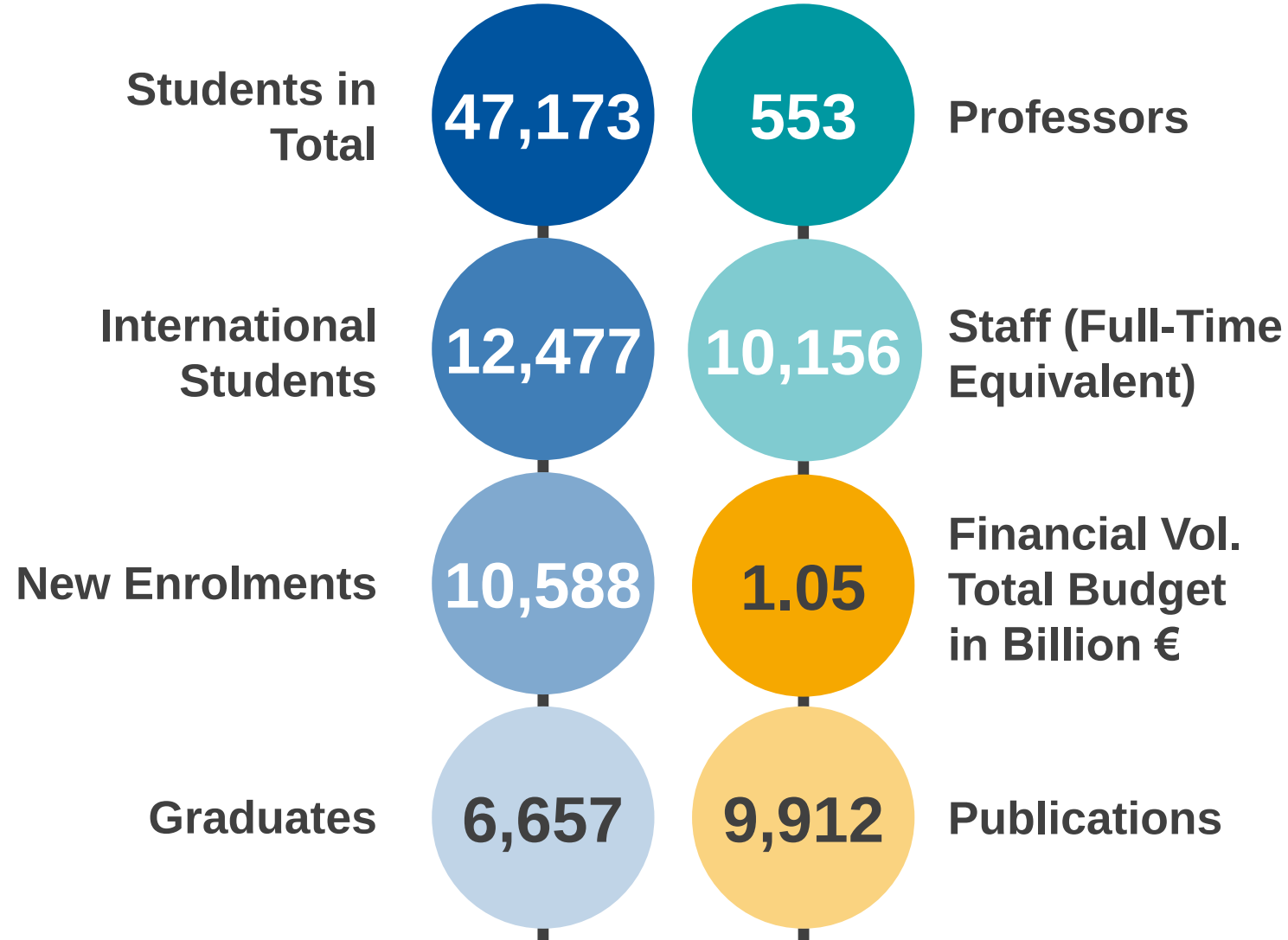




RWTH Aachen University

Division of Mineral Resources and Raw Materials Engineering
– Facts, Figures and Study Opportunities

