

University of Stuttgart
Germany

University of Stuttgart

January 2025

At a Glance

About Us

We are a technology-oriented, globally connected University known for integrating engineering, natural and social sciences and the humanities in an interdisciplinary fashion.

Basic Data

- 21,500 students enrolled at 10 faculties
- 270 full professors
- 3,300 academic staff in total
- 1,850 non-academic staff
- Cooperation with a large number of non-university research institutions
- 6 Collaborative Research Centers
- 2 Clusters of Excellence

An International Profile

- About 4,800 international students from more than 100 countries
- International Center for Cultural and Technological Studies
- Master's programs taught in English
- More than 400 partner universities throughout the world



Vision: The Stuttgart Way

We are visionaries for the topics of the future on the Stuttgart Way of integrated interdisciplinary research and teaching.

The “Stuttgart Way”, standing for collaboration of complementary disciplines, initiates unique possibilities to ask new questions and to develop answers together.

Strategic Goals

- Networked disciplines (Stuttgart Way)
- World-renowned research university
- Attractive for students
- Reliable partner for knowledge and technology transfer
- Dependable employer
- Internationally involved and networked
- Active for a sustainable development

Research: Strategic Profile Areas

- Aerospace Technologies
- Architecture and Adaptive Building
- Biomedical Systems and Robotics for Health
- Digital Humanities
- Production Technologies
- Quantum Technologies
- Simulation Science

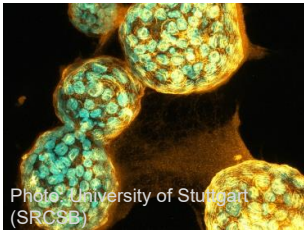
Research: Strategic Profile Areas (1/3)



Aerospace Technologies: This profile area is recognized as a key technology driver that transcends disciplinary boundaries and is closely connected to our modern, mobile information, communication, and knowledge-oriented society.



Architecture and Adaptive Buildings: Rapid urbanization, an enormous construction boom, huge resource consumption, and lack of productivity in construction are the challenges addressed in this Profile Area.



Biomedical Systems and Robotics for Health: Fusing biosciences and engineering is key to radically improving biomedical research and technologies available in the health care sector.

Research: Strategic Profile Areas (2/3)

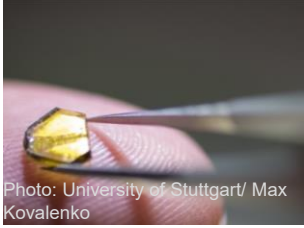


Digital Humanities are a bridge between modern digital research methods, digitalization phenomena, and the changes in culture and society caused by digitalization. With the help of computer science, they venture a new look at topics in the humanities.



Production Technologies have been contributing to the industrial success of Stuttgart as a business location since their inception. In terms of teaching, technology transfer, and cooperation, this Profile Area features some of the University's most successful institutes.

Research: Strategic Profile Areas (3/3)



Quantum Technologies is one of the most promising and pioneering fields of basic research in general. The interdisciplinary Center of Applied Quantum Technology is an example of the relevance and the practical nature of this science.



Simulation Science: From crash tests to climate change: Simulations make it possible to get a little closer to complex reality and predict its behavior with the help of computer-based, dynamic models. It has therefore become an indispensable part of research and development.

