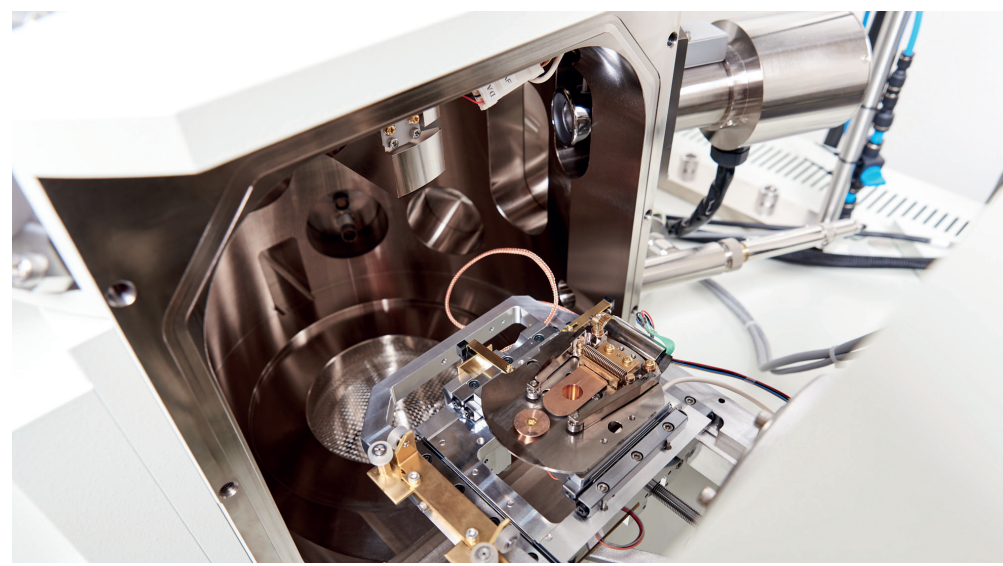
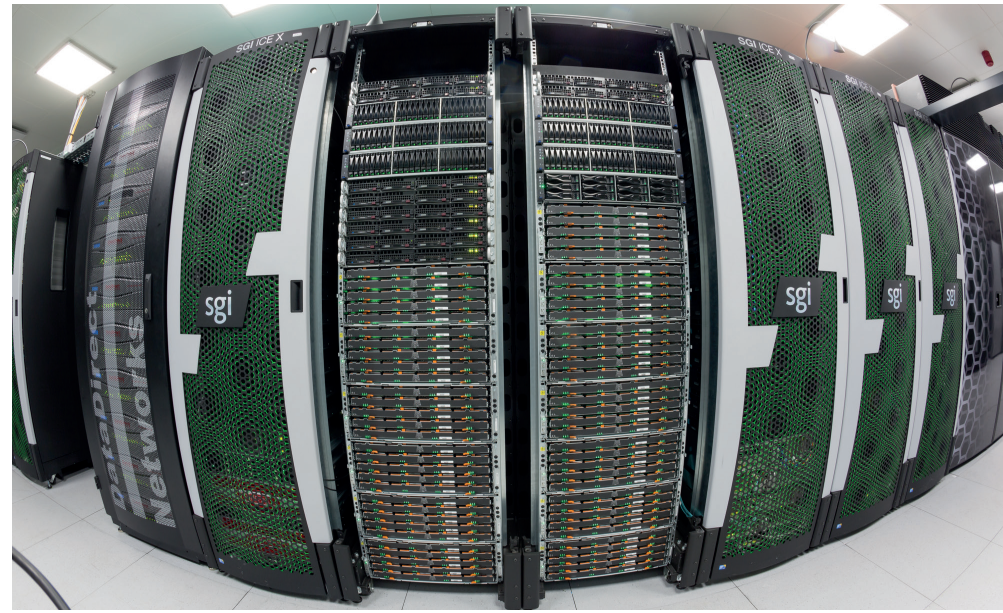


VSb – Technical University of Ostrava is a Czech public university with a long tradition in high-quality engineering education and research. The core values have been continually updated to reflect current state of the art technologies and the needs of industry. VSb-TUO has strong links to industry and thrives on applied research, in cooperation with companies and institutions worldwide, in finding innovative solutions to modern day issues.