RWTH Aachen - The Big Picture in Figures



Total Grants and Funding 2020

**1.05
Billion €**

562.3 Million €

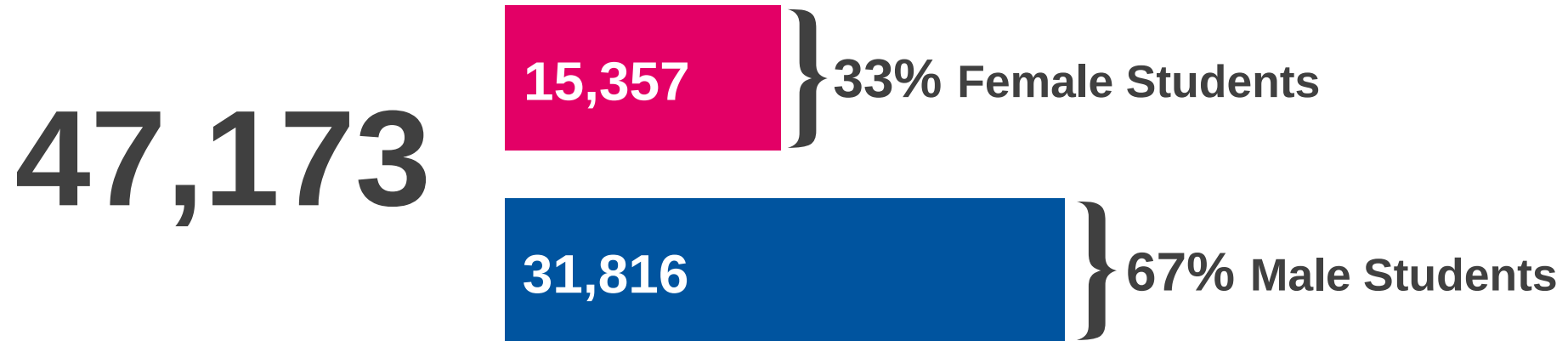
} Grants from the
State of NRW

486.7 Million €

} Project Funds

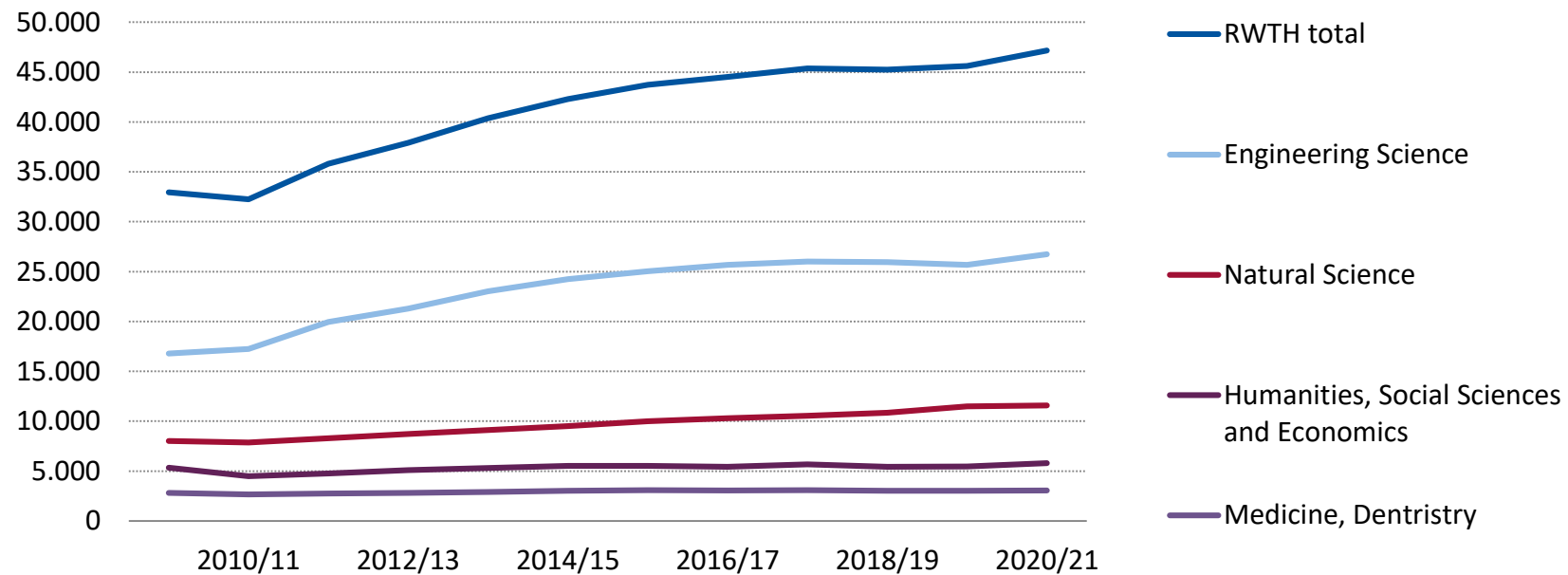
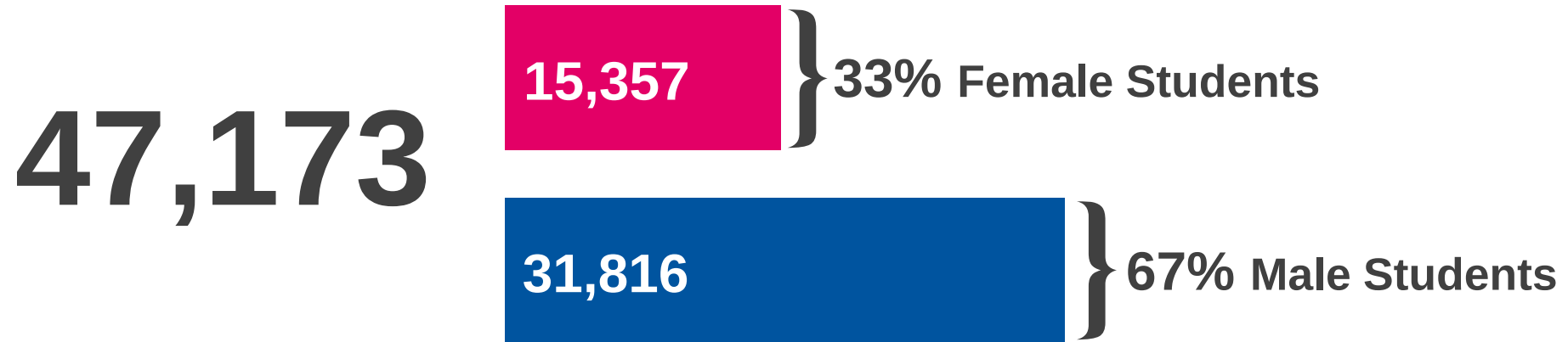
- The state grant is 441.7 million € for the university without medicine and 120.6 million € for the faculty of medicine.
- The project funds are 403.7 million € for research and 83.0 million € for teaching.
- RWTH is the university in Germany with the most third party funds.
- Since 2010 the amount of third party funds for research increased by about 145 million €.

Students in Winter Semester 2020/21 - Overview



- Highest number of students in the history of RWTH: There has been an increase of nearly 15,000 students compared to ten years ago.
- Every tenth student at a (not-distance-learning) university in NRW studies at RWTH.
- Statistically spoken one in five inhabitants of Aachen is a student at RWTH.
- 34,470 of RWTH students are between 20 and 29 years old. This is equivalent to 57 % of all Aachen inhabitants in this age group.

