TUM. The Entrepreneurial University

Technical University of Munich

Who We Are

TUM at a Glance

TUM Facts and Figures

(Statistics 2024)

7
Schools

19
Nobel Prize Laureates

10
Humboldt Professorships

more than
8,900
Graduates per year

666
Professors

228
ERC Grants

>1,000
Research Agreements p.a.

TUM has earned the prestigious title of German University of Excellence three consecutive times.

A Leader in Academic Rankings

QS World University Rankings 2025-2026

No. 1 in Germany

No. 22 in the world

THE World University Rankings 2025

No. 1 in Germany

No. 26 in the world

Shanghai World University Ranking 2024

No. 2 in Germany

No. 47 in the world

19 Nobel Prize Laureates

Scientists and alumni of the Technical University of Munich have received the Nobel Prize in four fields: chemistry, literature, medicine and physics.

Nobel Prize Laureate Prof. Robert Huber

24 Leibniz Prize Laureates (DFG)

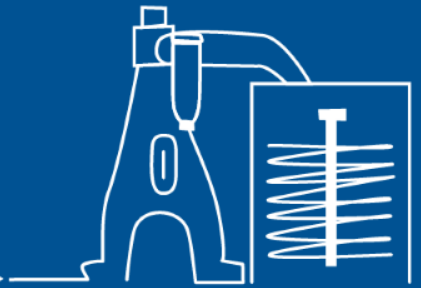
TUM members received the most prestigious award for scientists and scholars at German research institutions 24-times, including 9 distinctions in the last decade alone.

Leibniz Prize Laureate Prof. Barbara Wohlmuth

Milestones

King Ludwig II of Bavaria founded the Polytechnische Schule München

1868



1875

Carl von Linde constructs the first functioning refrigeration machine.

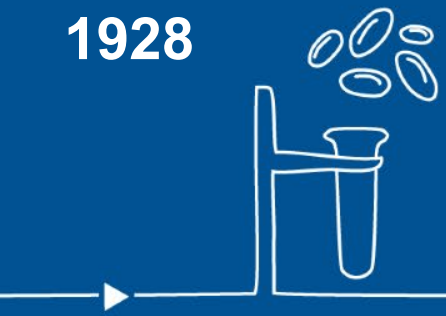
Graduate Rudolf Diesel develops the engine that will come to bear his name, based on an idea he had as a student.

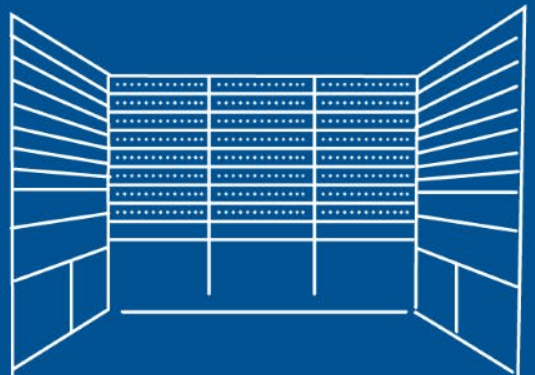
1893

Milestones

1928

Hans Fischer synthesizes blood's red colorant, hemin, in a test tube (Nobel Prize, 1930).





1956

The Programmgesteuerte Elektronische Rechenanlage München (PERM) is developed. It is the fastest computer in the world at the time.

1985

Robert Huber unlocks the secrets of photosynthesis (Nobel Prize, 1988).

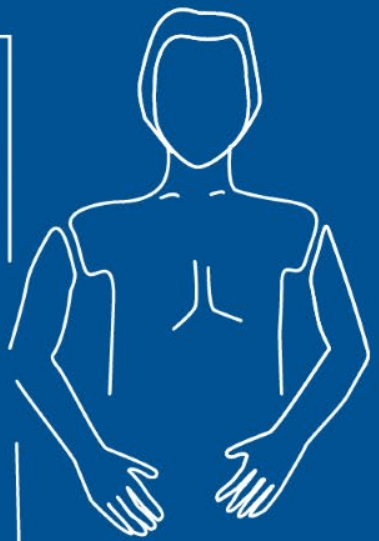
Milestones

1997

A groundbreaking machine learning method – long short-term memory (LSTM) – is developed. Today, it serves as the basis of technologies such as speech recognition

2000

The world's first minimally invasive heart valve operation is performed.



