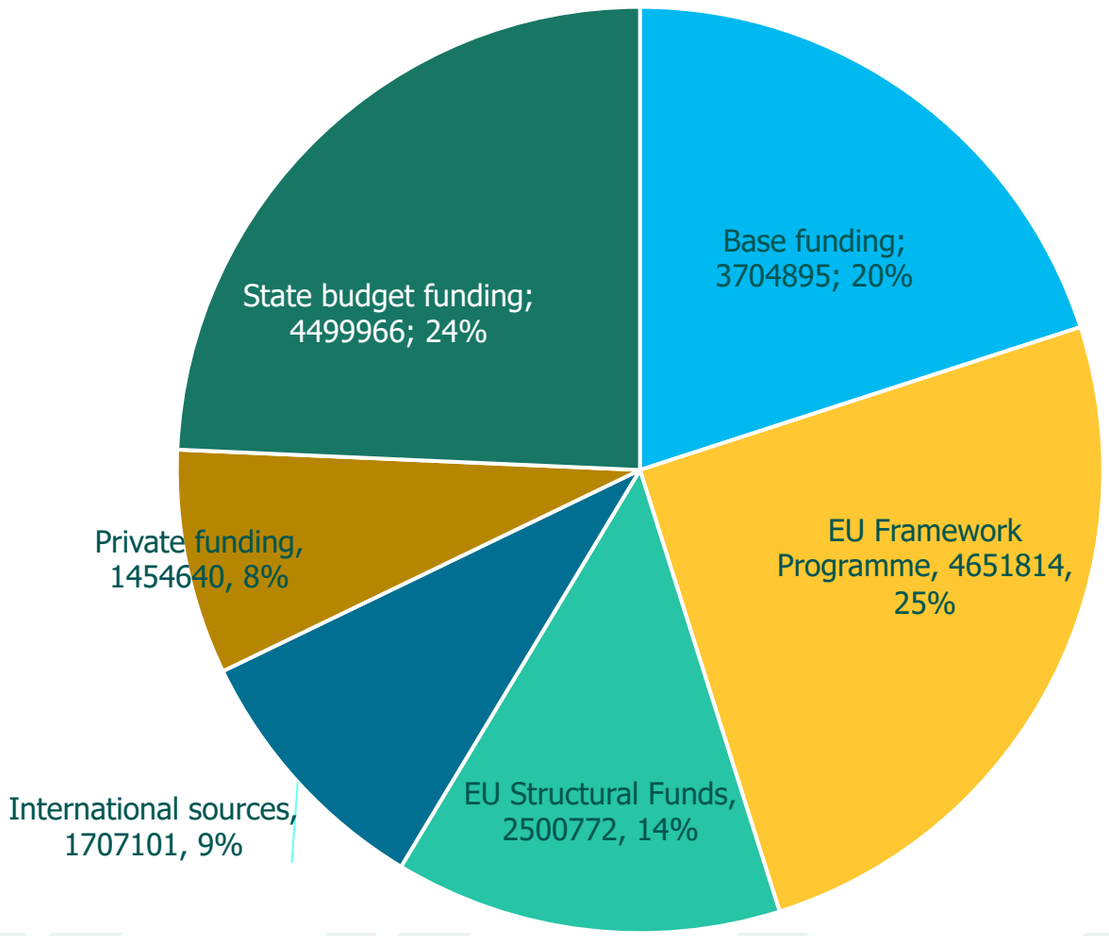
- The **latest international evaluation** of scientific institutions in Latvia was **carried out in 2019./20. by Technopolis Group** - an international consultancy firm for the evaluation of science, technology and innovation.
- The **results were received in May 2021.**
- The research output for the **period 2013. - 2018. was assessed**

Score: 4 – very good level of research

The faculty ranked among 16 best scientific institutions in Latvia

FINANCIAL SOURCES FOR RESEARCH

- **Total research funding attracted** in 2013 - 2018: **18.52 mEUR**
- **Total funding per researcher** 2013 - 2018: **81.7 kEUR**



- **44%** of the budget has come from the **state budget funding**
- **56%** has been attracted from **international and industry research projects.**