Students in Winter Semester 2020/21 - Development of the Number of Students



Students in Winter Semester 2020/21 - by Discipline

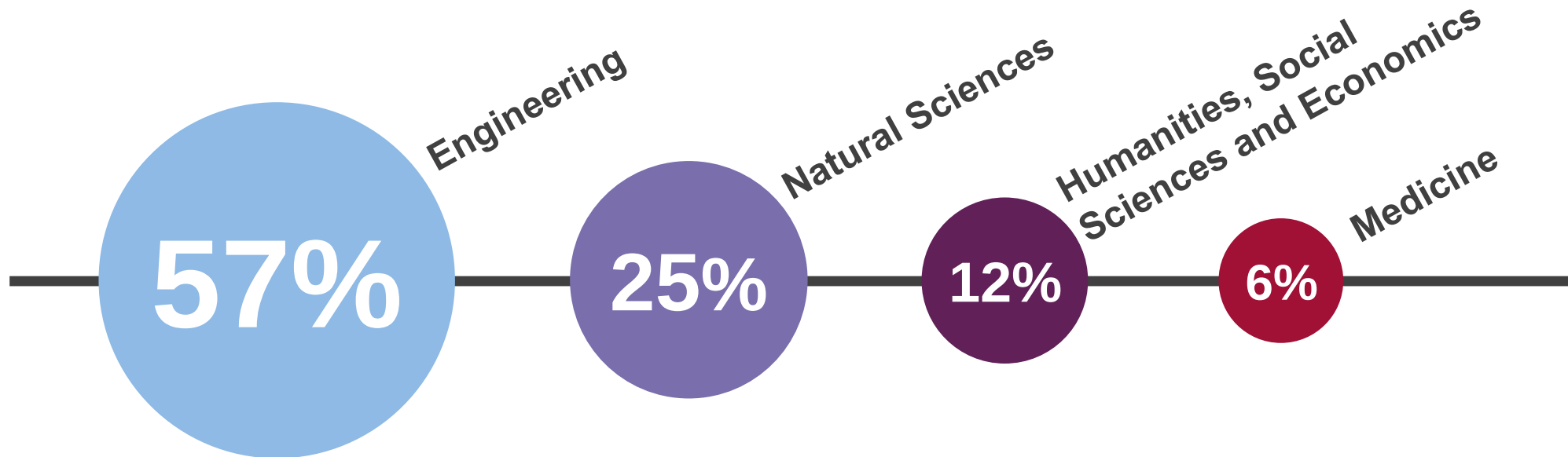
47,173

15,357

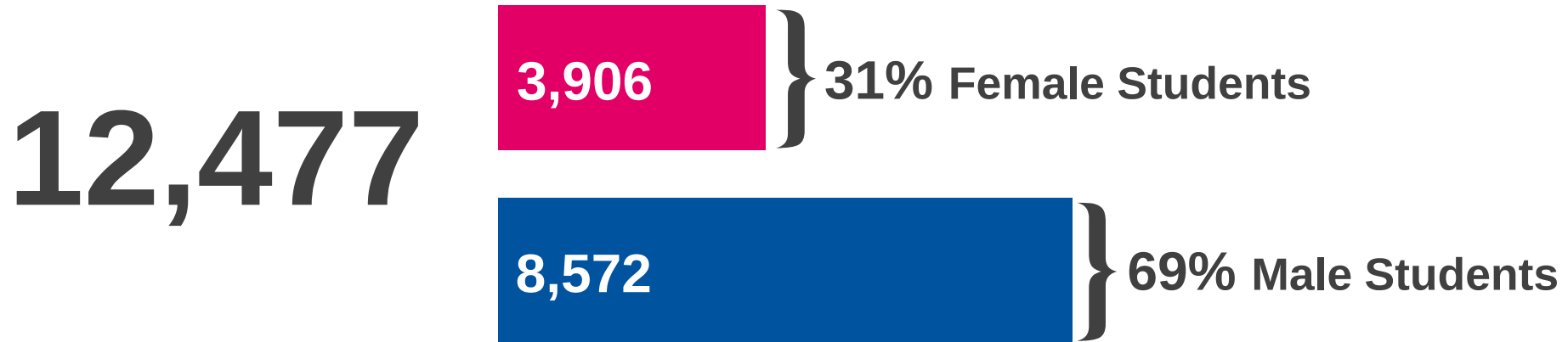
33% Female Students

31,816

67% Male Students



Students in Winter Semester 2020/21 - International Students



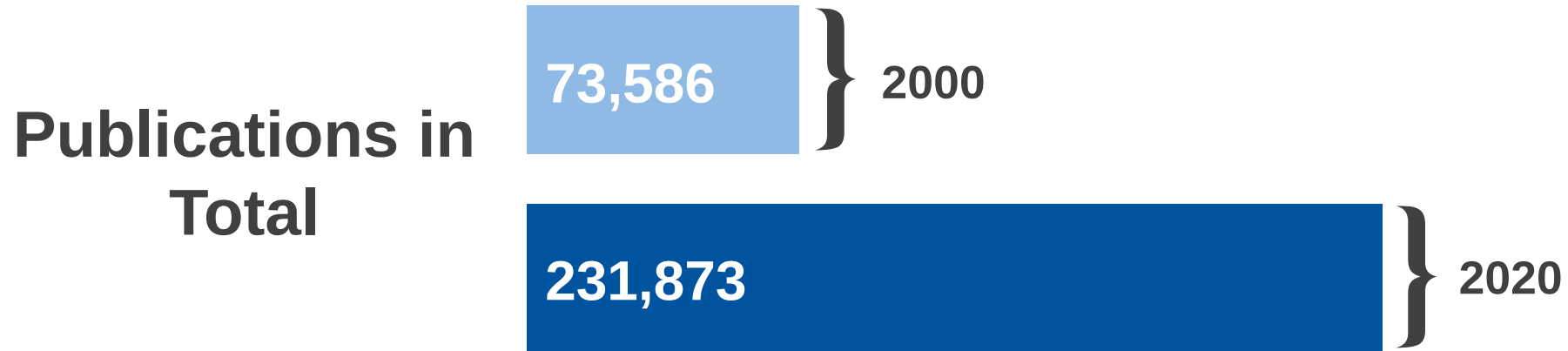
- Students from 138 countries
- Students from 82 % off all large countries¹
- Most common countries of origin: China, India and Turkey
- Most common countries of origin related to the number of inhabitants: Luxembourg, Andorra, Cyprus, Bulgaria
- High amount of international students: 26 % in comparison to the average number of students at German universities (14 %)

Performance Indicators and Reputation



- Many rankings certify RWTH best scores.
- In its 2020 edition, the QS Ranking ranks RWTH Aachen University in 18th place among the best universities in mechanical engineering worldwide.
- In WiWo Ranking 2020 RWTH is placed first considering computer science and industrial engineering. In mechanical engineering, electrical engineering and natural sciences RWTH achieves the 2nd place.
- Allensbacher Inst. f. Demoskopie: 70% of German managers have got a positive image of RWTH Aachen – no other university was better evaluated.

