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TALLINN UNIVERSITY OF
TECHNOLOGY

Estonian internationalization strategic aims.

Madli Krispin

Tallinn University of Technology



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Welcome to Estonia

- **Official name:** Republic of Estonia
- **Location:** North Eastern Europe
- **Government:** Parliamentary Republic, single chamber Parliament (Riigikogu) of 101 members
- **Head of state:** President
- **Capital:** Tallinn
- **Area:** 45,227 km² (larger than e.g. the Netherlands, which is 41,526 km²) neighbours: Finland, Sweden, Latvia and Russia
- **Population:** 1.3 million
- **Membership:** European Union, WTO, OECD & NATO, Schengen Area
- **Independence:** Declared in 1918; regained independence from the Soviet Union in 1991
- **National day:** 24th of February, Independence Day
- **Main religion:** Lutheran
- **Currency:** Euro (€)
- **Language:** Estonian (English, Russian and German are also widely spoken)
- **Climate:** Humid/temperate. 50% of Estonian land is covered by forests.
- **Proportion of urban population:** 68%



Facts and figures

- Estonia became **EU member** in 2004
- **Estonia** will be holding the **presidency of the EU** Council in 2017
- Independent Estonia from 1919 until 1941
- Founded: Aug 20, 1991
- Population: 1.31 million (2015)
- GDP: \$22.46 billion USD (2015)

<http://www.studyinestonia.ee/education-system-estonia>

Estonian higher education has two cycles, following the Anglo-Saxon bachelor–master model.

Bachelor's level studies form the first cycle and master's level studies form the second cycle. Under this section you will find an overview of Estonian education system and also important information about grading, exam systems and qualifications.

- Area: 17,463 sq miles (45,228 km²)
- Capital: [Tallinn](#)



***Strategy for the internationalization of
Estonian higher education over the years
2006-2015, <https://www.hm.ee/en>, was developed by
Estonian Ministry of Education and Research***

This strategy is a sub-document of the strategy for higher education, and presents the main activities for the **improvement** of the position of Estonian higher education within the area of international higher education, with the aim of making our system of higher education more open and visible. The positions agreed upon in the strategy will be used as guidelines for the activities of the Ministry of Education and Research and connected bodies, institutions of higher education and student organizations.



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The 2030 Agenda for Sustainable Development

The 2030 Agenda addresses issues which were reflected in Millennium Declaration including issues such as **effective institutions, good governance**, the **rule of law** and **peaceful societies**



Euroopa Liit
Euroopa
Regionaalarengu Fond



Eesti
tuleviku heaks



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Through Strategy 2020, European leaders assert that Europe will get “back on track”, by focusing on employment, research and innovation, climate change and energy, education and combating poverty. As such,

Strategy 2020 is “ ... *about **more jobs** and better lives.*

It shows how Europe has the capability to deliver smart, sustainable and inclusive growth, to find the path to create new jobs and to offer a sense of direction to our societies”.



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***Knowledge based Estonia related to Research and
Development
The 3rd strategy***

https://www.hm.ee/sites/default/files/estonian_rdi_strategy_2014-2020.pdf

E-residency

<http://www.internationalman.com/articles/what-e-residency-in-estonia-is-and-how-to-get-it>

Internationalization of Enterprises in Estonia

<https://www.elgaronline.com/view/9781845425012.00019.xml>

E-Government and digital society

<https://www.forbes.com/sites/kalevleetaru/2017/09/11/estonias-id-card-and-the-march-of-cryptography/#7574872e352f>



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The latest information in 2017:

<http://www.studyinestonia.ee/living>

<http://archimedes.ee/infomaterjal/strateegiad/>

Two main strategies:

Lifelong learning

Internationalization strategy insight for HE

Both in Estonian language

<http://archimedes.ee/en/archimedes-foundation/>

<http://archimedes.ee/wp-content/uploads/2016/05/KH-rahvusvahelise-tutvustamise-strateegia.pdf>



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Goal: 30% of international graduates at the Master's and doctoral level work in Estonia after graduating by 2020. Currently 28% of all MA and PhD graduates work in Estonia (2015 data).

30% retention goal is stated in **International Marketing Strategy of Estonian Higher Education 2015-2020.**

Idea behind Estonian approach to retention is to achieve a situation whereby international students studying in Estonia contribute to the long-term economic and social development of Estonia and more than just in terms of the internationalisation of our higher education landscape.