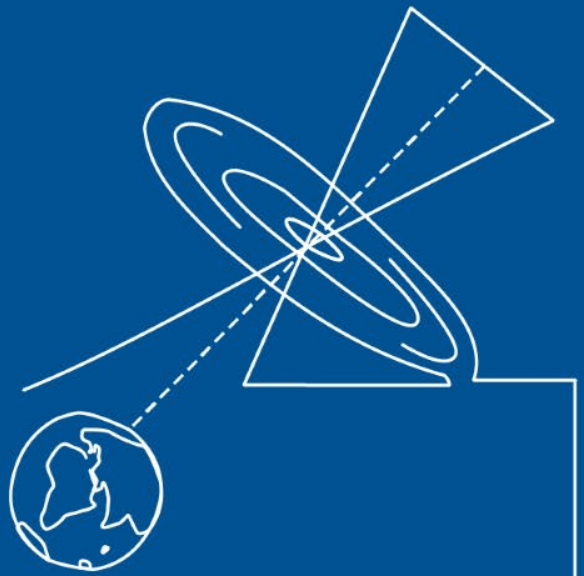
A patient receives the first-ever double arm transplant.

2008

Milestones

2014

Researchers map the human proteome.

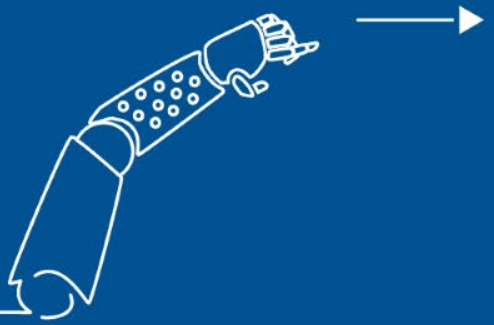


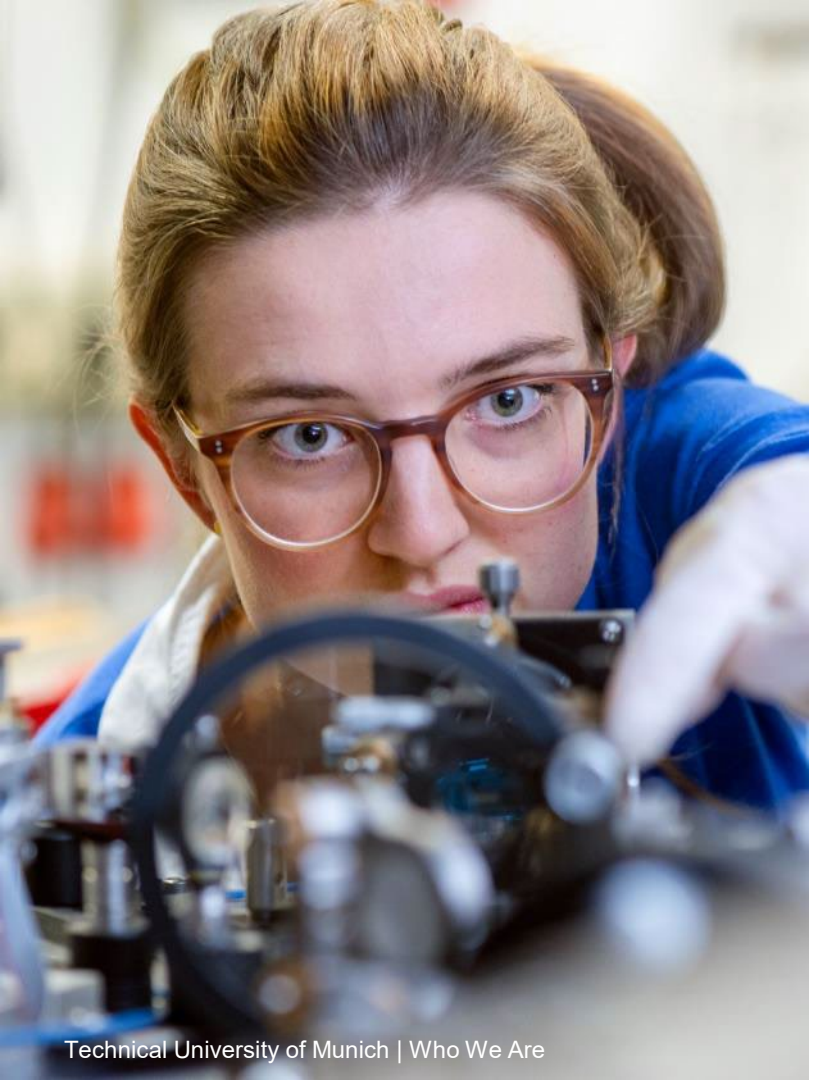
2018

The source of an extragalactic neutrino is identified for the first time.

2019

Artificial skin with sensory abilities is developed for human-sized autonomous robots.





Our Vision

As a leading entrepreneurial university, we are a site of global knowledge exchange, shaping the future with talent, excellence and responsibility.

Our Mission

We inspire, promote and develop talents in all their diversity to become responsible, broad-minded individuals and empower them to shape the progress of innovation.

Our Core Values

The foundation of our relationships with one another and our cooperation partners in research, teaching and innovation are our core values:

- Academic Excellence
- Entrepreneurial Mindset
- Inclusive Integrity
- Professional Collegiality
- Resilience to Change

Locations

A University born in Bavaria

TUM spans six large sites in Bavaria and one in neighboring Baden-Wuerttemberg.

TUM Campus Downtown Munich

- TUM School of Computation, Information and Technology
- TUM School of Engineering & Design
- TUM School of Management
- TUM School of Social Sciences & Technology
- Hochschule für Politik München