Study at VSb-TUO places an emphasis on practical training, using the latest software and instruments. The coursework is practically orientated, ensuring that graduates have gained the education and experience sought by employers the world over.

Research and Development is integral to the activities of VSb-TUO. The University's science and research strategy is based on four fundamental pillars:

- Engineering and Technology
- Computer Science and Cyber Physical Systems
- Energy and Raw Materials
- Economic and Financial Processes



Fraunhofer Institute for Machine Tools and Forming Technology IWU

Fraunhofer IWU, a research institute of the Fraunhofer-Gesellschaft, the world's leading applied research organisation headquartered in Germany, is a driver for innovations in the research and development of production engineering. Around 670 highly qualified employees at Fraunhofer IWU's locations in Chemnitz, Dresden, Leipzig, Wolfsburg, and Zittau tap the new potential for competitive manufacturing in automotive and mechanical engineering, aerospace technology, medical engineering, electrical engineering, and precision and micro engineering. Fraunhofer IWU focusses on components, processes, methods, and complex machine systems – the entire factory. As the leading institute for resource-efficient production, Fraunhofer IWU's objectives comprise technologies based on renewable energies, utilising novel information technologies and visualisation methods for humans guaranteeing success in tomorrow's factory.

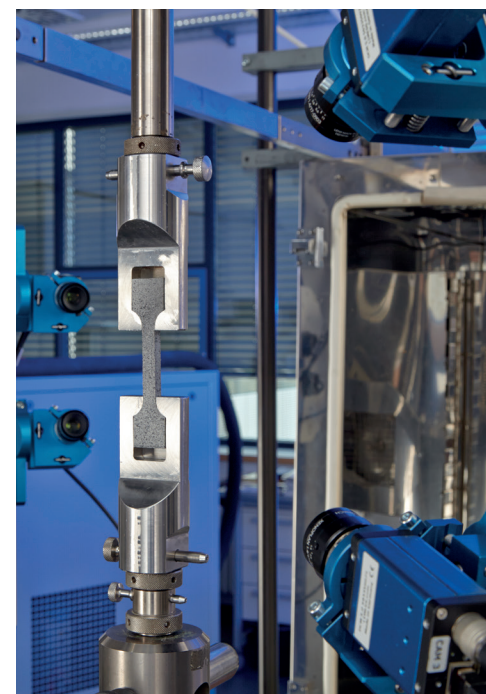
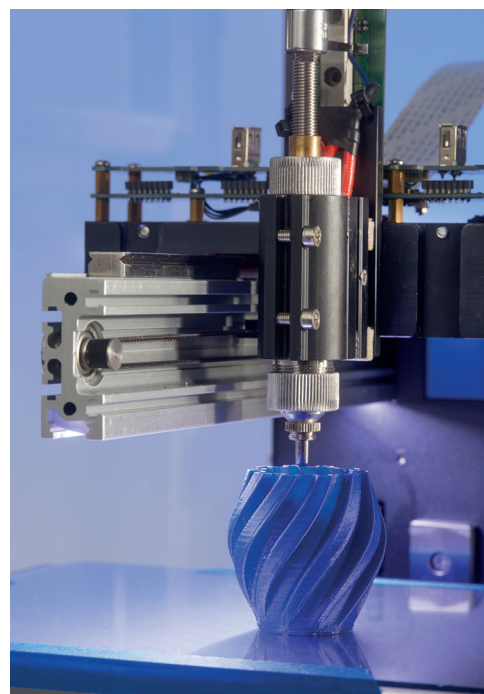


Fraunhofer Institute for Chemical Technology ICT

Fraunhofer ICT is a research institute of the Fraunhofer-Gesellschaft, the world's leading applied research organisation headquartered in Germany. In our research we place great emphasis on the scalability of processes, and on the transfer of research results from laboratory to pilot plant scale.