Keywords and present priority areas:

- Academic staff mobility;
- Bologna process;
- Brain drain;
- Distance education;
- Globalization;
- Higher education;
- Institutional strategies;
- Internationalization;
- Internationalized curricula;
- Knowledge economy;
- Quality assurance;
- Recognition;
- Research collaboration;
- Student mobility;



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Important factors to keep in mind:

Holistic vision is necessary when approaching student retention, including in setting overarching goals.

National legislation needs to support student retention.

Cooperation between universities, employers and governmental bodies is paramount.

Return of investment is potentially huge but is spread over long period and difficult to measure.



Conclusion:

The internationalization of higher education has expanded over the last decades. Numbers of students, teaching staff, and researchers that cross borders are increasing and institutional activities and strategies for internationalization have become more elaborate. Their aims and rationales include networking for mutual understanding and intercultural learning, for achieving academic excellence, and for providing assistance to build capacity in other countries. As the context is increasingly characterized by global competition in which knowledge is a prime factor for economic growth, internationalization has also become more market oriented, aiming to attract talented students and highly skilled workers as key resources for the knowledge economy.

SCHOLARSHIP DATABASE

<http://www.studyinestonia.ee/scholarships>



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- Estonian government and universities have initiated various scholarship schemes in order to support international students who are interested in studying in Estonia. Please choose suitable section according to your study interest - degree studies, exchange studies, short courses or doing research in Estonia. With scholarship database you can search most suitable scholarship available according to your interest. Below you can also find an selection and short information of most relevant scholarships for international students.



Estonian universities

- Each year, Estonian universities welcome more and more international students from all over the world. With long academic traditions and world-renowned higher education institutions, Estonia has become an attractive study destination for students abroad. Degree programmes taught in English are currently offered in 7 Estonian universities and in 3 universities of applied sciences:
<http://www.studyinestonia.ee/living>
- Admission to internationally accredited and English language study programmes is usually administered by the higher education institution.
- Overall, there are 26 educational institutions offering higher education in Estonia:
 - 6 public universities
 - 1 privately owned university
 - 8 state professional higher education institutions
 - 8 private professional higher education institutions
 - 2 public vocational educational institutions

TUT in brief in 2016/2017



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- Founded in 1918
- Public University, 12 000 students
- The only **university of technology** in Estonia
- Ranking QS 601–650 (2016),
- THE 501-600 (2015)
- Academic partnership with ca 500 universities
- Campus university, modern infrastructure

The result of bottom up process of internationalisation

- Services for companies



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**Among the best campuses
all over the world**
(European Rectors Club, 2014)





ca 40% of all international students studying in Estonia are at TUT

- Ca **1800** international students:
 - **ca 1400** degree students from over **90** countries
 - **ca 400** incoming exchange students



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Entrepreneurial and innovative TUT

- Cooperation with leading global **companies**
(e.g. Microsoft, Google, IBM, Samsung, Mitsubishi, ABB)
- Science park & Technopol: Skype and other **150** high tech companies
- Unique innovation centre **Mektory** and **Start-up incubator** on TUT campus
- **300** industry partnerships
per year (companies and other organizations)
- **3 Bachelor's programmes** (3 years)
- **18 Master's programmes** (2 years)
- **10 Doctoral programmes**
Tuition free

Structural changes in TUT



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- In 2016, TTU Board of Governors approved the development plan of the university until 2020, which aims at becoming an internationally distinguished technology and engineering university.
- As of autumn 2017, the university will switch over to an easier and more transparent management structure:
 - instead of 8 faculties and 12 research and development institutions, prospective institutes will be aggregated into 4 study and research areas.
- The administration and support structure introduced major changes by 1 April 2016:
 - based on former 18 administration and support units, 9 departments were established. Upside down approach!