Performance Indicator Publications



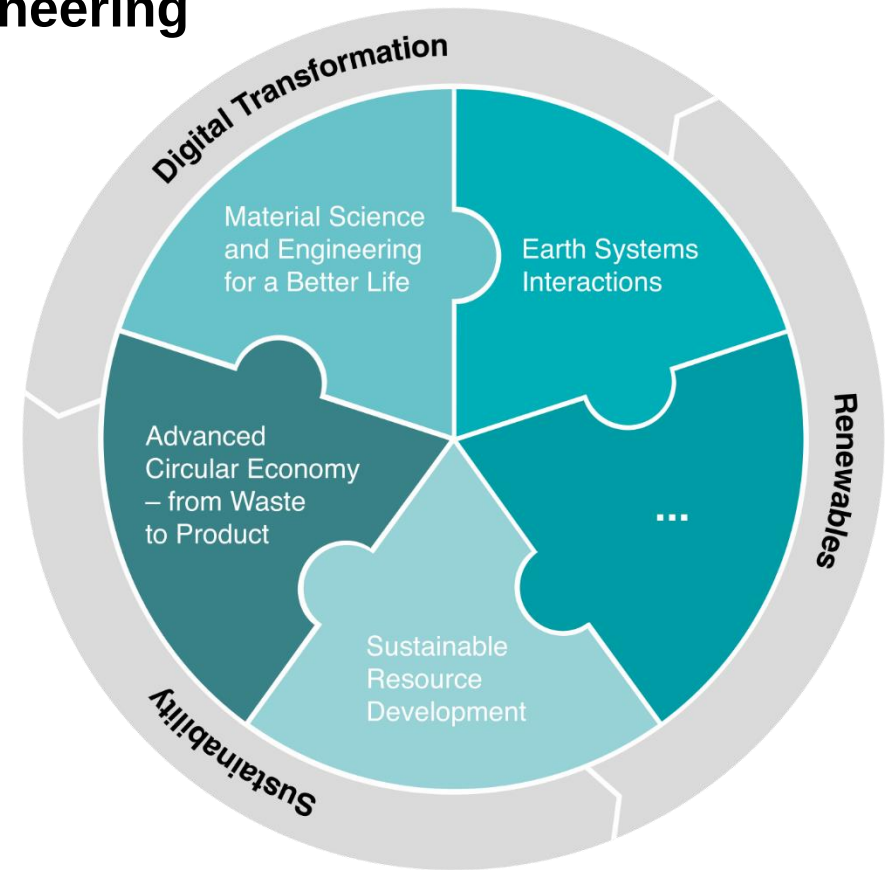
Source: RWTH Publications

- More than 102,000 publications during the last eleven years
- About 900,000 citations since 2010 on RWTH publications
- In average 92,000 citations of publications of staff members of RWTH each year*

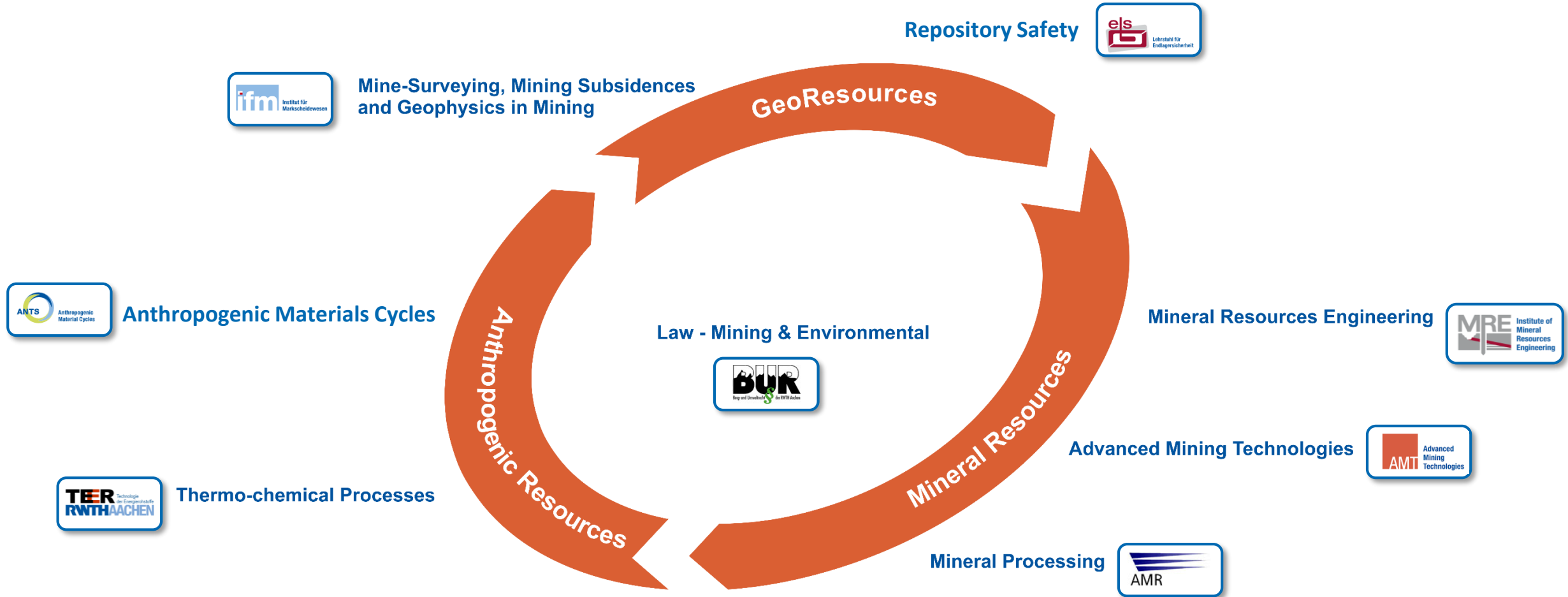
Source: RWTH Publications & Web of Science

*Basis: citations of the years 2005-2018

- **Division of Mineral Resources and Raw Materials Engineering**
- **Division of Materials Science and Engineering**
- **Division of Earth Science and Geography**



Division of Mineral Resources and Raw Materials Engineering



Research | Sustainable Resource Development



Raw Materials Production and Supply

- Developing advanced mining, processing and metallurgical technologies for mineral resources extraction and supply from surface, underground, deep sea and space.