TUM Campus Garching

- TUM School of Computation, Information and Technology
- TUM School of Engineering & Design
- TUM School of Natural Sciences

TUM Campus Heilbronn

- TUM School of Computation, Information and Technology
- TUM School of Management

TUM Campus Olympiapark

- TUM School of Medicine and Health

TUM Campus Straubing

- Biotechnology
- Sustainability

TUM Campus Weihenstephan

- TUM School of Life Sciences

TUM Klinikum

- TUM School of Medicine and Health

TUM Science & Study Center

- Located in a former monastery in Raitenhaslach in the Southeast of Bavaria
- Full service, year-round conference facility

A University with a Global Mindset

TUM has set its sights on internationalization and cooperation, therefore the university is a sought after partner for leading institutions of science and technology around the world.

Advancing Int'l Alliance

New Global Engagement

TUM Locations Worldwide
EuroTech & EuroTeQ Universities Alliance
Flagship Partners
Regional Strategic Alliances

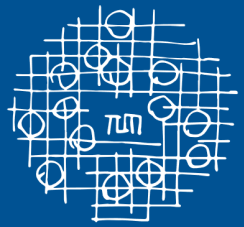
TUM Campus Singapore

In 2002, TUM Asia became the first overseas campus of a German university, bringing German engineering excellence to Singapore. More than 2.700 alumni in our under- and postgraduate as well as our executive education programs attest to the successful internationalization of our teaching.