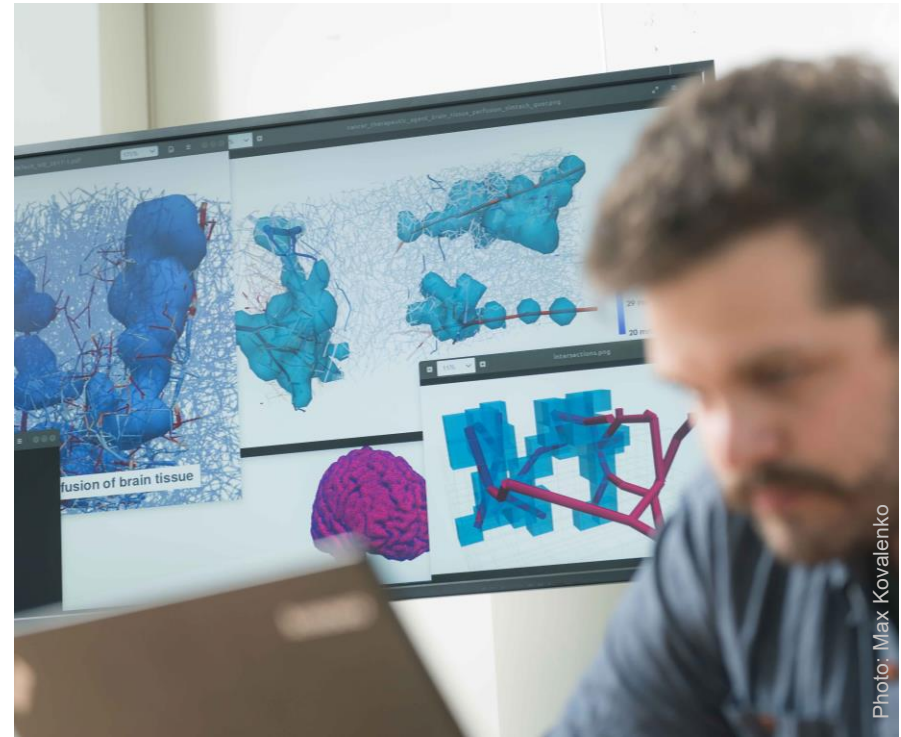


Excellence Strategy: Two Clusters of Excellence

Data-Integrated Simulation Technology

Simulation in the Era of Data Science:

The Cluster of Excellence “Data-Integrated Simulation Science” targets a new class of modeling and computational methods based on all the data, which is currently available from various sources, in order to take the usability and precision of the simulations as well as the reliability of the decisions based upon them to a whole new level.



Integrative Computational Design and Construction for Architecture

A new way of thinking for the built environment: The Cluster of Excellence “Integrative Computational Design and Construction for Architecture” aims to harness the full potential of digital technologies in order to rethink design and construction, and enable groundbreaking innovations for the building sector through a systematic, holistic and integrative computational approach.



Highlights

Cyber Valley

Cyber Valley is Europe's biggest research collaboration into artificial intelligence. As well as the University of Stuttgart, the University of Tübingen, the Max-Planck Institute for Intelligent Systems, the state of Baden-Württemberg, and the Fraunhofer Society, the collaboration also includes seven industrial companies. Cyber Valley is also supported by four foundations.