World Class R&D



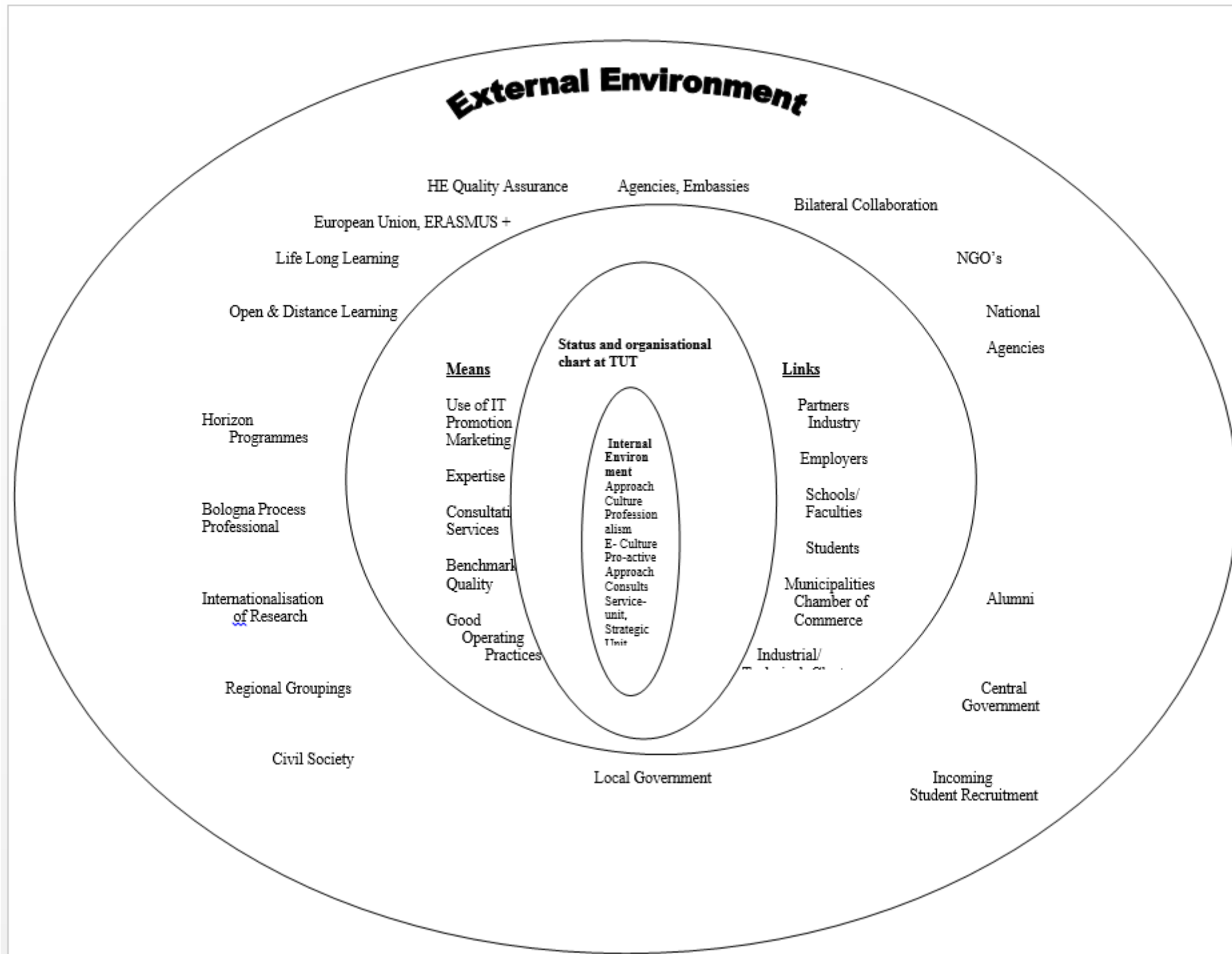
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- Public administration – designing Estonian e-government
- Biotechnology – food biotechnology and neurobiology research
- Geotechnology – unique competence in oil shale
- ICT – computer system research and bio robotics
- Power electronics – power converter research
- Chemistry – organic and analytic chemistry research
- Earth sciences –enhancement of geological rock collections
- Material sciences – solar cell materials and development of tribomaterials
- Civil engineering – near-zero energy building testing



POLICIES

- Universities operate on the national and global stage while engaging with their local and regional communities
 - Effective participation in European HE area
 - Effective participation in European Research Area
 - Contribution to realisation of national goals
 - Realisation of Institutional goals
- The Universities have complementary strengths that reflect a wide range of expertise, as well as a multiplicity of international links
 - Autonomy, Accountability, Quality, Efficiency, Competition, Cooperation



Mobility rule in **INTERNATIONALISATION**

Four **M**: **M**oney **M**arketing **M**obility. Starting point in Estonia!

- The rule evidently needs also the 4th and main component **MOTIVATION MIGRATION and MISSION**
- Market and money are seen in the light of growing competition and commerce. The developments around mobility are characteristic for **the choices the university is forced to make**
 - Between **market and idealism**
 - Between **exchanging and recruiting**



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MOTIVATION

- To enhance quality in teaching, science and international mobility we need to face regional aims and state conditions or rules for the strategic developments
- **Each international university usually have contractual tasks with EU and other institutions**
- **It is necessary to have:**
 - **in kind financing** according to different project types 20-50% input by the home institution
 - THIS IS THE CRUICIAL point for ESTONIA and TUT



MONEY

- Financing from the PARTNERS in any project
- In KIND
- **Own personnel and overhead costs at each partner**
 - **Administration, overhead, telephone, fax, mail**
 - **Organisational like rooms, technical support, copies, printing**
- Own personnel and overhead costs—*TTÜ töötajate töötasud hea töö eest projektide kirjutamisel. Meeskonnatöö eest näiteks personaliosakonna ja RSO vahel!*
- **Depending on project type the in kind financing varies from 20%—50%**

how to be smart IRO?



