Tallinn University of Technology

Tallinn University of Technology (TalTech), the only technological university in Estonia, is **the core of Estonian engineering and technology education**. Here the synergy between different fields (ICT, technology, natural and social sciences) is created and new ideas are born.

CORE COMPETENCIES

- Programming and spoken human language technology
- Signal processing
- Biorobotics
- Biomedical technology
- Cyber security and digital forensics
- E-governance
- Information systems analysis
- Dependability and security of software, hardware and systems
- AI and data science
- Blockchain technologies

TALTECH'S CURRENT FOCUS IS ON

- **Security and safety**: cyber security, trustworthy software, reliable communication
- **Digital transformation of the society**: e-governance, health and language technologies
- **Smart environments:** 5G, IoT, robotics, intelligent electronic systems

Want to know more?

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BUSINESS OVERVIEW

TalTech is driven by internationalization, entrepreneurship and innovation. With over 10,000 students and 1847 academic staff members, TalTech is an internationally recognized research university and a promoter of economic development and innovation in Estonia and globally. The University's approximately 70,000 alumni have shaped the economic landscape of present-day Estonia.

RESEARCH AND INNOVATION

Smart City environment

Smart City is an environment that combines different technologies into one large IoT ecosystem. All such technologies together in Smart City make our environment safer and cleaner. Our campus has initiated such opportunities to use the university campus for developing a smart environment through different scenarios of how sensors, devices and communication technologies could be integrated into the Smart City concept. For example, these include how last-mile autonomous vehicles interact with humans, how vehicles "talk" to each other and with the infrastructure, etc.
The evolving smart TalTech campus will include autonomous vehicles (drones, buses, cars), robots, intelligent security systems, intelligent street lights or crossings. The data collected by intelligent electronics and sensor networks can be utilized for traffic management, monitoring of air pollution and noise level, optimization of street lighting power consumption, etc.
TalTech's ICT research groups have analyzed how wearable robots can assist or substitute human motor function or how underwater robots could track oil spills in the ocean. We are also involved in R&D regarding energy-efficient wearable sensors for healthcare and lifestyle applications and robot companions of the future.

Digital Health

TalTech Digital Health is a combination of a digital health research center and interactive Master's curriculum covering all needs for successful health systems' digitalization. The team at TalTech knows how to implement digital society principles in the health sector in order to improve access, quality and efficiency of health care services.

Language technologies

The Laboratory of Language Technology focuses on the following topics: speech recognition and speaker recognition, language and accent identification, speech corpora, phonetics and various subtopics in natural language processing. The Laboratory is also making speech technology more accessible to the general public, by creating end-user-oriented speech recognition applications and packaging speech-recognition-related software components in a more accessible form.

E-Governance and AI solutions

Artificial Intelligence is being offered up as one potential solution to take advantage of our increasingly connected world to not only solve the problems of today, but also those of tomorrow. The scientists and researchers at the school are directly involved in helping develop Artificial Intelligence solutions, such as self-driving buses, smart elevators, and participation in many other computer vision and artificial intelligence projects. At the same time, it is also known that governments and businesses around the world need not only the availability of these solutions, but also the knowledge of how to integrate them into their day-to-day operations. Thus, the School of IT at Tallinn University of Technology has launched their own initiative, the Government Technology and AI Lab (GovAiLab), that focuses on assisting public sector agencies in better understanding how to integrate AI and technological solutions in a way that allows them to create higher levels of public value for their citizens, while, at the same time, improving their effectiveness as public servants.

Cyber security

Our aim is to work towards enhancing the competence and ability of the Estonian computer security field through education, research and development. With researchers and experts in cryptography, network security, digital forensics, risk management, incident handling, operations, legal aspects, human aspects, strategy/policy aspects, and other fields, the multidisciplinary research group today explores cyber security very broadly. This approach enables us to engage in high-level collaboration with both the public sector and private companies.

5G

5G network is a next generation trend in wireless communication. Our campus wide 5G network area and testbed provides opportunities for low latency, high speed, stationary and mobile devices (including connectivity with drones). For any kind of low datarate and long lifetime data loggers and meters, we have free access area to LoRa network and NB-IoT test network.

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