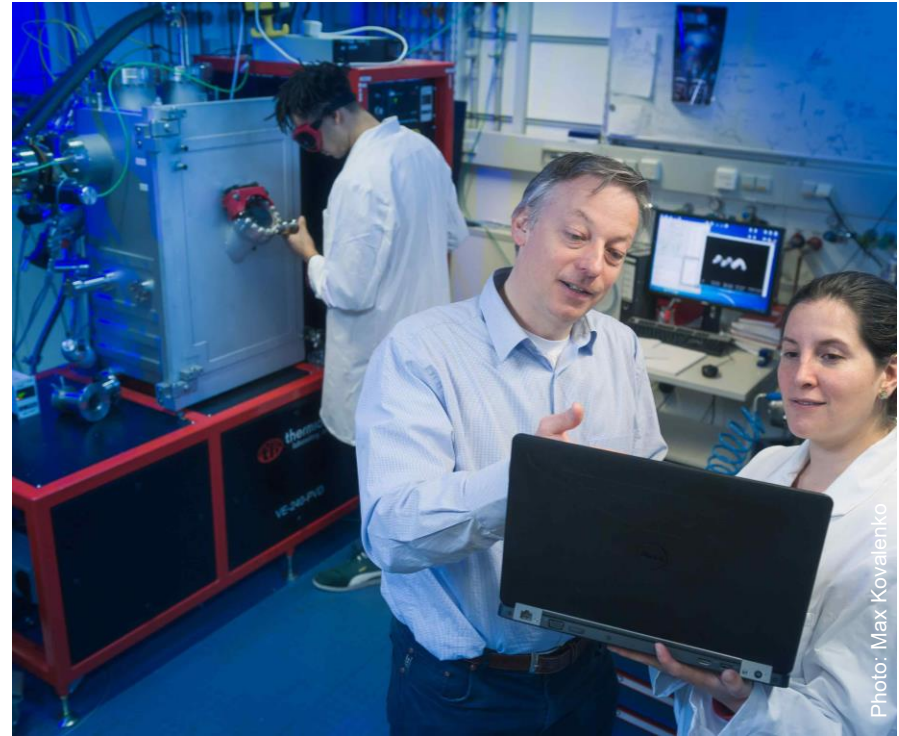


Photo: Max Kovalenko

International Architecture Exhibition – IBA 2027

As a result of its tradition and expertise, the University of Stuttgart has a 5% stake in “IBA 2027 StadtRegion Stuttgart GmbH” - and will showcase the first adaptive demonstrator high-rise building in the world at the IBA 2027. Developed within the framework of the Collaborative Research Center “Adaptive Skins and Structures for the Built Environment of Tomorrow”, it focuses on sustainable, resource-friendly construction using new and adaptive materials.



Photo: University of Stuttgart/Uli Regenscheit

“Mobility of the Future” InnovationCampus (ICM)

The University of Stuttgart and the Karlsruhe Institute of Technology are pooling their expertise in the “Mobility of the Future” InnovationCampus (ICM). Through excellent interdisciplinary basic research in the areas of mobility and production, the ICM develops new technologies, transfers them into businesses, and thereby actively contributes to the shaping of tomorrow’s mobility.



Quantum Technology

The University of Stuttgart is committed to quantum research – as to the basis for multiple technologies – in two ways: through the Center for Integrated Quantum Science and Technology (IQST) together with the University of Ulm and the MPI for Solid State Research in Stuttgart, and through the BMBF future cluster “Quantum Sensors for the Future (QSens)”, likewise in collaboration with the University of Ulm as well as partners from industry and application-oriented research institutions.



Photo: Max Kovalenko

Visual Computing

The Collaborative Research Center/Transregio “Quantitative Methods for Visual Computing” investigates quantitative methods and metrics, adaptive algorithms, and new interactivity technologies for visualization, computer graphics, computer vision, and human-computer interaction.



Photo: Max Kovalenko

Production Engineering

The Stuttgart Production Center (PZS) bundles the expertise of the university's nine manufacturing institutes. Its goal is to establish a center for production research, university education, and non-university continuing education. The PZS puts technology transfer to the fore and focuses on the process chain in the automotive industry and the necessary production equipment from mechanical engineering.



Photo: Fraunhofer IPA/IFF Universität Stuttgart

ARENA2036 – Cooperative Research Campus

At ARENA (Active Research Environment for the Next Generation of Automobiles) researchers from university, non-university research institutes and industry jointly research on and develop the next generation of production processes for flexible automobile manufacturing.



Gauss Center for Supercomputing

With the supercomputer “Hunter”, the University of Stuttgart is part of Europe's most powerful high-performance computing alliance (Jülich, Munich, Stuttgart). With a theoretical peak performance of 48.1 petaflops per second, Hunter's speed is nearly double that of its predecessor, Hawk, while slashing energy requirements at peak performance by approximately 80%. (January, 2025)



Visualization Research Center University of Stuttgart (VISUS)