Subsurface Space Utilisation for Energy and Storage

- Utilizing underground space for energy system transformation and storage of energy and unavoidable non-recyclable residues.



Carbon Economy Substitutes and Transformation

- Reducing CO₂ in metal production and design of transformation processes.



Ecological Functions of Hydro- and Biosphere

- Managing human interaction with ecological functions of hydro- and biosphere



Dimensions of sustainability and License to operate

- Evolving technologies with particular regards to societal and environmental impacts.



Sustainable Cities

- Consideration of social accepted concepts for a sustainable city from the point of view of citizens and other urban actors (e.g. innovative waste sorting, logistics, urban planning and sustainable materials).



Circular Industrial Processes

- Recovery of raw materials from waste without loss of quality; avoidance of noxious contaminants; application of robust and flexible processes for varying waste streams in small quantities and low quality.



Materials Design for Recycling

- Increased tolerance of established alloys in terms of contamination with impurities; development of innovative alloys and products with a higher recycling efficiency.



Waste Management

- Minimization of residual waste; optimized mechanical and physical preparation; effective decision for re-use, recycling and material recovery; definition of a final sink.



Recycling 4.0: Interconnected Process Design

- Use of Artificial Intelligence for increased raw material and energy efficiency through automated process control; application in the urban planning through smart logistics.



Mining Man



Recycling Ninja



Fuel Fighter



Sustainable Surfer

Study Sustainability

Energy and raw materials for the future

Study in the field of raw materials, recycling and energy

Our study programs

- **Bachelor:**

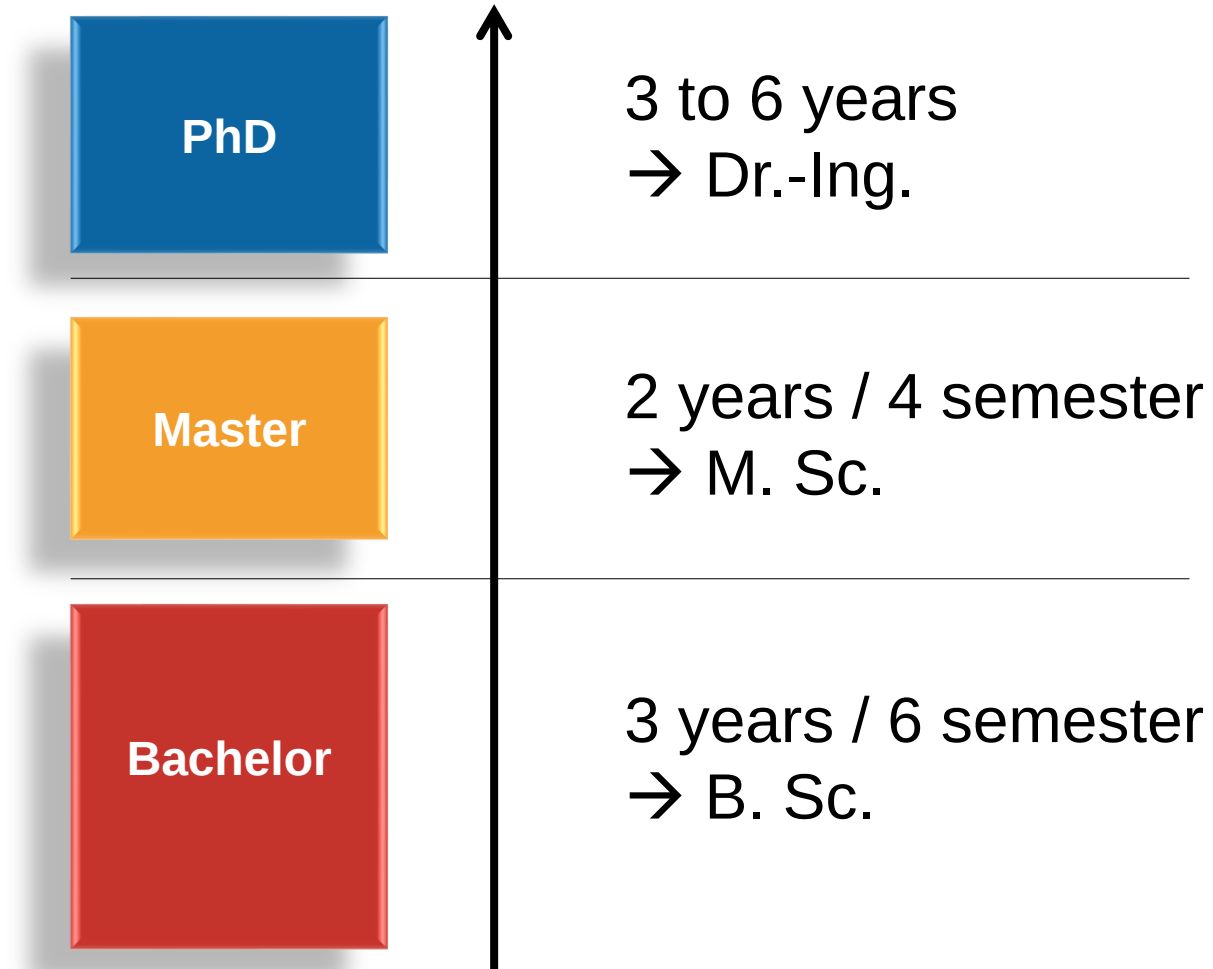
- Sustainable Resources and Energy Supply
 - Mining
 - Recycling
 - Energy