TUM School Transformation

We are creating a new internal structure to promote innovation

From a department structure to a matrix organization of schools



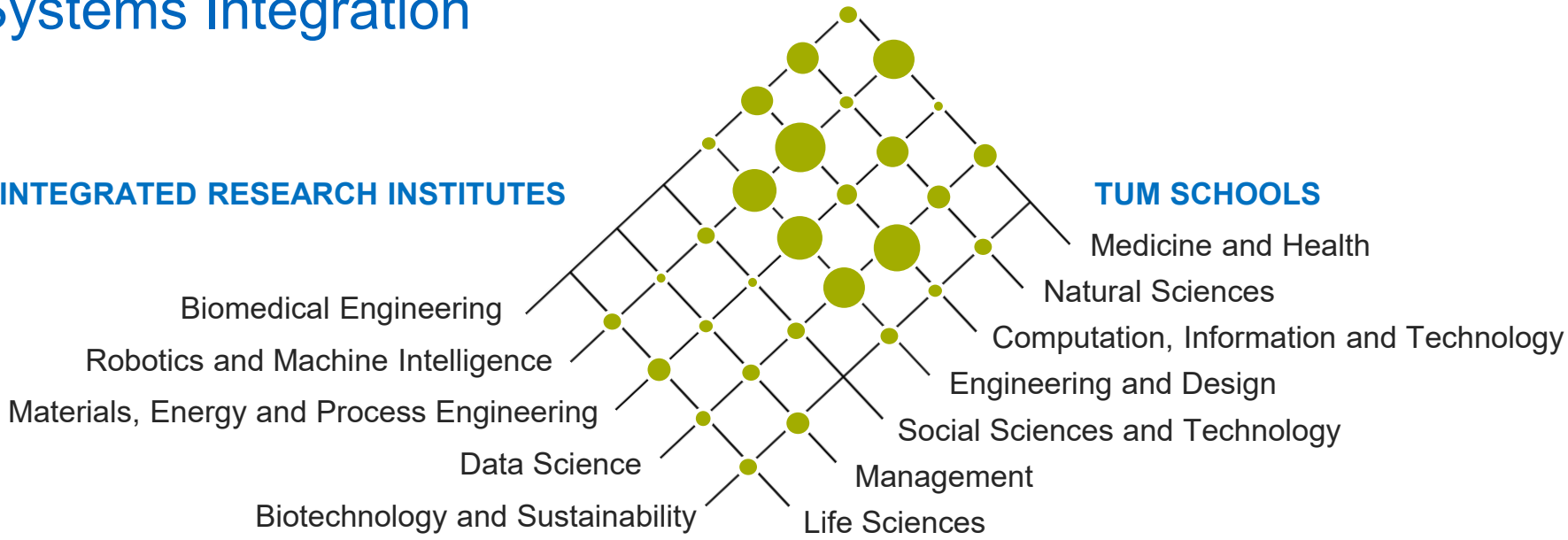
Fostering collective creativity and transdisciplinary teams

Integrating humanities and social sciences

Connecting people across disciplinary, institutional, cultural and generational boundaries