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- **institutional internationalisation**
d e p e n d s **totally on**

compatibility and profitability

- **recognition of the need in planning and formulation of solution**
- **you have to be practitioner, idealist, administrator, policy maker, catalyst, adviser in EU programs, stimulator, project manager, entrepreneur.....**



Education Agency <http://archimedes.ee/en/education-agency/>

- **Archimedes Foundation is an independent body established by the Estonian government with the objective to coordinate and implement different international and national programmes and projects in the field of training, education and research.**
- The Archimedes Foundation Education Agency is a unit of Archimedes Foundation with the following tasks:
- implementing international education programmes
- delivering the Erasmus+ programme for education and training as a National Agency
- implementing the programmes from the European Union structural funds in the programming period 2014-2020
- implementing national educational programmes and initiatives
- participating in different activities according to the national educational development plans and strategies



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National Agency, Estonia

- The education agency runs the following activities
- European Union programme [Erasmus+](#)
- State scholarship schemes ([Kristjan Jaak](#), [Compatriots Programme](#), [Young Scholar Grant](#))
- [Dora+](#) Doctoral Studies and Internationalisation Programme
- Education programme [Nordplus](#)
- [EEA/Norway Grants Scholarship programme](#)
- Higher education international marketing ([Study in Estonia](#))
- [Scholarships for international students, researchers and academic staff](#)
- National programme “Higher education institution textbooks in Estonian 2014—2017”
- European Language Label



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Study programmes at TUT

- **32 Bachelor's programmes:**
 - 28 in Estonian
 - 4 in English
- **59 Master's programmes:**
 - 39 in Estonian
 - 20 in English
- **10 Doctoral programmes:**
 - All 10 in English



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Determining the extent of International Collaboration

- Situate the internationalization in the wider debate on the role of the university in society
 - entrepreneurial university
 - internationally competitive
 - economic independence of Estonia
 - resources required for development
 - research-intensive enterprise environment
- Demonstrate the importance of internationalization in reforms which are to be implemented successfully (and identify the key preconditions for ensuring meaningful, long-term reform)



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GrabCad and Hardi Meybaum

- Hardi Meybaum graduated from the TTU Faculty of Mechanical Engineering in 2007.
- He created a collaboration platform GrabCad, on which people can share CAD files, communicate, and use design software in the GrabCAD environment.
- In 2014, the world's greatest manufacturer of 3D printers purchased GrabCad for 100 million dollars. Hardi Meybaum graduated from the TTU Faculty of Mechanical Engineering in 2007.
- He created a collaboration platform GrabCad, on which people can share CAD files, communicate, and use design software in the GrabCAD environment.
- In 2014, the world's greatest manufacturer of 3D printers purchased GrabCad for 100 million dollars.



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Contribution to realisation of national goals

- Based on discussions, internationalization process will draw conclusions, set priorities and make recommendations for action both to government and higher education institutions, involving companies, students and staff meeting Europe's economic and social development goals over the next decade
 - Participation in Science & Technology (S&T) Agreements
 - Developing Country Technical Aid Programmes
 - Transnational Collaboration Schemes
 - Contribution to cultural and social activities with third (target) countries



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Robotex

- The greatest robotics competition and technology exhibition in Europe.
- Has been organised for 15 years in a row under the coordination of TTU.
- Includes cooperation with recognised world-class companies and organisations.
- The objective is to increase interest in engineering specialties and science among children and young people



Formulating Quality Assurance



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- Responding to increasing financial constraints and their impact on institutional governance and management
- Managing major reform in the teaching and learning process related to the implementation of the Bologna Process
 - situate the Bologna reforms in the wider debate on the role of the university in society
 - identify key challenges for institutions in the next phase
 - demonstrate why and in what ways strong universities are essential to their successful implementation and to Europe's transition to a knowledge society
 - HE is a Public Responsibility