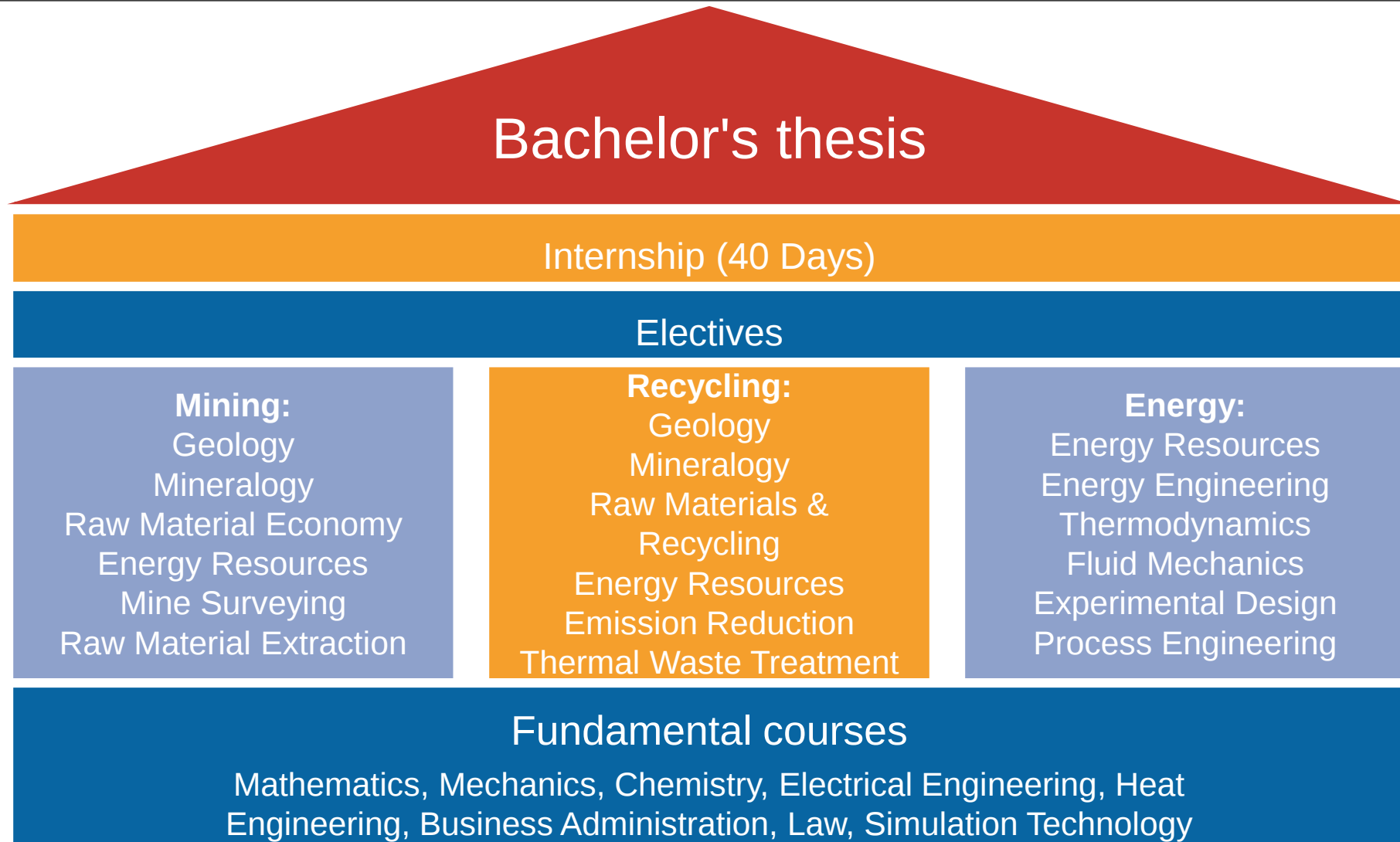
- **Master:**

- Mineral Resources Engineering
 - Sustainable raw material extraction
 - Surveying
 - Processing of mineral raw materials
 - Recycling
- Sustainable Energy Supply



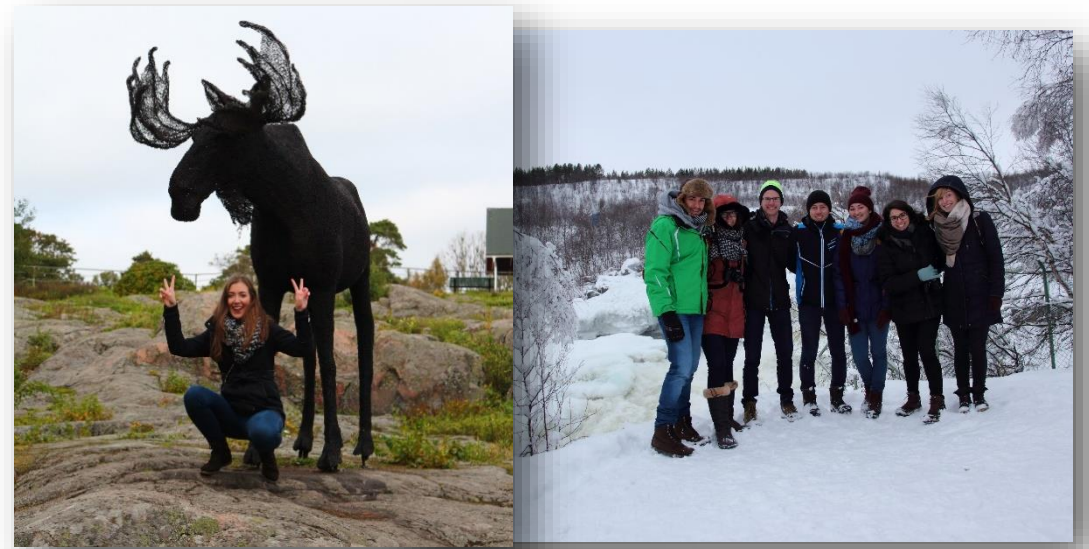
Study in the field of raw materials, recycling and energy