TUM Matrix

Systems Integration

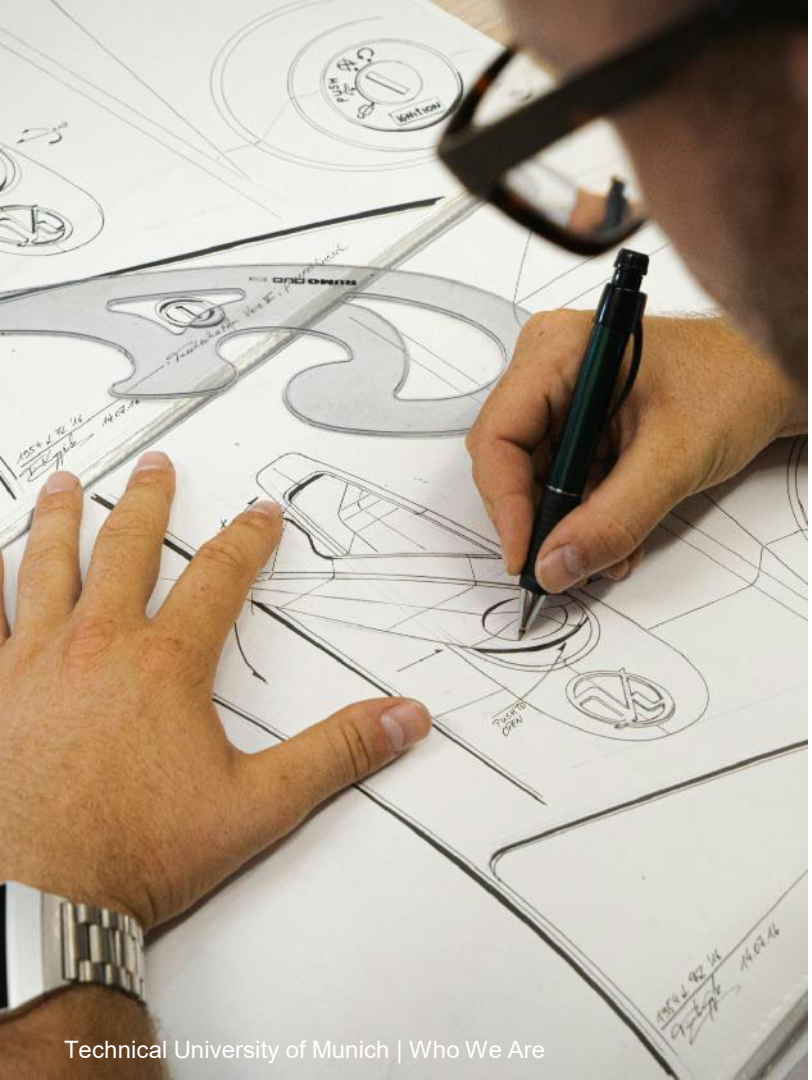


Integrative Research Institutes (IRI)

Addressing future-focused issues through transdisciplinary approaches to research and teaching.

Munich Data Science Institute (MDSI)

- The MDSI is TUM's central interface and innovation hub for questions and solutions arising from **Data Science, Machine Learning and Artificial Intelligence**, connecting people and ideas across disciplines.



Munich Design Institute (MDI)

- The MDI integrates design, science, and design science to address pressing contemporary issues, viewing the fusion of **scientific research and creative imagination** as essential to solving complex problems.

MIBE

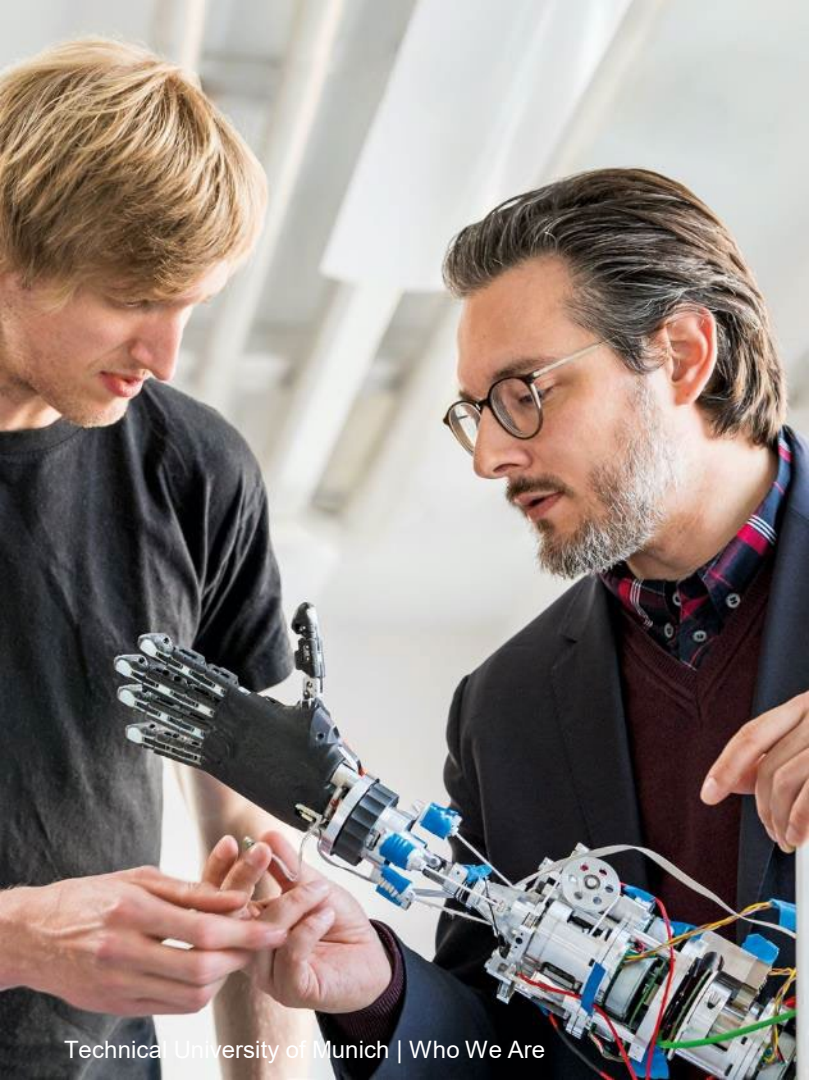
Munich Institute of Biomedical Engineering (MIBE)

- At the MIBE researchers from a variety of academic disciplines work together to build foundations for new ways to **diagnose and treat diseases** and for technologies that compensate for physical disabilities.