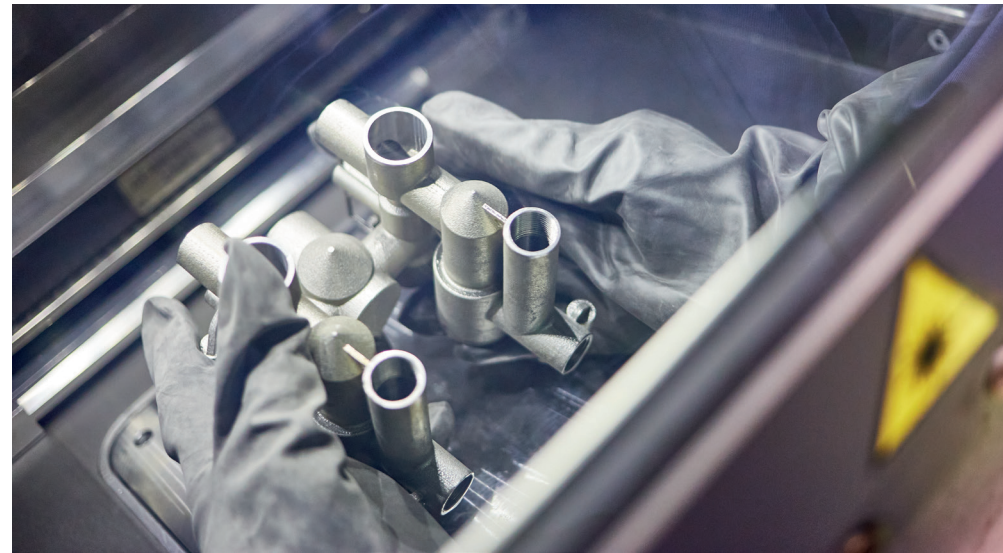
The core competence "Chemical Processes" comprises the ability to design and implement innovative, resource-saving chemical processes from the laboratory through to the technical scale. Fraunhofer ICT covers the entire process chain from raw material processing, chemical reaction engineering and downstream processing through to subsequent processes such as product refinement and shaping.

Technical plastics for practical use are investigated within "Polymer Technology and Composite Materials". Fraunhofer ICT's work ranges from polymer synthesis, materials technology, plastics processing, component development and production through to recycling. Within "Energy Systems" research work focusses on electrical energy storage for mobile and stationary systems, with fuel cells and electrolysis as well as on thermal energy storage systems, developing efficient and cost-effective energy storage devices and converters. "Drive Systems" comprises solutions for electric and internal combustion drive systems. The systems are designed, constructed, simulated, and validated through testing. Furthermore, Fraunhofer ICT is the only German research institute that covers the entire development chain from raw products to prototypes in the field of "Explosives Technology".



In June 2021, VSb – Technical University of Ostrava (VSb-TUO) and the Fraunhofer -Gesellschaft, through its institutes Fraunhofer IWU and Fraunhofer ICT, formed the Fraunhofer Innovation Platform for Applied Artificial Intelligence for Materials and Manufacturing at VSb – Technical University of Ostrava (FIP-AI@VSb-TUO), the only FIP in the Czech Republic. The collaborating partners will research and develop the great potential of energy management technologies, artificial intelligence (AI) and intelligent production in industry. The FIP-AI@VSb-TUO provides a strong management and brings together a research team for:

- the performance of excellent applied research in higher TRL levels supported by strong publicly funded precompetitive research,
- technology transfer into industrial applications for industrial customers,
- acquiring research projects from industry, and
- efficient commercialisation of research results.



The FIP-AI@VSb-TUO builds on over five years of successful collaboration between the Fraunhofer Institute for Machine Tools and Forming Technology IWU, the Fraunhofer Institute for Chemical Technology ICT and VSb – Technical University of Ostrava (VSb-TUO).

The objective of the cooperation is to research and develop:

- Digital solutions for production
- Optimised production technologies
- Innovative thermal energy storage systems for industrial applications
- Modular concepts for energy storage
- Heat recovery systems
- Integration in process chains
- Further developed and highly specialised AI applications

For this ambitious initiative, the partners each contribute their own expertise:

VSb-TUO in the areas of artificial intelligence and next generation computing, Fraunhofer ICT in materials research and energy systems, and Fraunhofer IWU in manufacturing technology and production. The bundling of these competencies enables the partners to offer particularly powerful solutions for the entire industrial value chain.

