



AS TRANSFER CITY PARTNER: TARTU



CITY INFORMATION

Tartu is the 2nd city on size in Estonia and the main economic hub in southern Estonia, representing a 15,4% of the Estonian GDP. It has 95.000 inhabitants and around 20.000 students, some studying in Tartu University – the oldest and most important, founded 1632 and a world reference in the field of semiotics and literary studies; some in the university of life sciences and others in the vocational centre.

The city is strong in wood, food and metal industries and has competencies in ICT (ICT enterprises and high-tech companies such as Playtech, Pipedrive, Positium, Bercman, Veriff, EyeVi, Fyma) and digitalization. There is a shift towards servitization.

Local Industry 4.0 ecosystems' challenges

In terms of digitalisation, only 20% of Estonia's companies are highly digitized. Digitalisation will help companies become more competitive and LEAN.

- Shortage of graduates with practical skills and skilled staff
- Lack of people with skills in LEAN, industrial engineering, mechanics, operating machines, and ICT systems development, analysis, management, etc.
- Image problem of the manufacturing sector, there is a low number of young STEM students
- Gap between manufacturing firms and local KIBS; between startup ecosystem and industrial firms
- Education does not match with industry 4.0 needs
- More focus needed on practical vocational education in technical studies
- University prefers to work with big companies



Industry 4.0 policy focus and actions

- **VOCO's** project to develop an internship system in the field of technology to deepen and diversify cooperation between existing partner companies and the school. Entrepreneurial internship project at VOCO has given valuable experience in establishing collaboration between VOCO and enterprises regarding guiding interns.
- The University of Tartu's Institute of Computer Science has piloted an **Industrial Master's Program in IT** into the manufacturing industry - a study format for the first year master's students in Software Engineering, Computer Science and Data Science curricula, where 50% of the student's studies take place at a partner company.
- « **Profiõpe** » is a new pilot programme for dual education organised by the Education and Youth Board in cooperation with the Federation of Estonian

Engineering Industry, the Ministry of Education and Research and vocational schools. The programme will start during the 2022/2023 academic year. The pilot is tested with three professions: CNC operator, assembly locksmith and welder.

- The **IT Academy program** is a cooperation program between the Estonian state, universities and companies in the ICT sector. The goals are to ensure the labour resources necessary for the field and to create the prerequisites for achieving economic growth with the help of ICT through providing competitive ICT education to Estonian and international students.
- Tartu City in cooperation with VOCO and the city's general education schools, is opening a city-wide elective course in technology in January 2023.
- Like Bilbao, Tartu has a physical hub where businesses and education unite. The **University of Tartu Delta Centre**, which opened in 2020, brings together a vibrant community of students, researchers, and innovators in computer science, robotics, technology, mathematics, statistics, economics, management and business.
- The AI and Robotics Estonia (**AIRE**) Hub was set up in Autumn 2021. The hub has been created to make Estonian manufacturing more competitive by helping businesses to introduce artificial intelligence and robotics solutions. AIRE brings together manufacturing companies, solution providers, universities and science parks, with everyone striving for a single goal. AIRE helps drive innovation in the industry by bringing together the ideas of universities and the needs of businesses. AIRE works for industrial development and innovation in the whole of Estonia. Through AIRE, companies have the chance to use scientific and research laboratories and support big data management within High Performance Computing centres.'
- **Tartu Business Advisory Center** (part of Estonia's county development centers) has been annually organizing LEAN manufacturing courses that have been very successful and valued by regional manufacturing companies. They are also organizing Smart Manufacturing Meetup – local business event that brings real experiences of successful innovation and digital revolutions to the stage together with top specialists in the field.
- Tartu City Government is giving out a digitalization voucher since 2019 for manufacturing and certain service companies since 2021.
- The city government is also supporting various community events (e.g **sTARTUp Day**), industry hackathons and business incubators and accelerators.