MEP

Munich Institute of Integrated Materials, Energy and Process Engineering (MEP)

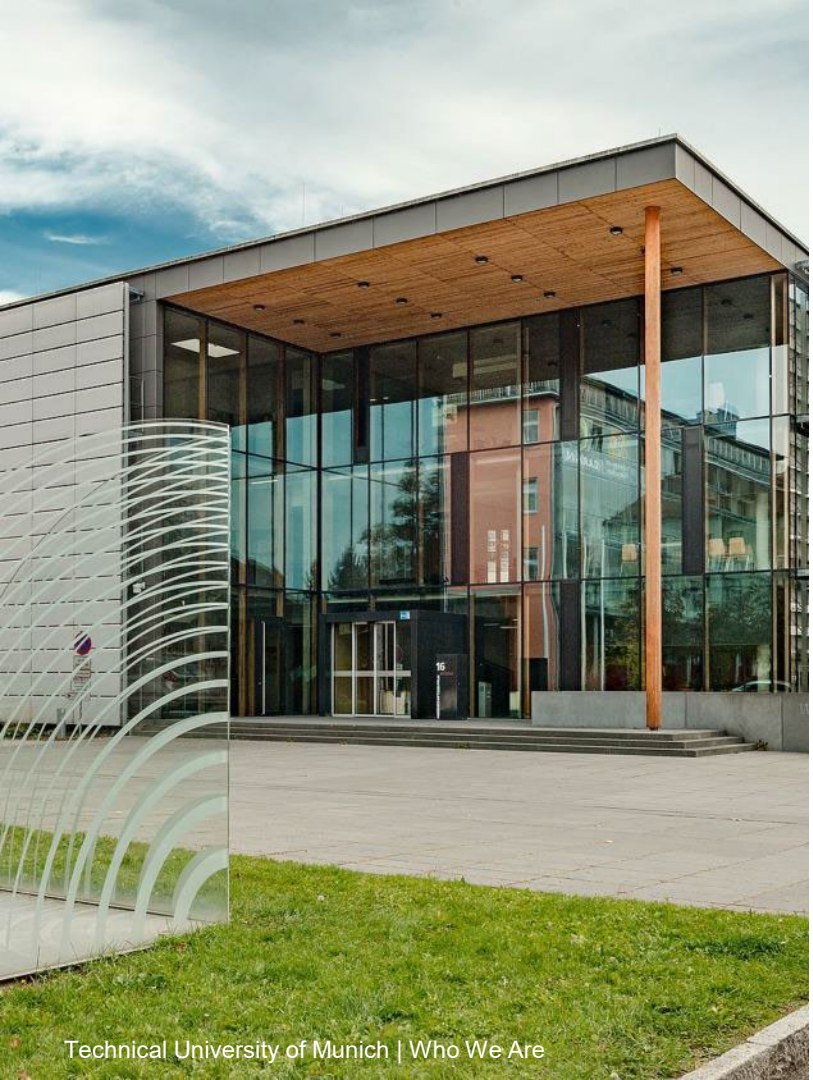
- The institute is engaged in teaching and research in the areas of **Environment & Climate, Energy & Raw Materials and Mobility and Infrastructure.**



MIRMI

Munich Institute of Robotics and Machine Intelligence (MIRMI)

- The MIRMI is focused on transdisciplinary work around machines in the fields of **health, work and mobility**.



TUM Campus Straubing

- The TUM Campus Straubing for Biotechnology and Sustainability focuses on the development and economic implementation of **sustainable technologies** and cooperates in research and teaching with the Weihenstephan-Triesdorf University of Applied Sciences.

TUM Institute for Advanced Study (TUM-IAS)

- The IAS serves as a **flagship institute for top-level international research** at TUM, and has helped to drive the university's development into one of Germany's top academic institutions under the auspices of its strategy

Clusters of Excellence Pioneering Research

The current four research clusters investigate the **scientific challenges of our time** in the areas of quantum science, neurology, energy supply and the origin of life.