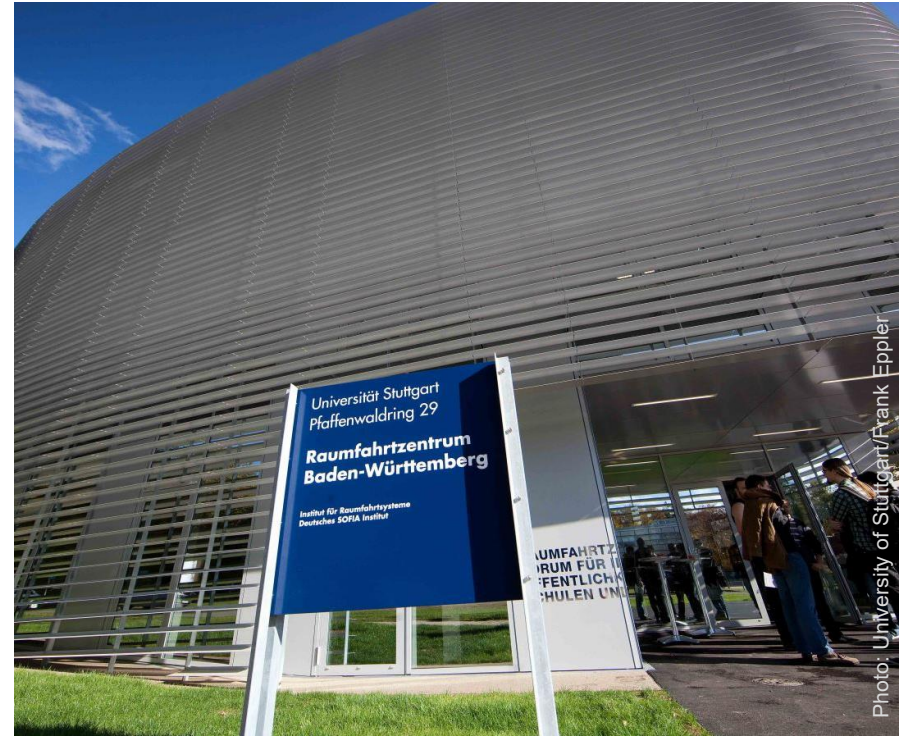
VISUS is a central research facility developing foundations and applications of new interactive computer graphics-based technologies. These enable the visualization of big data from simulations, sensor technology, and digital events.



Photo: Max Kovalenko

Baden-Württemberg Astronautics Center (RZBW)

Stuttgart scientists are able to conduct leading-edge research and development in cooperation with Baden-Württemberg's industry at this state-wide astronautics forum on the university campus.



VEGAS

VEGAS is a 700 m² testing center for subsurface remediation – unique in Europe – that allows in situ remediation and site investigation methods for contaminated land and groundwater to be developed and tested under realistic site conditions and using real contaminants.



Photo: University of Stuttgart/Oliver Frohnauer

“ArchiNeering”

The term “ArchiNeering” stands for the typically close cooperation between Civil Engineering and Architecture at the University of Stuttgart. Bangkok’s new airport is an outstanding example of the concept’s application.



IZKT

The International Center for Cultural and Technological Studies (IZKT) investigates the interaction between cultural formations and technological innovation at an international level.



Beyond Usual Lectures

Racing Team

The multiple world champions of Formula Student Electric and Formula Student Combustion are joining forces and working towards their joint success as the racing team of the University of Stuttgart.



InVentus Team

Driving against the wind – with a wind-driven vehicle: this is the challenge faced by the InVentus team of the University of Stuttgart.



“Crossing Borders”

“Crossing Borders”, the students’ initiative for renewable energy, has achieved a lot already: in 2012 they installed a hot water supply system as well as solar panels for an orphanage in South Africa. In 2014, they carried out an educational project in Montenegro. At present, they focus on school projects in and around Stuttgart and recently built a small windmill near Würzburg.



Choir and Orchestra

Academic Choir and Orchestra: Both ensembles – of around 100 members each – conduct concert tours not only in Europe, but also in Russia, Latin America (Brazil), the USA (Oregon), and China.



Connecting with Refugees

Meeting places, language classes and buddy projects, sports groups, political discussions, and mentoring – the University of Stuttgart offers multiple opportunities for refugees to connect. Students and staff who engage in these projects are mostly volunteers. Their dedication to this cause is remarkable.



Photo: Bettina Künzler

Stuttgart City and Region

Cultural Highlights



- The castles of the former kings of Württemberg and Europe's biggest zoological and botanical garden
- The Stuttgart Opera – repeated winner of the “Best Opera of the Year”
- The legendary Stuttgart Ballet – founded by John Cranko

Hightech and Innovations - The Stuttgart Region



- Head offices and manufacturing sites of global players, such as Bosch, Mercedes-Benz, Porsche, and IBM
- Region with the strongest innovation index in Baden-Württemberg (Federal Statistical Office 2020)
- Industry investment in Research and Development: 2nd place in Europe (Eurostat 2022, data from 2019)



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Thank you!