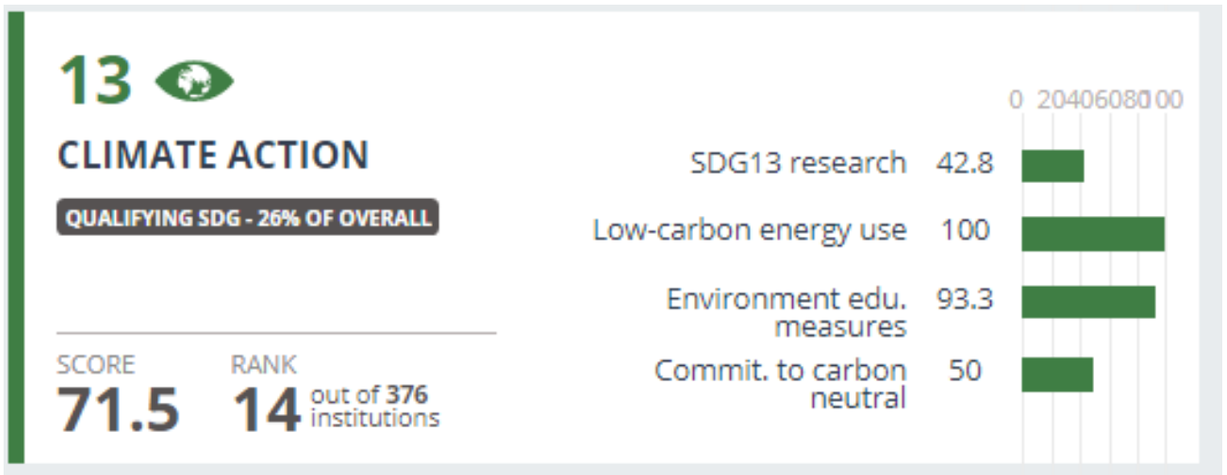
INTERNATIONAL VISIBILITY

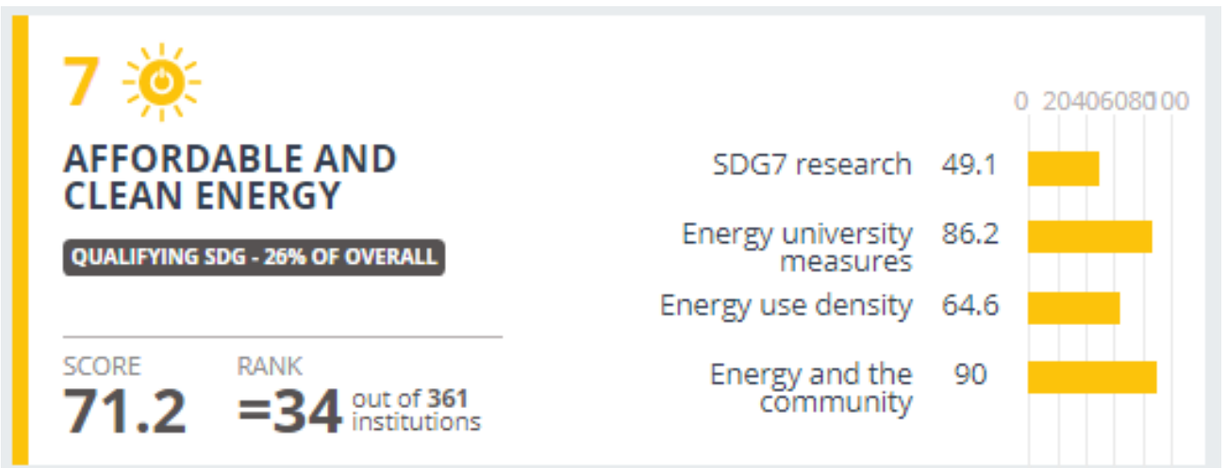
- Participation in **43 international projects** (8 projects were coordinated by the Faculty) with funding of 6.35 Million EUR from 2013-2018
- **Cooperation with EC JRC**
- **50.3% funding from international projects** from 2013-2018
- **EPE-ECCE'2018** conference in Riga (chairman prof.L.Ribickis)
- **IEEE Chapters** in PES, IAS, IES
- **International scientific Conference of Environmental and Climate Technologies** (CONECT) indexed in Scopus and WoS
- **RTUCON annual conference** indexed in Scopus (supported by IEEE)
- Annual **international doctoral school in electrical engineering**
- Academic staff participates in **international activities** in scientific community:
  - visiting professors, exchange programs, PhD evaluation commissions, professor evaluation commissions

RTU IN WORLD RANKINGS 2020

In 2020. RTU was **the best university from Latvia** and one of the best 200 universities in the world in «**The Times Higher Education Impact Rankings 2020**»

Largely **due to activities of FEEE,** RTU was evaluated very well in the goals «**Climate action**» – **14. place** and «**Affordable and clean energy**» **- 34. place**





https://www.timeshighereducation.com/rankings/impact/2020/overall#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/undefined

RTU IN WORLD RANKINGS 2020

RTU – among **60 greenest universities** in the world – **largely due to activities of FEEE**

RTU scored the highest in 2 categories of the ranking:

- environmental science and education
- waste management

RTU IN WORLD RANKINGS 2021

In engineering sciences in eneral RTU ranked in 401.– 450. place being the only university from Latvia in this position

Study directions	Score in Ranking
Power and electrical engineering	**301. – 350.**
Mechanics, aeronoutics	351. – 400.
Engineering sciences and technologies	401. – 450.
Business and management	451. – 500.
Computer sciences and ICT	551. – 600.

RTU IN WORLD RANKINGS 2022

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Study directions	Score in Ranking
Power and electrical engineering	**301. – 350.**
Mechanics, aeronoutics	351.– 400.
Engineering sciences and technologies	401. – 450.
Business and management	551.– 580.
Computer sciences and ICT	551.–600.

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