Since 2006 Clusters of Excellence have greatly sharpened TUM's profile as one of Europe's leading research universities.

Cluster of Excellence

ORIGINS

ORIGINS Cluster of Excellence searches for the **connection between planet formation and the formation of the first prebiotic molecules**.

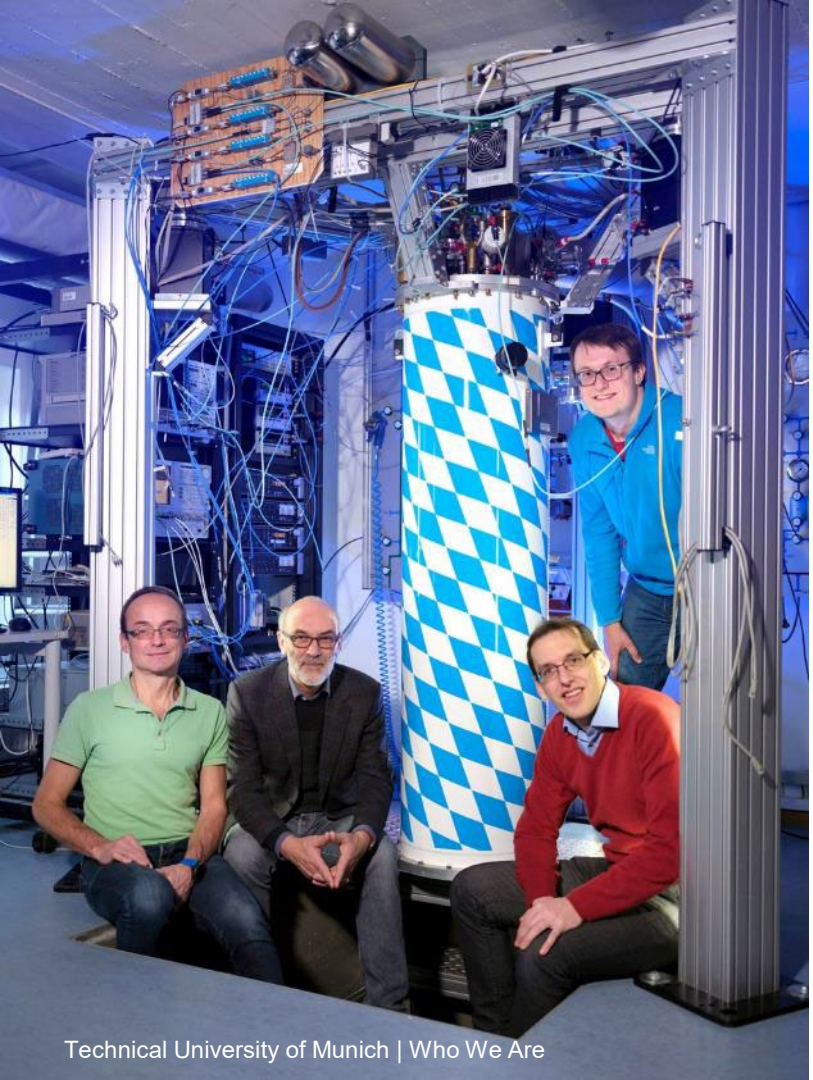
Joint applicants are LMU Munich, the Max Planck Institutes of Astrophysics, Biochemistry, Extraterrestrial Physics, Physics and Plasma Physics, the European Southern Observatory (ESO), the Leibniz Supercomputing Center, and the Deutsches Museum.

Cluster of Excellence

SyNergy

The SyNergy cluster promotes integrative research into a broad range of neurological diseases, with the aim to **improve pathomechanistic understanding and eventually therapeutic options**.

It is a joint project with LMU Munich, the Max Planck Institutes of Biochemistry, Neurobiology and Psychiatry, the Helmholtz Zentrum München, and the German Center for Neurodegenerative Diseases.



Cluster of Excellence

MCQST

Munich Center for Quantum Science and Technology (MCQST) comprises seven research units covering all areas of **Quantum Science and Technology (QST) from basic research to applications**.