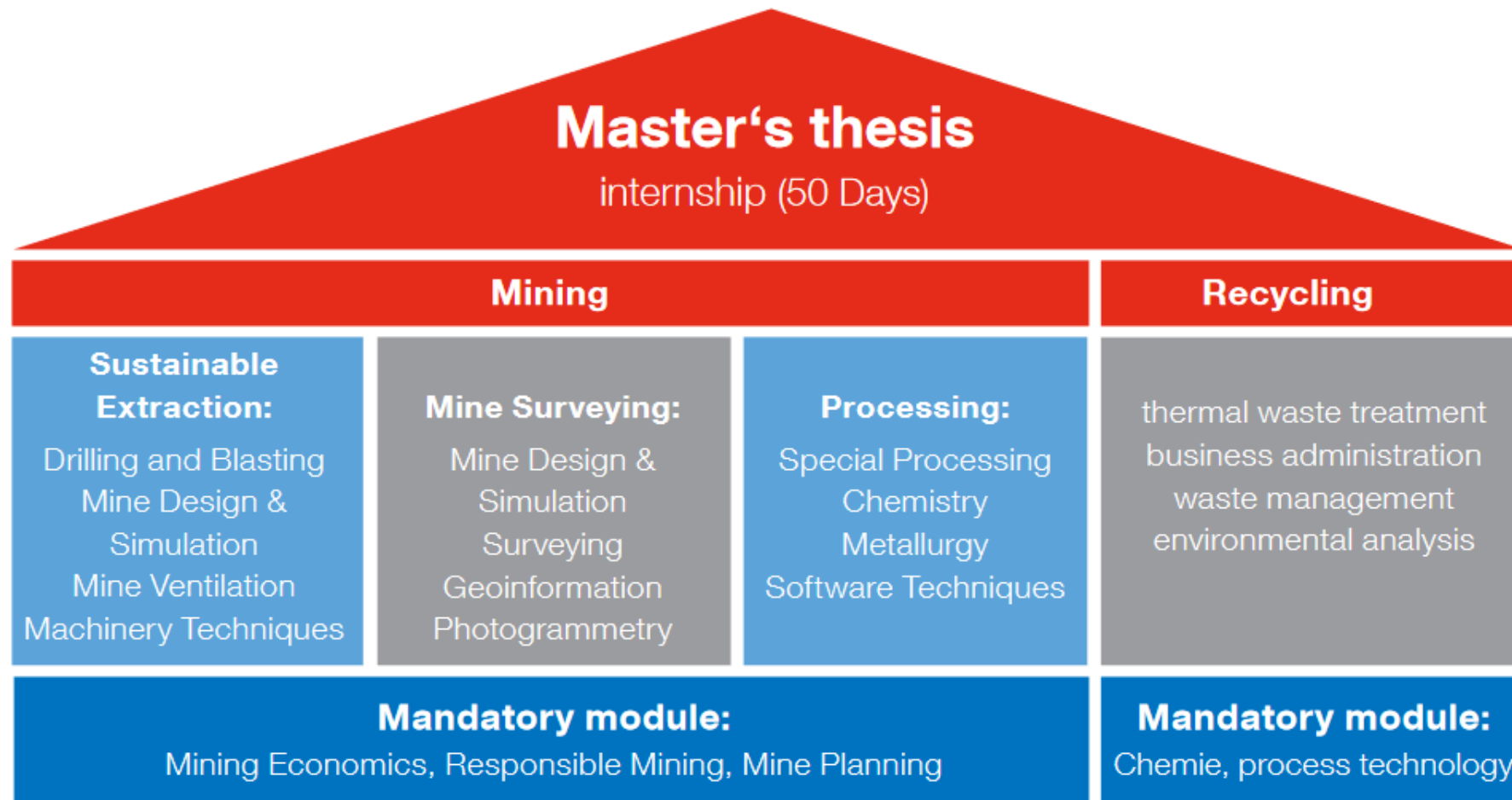


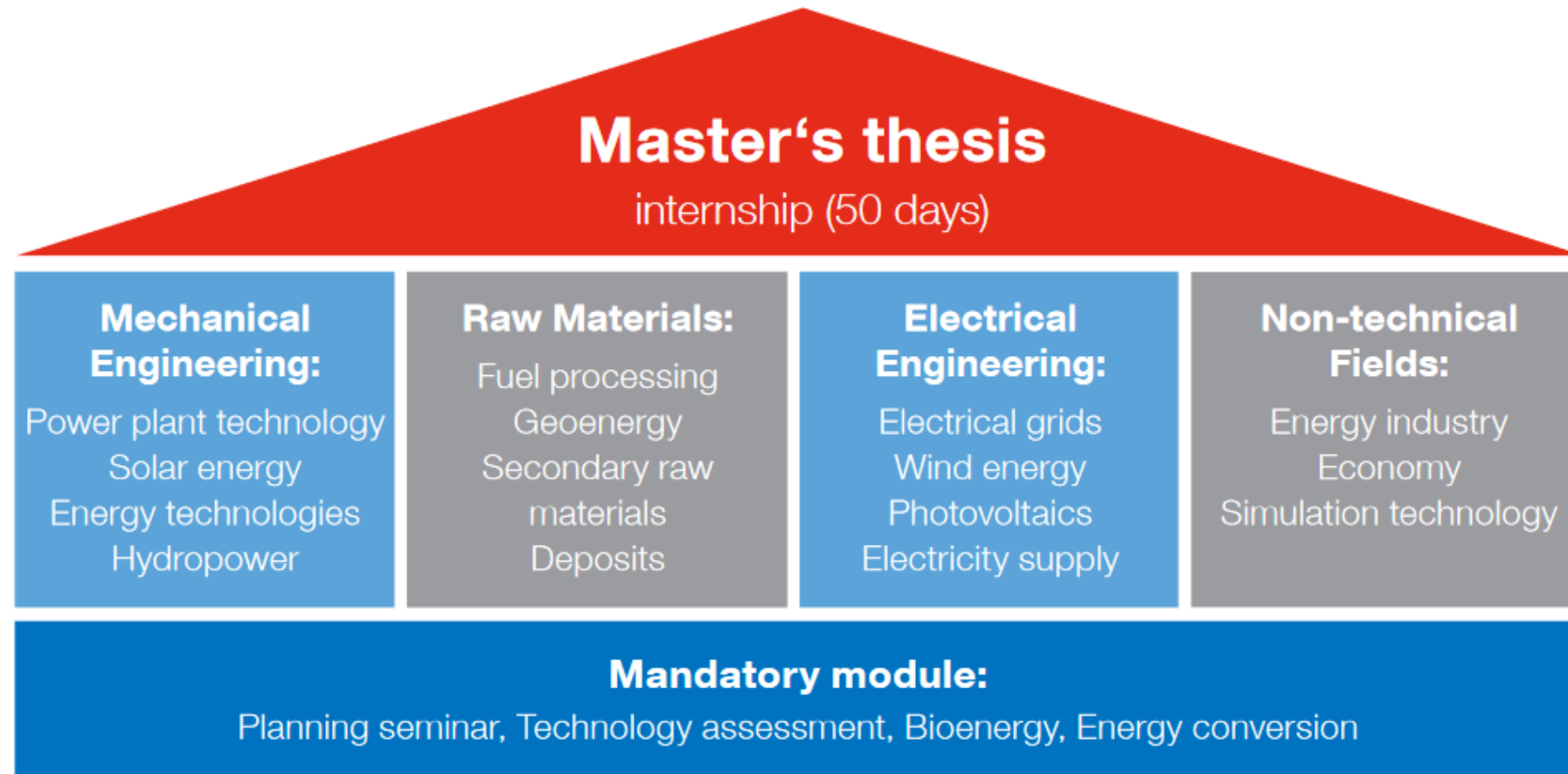


What makes the program so special?

- **Choice** of one of three different majors in the 3rd semester
- **Elective area** enables students to take subjects of other specializations / **Change of specialization** possible
- **Fewer students** than in other engineering programs
- **Worldwide partnerships** for semesters abroad and career prospects
- No **NC** (Numerus Clausus) necessary
- No **previous internship** necessary
- **Non-technical subjects** (e.g., field trips, scientific writing and presenting)







Future topics in the fields of mining, recycling and energy