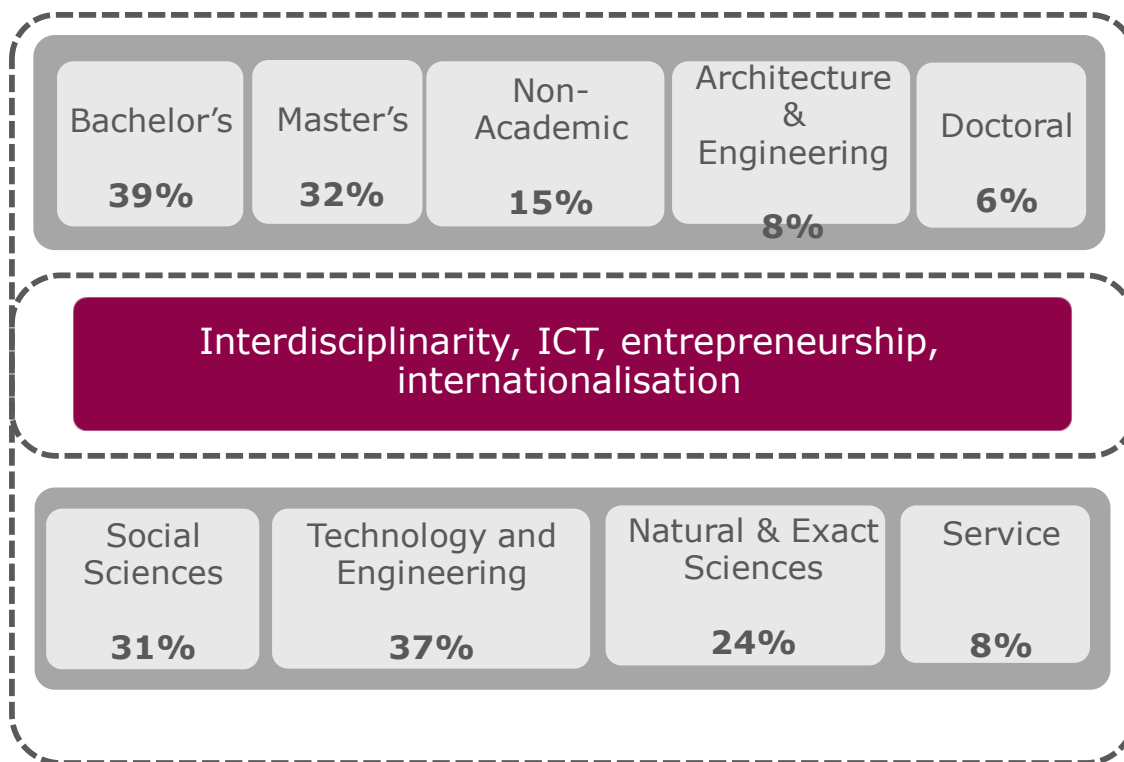


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TUT in figures

- 2,000 employees
 - 60% academic staff
 - 11% foreign lecturers
- 12,000 students
 - 25% of all students in Estonia study at TTU.
- 70,000 alumni
- 51 Honorary Doctors
- On a five-point-scale, the TTU alumni assess the education acquired from the university with a score of 4.1.
- Employment among the TTU alumni is 98%.
- The average salary of the TTU alumni is the highest in Estonia.

Students by level of study (2015/2016)





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Open University

- TTU is the leading continuing education provider in Estonia:
 - Flexible higher education
 - Continuing education courses
 - Summer schools
 - E-learning
 - Conferences
 - Tailored courses
- In 2015, TTU organized approx. 1,500 continuing education courses for approx. 30,500 learners. **Ca 10% of Estonian population have participated in various TTU continuing education programmes**



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PhD programmes

- Chemical and Materials Technology
- Chemistry and Gene Technology
- Civil and Environmental Engineering
- Earth Sciences
- Economics
- Engineering Physics
- Information and Communication Technology
- Mechanical Engineering
- Power Engineering and Geotechnology
- Public Administration



Active student life

- Student Union
- Student House
- 40 different student organisations and activity clubs (Formula Student, Culture Club, Best, Aiesec, IT Club, choires, student theatre, Robotics Club, etc.)
- ESN International Club travels, dinners, parties, theme events, etc.
- Sports centre (basketball, volleyball, football, floorball, tennis, etc.)



Mektory



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The 4,500 m² of Mektory includes:

- Conference and meeting room Samsung Digital Academy
- Meeting room Ericsson Connectivity Room
- Business lab Smart Lab for testing mobile appliances
- eMed Lab
- eState Lab
- Ventilation lab
- Space Centre etc.
- IP protection and commercialisation
- Prototron fund
- **Over 60,000 visitors from 100 different countries**