- Structural change (e.g. hard coal, lignite and nuclear power)
- Rare metals
- Environmental protection
- Resource conservation
- Waste prevention
- Recycling of composite materials
- Security of supply (population growth)
- Energy storage



Where can I get more information?

Homepage and Social Media



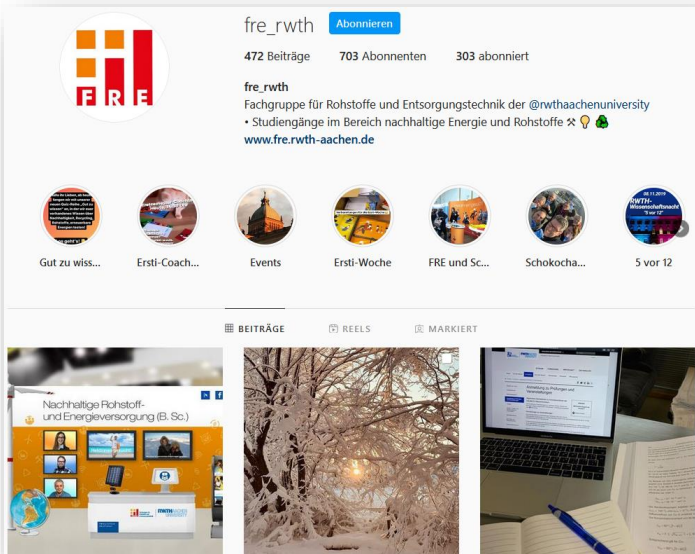
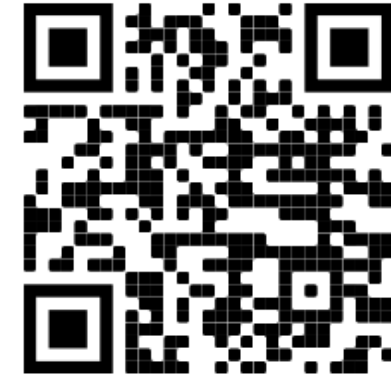
www.rohstoffe.rwth-aachen.de



Division of Mineral Resources and Raw Materials Engineering



fre_rwth



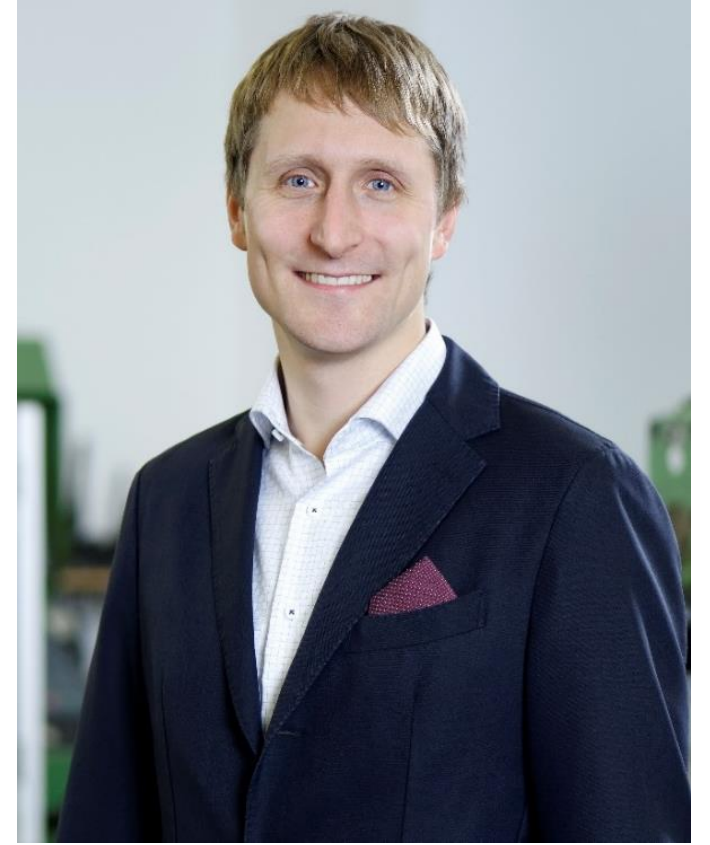
Where can I get more information?



**Thank you
for your attention!**



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Thinking the Future
Zukunft denken