It is a joint endeavor with LMU Munich, the Max Planck Institute of Quantum Optics, and the Walther-Meißner-Institute for Low Temperature Research.

Cluster of Excellence

e-conversion

The e-conversion cluster has a focus on **investigating fundamental mechanisms of energy conversion processes**.

It is a collaborative effort by LMU Munich, the Max Planck Institutes for Solid State Research, and Chemical Energy Conversion.

TUM Institute for LifeLong Learning

The TUM Institute for LifeLong Learning (IL3) brings together all **further education programs** at TUM and offers a wide range of lifelong learning opportunities for:

- Executives & Professionals
- TUM Employees
- TUM Students

What Drives Us

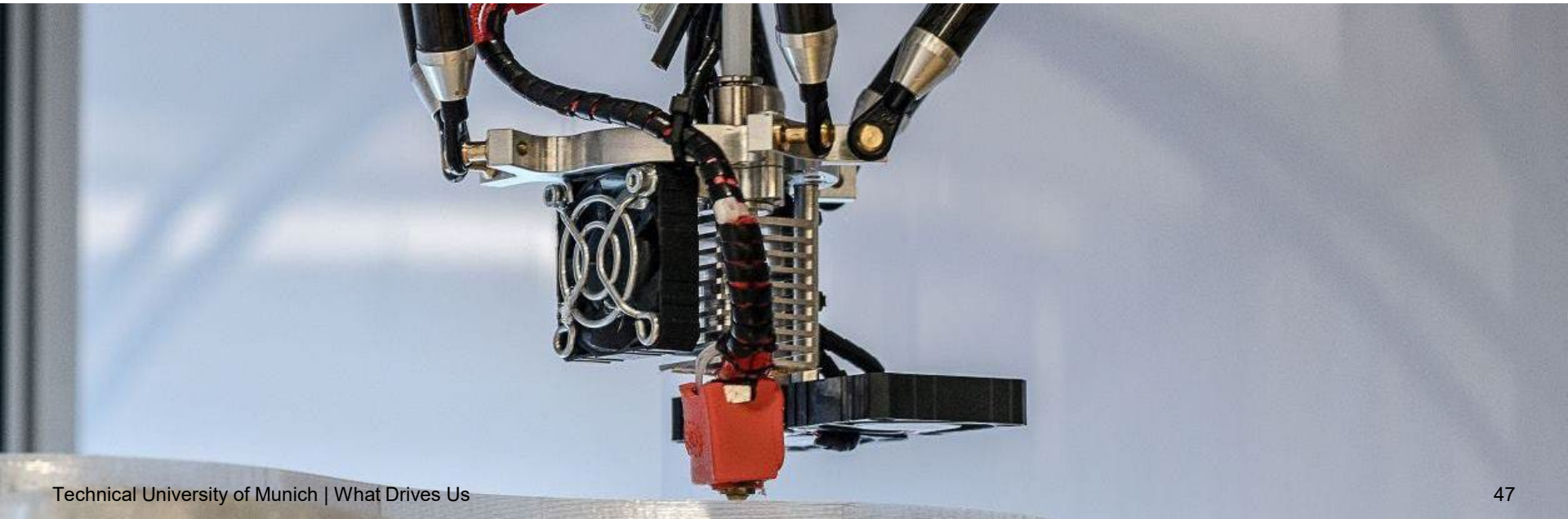
6 Accelerators

Understanding the essential foundations of life

Maintaining health and targeting diseases

Shaping a sustainable living environment

Creating new materials and advanced manufacturing technologies



Pioneering the digital transformation for a secure future

Responsible research and innovation in service of society

Sustainability as a Guiding Principle

The TUM Sustainability Office focuses on how the university can be more sustainable and environmentally friendly while increasing its contribution to global efforts.

TUM Sustainable Futures Strategy 2030

The objective of our TUM Sustainable Futures Strategy 2030 is to position the university as a driver of sustainable scientific, economic, ecological and social development.

Since 2023 Prof. Werner Lang (pictured) is serving as TUM Vice President for Sustainable Transformation.

Sustainability as a Research Topic

Sustainability is also a key research and education topic: The international TUM-led AmazonFACE project assesses the impact of increased atmospheric CO_2 on the Amazon rainforest.

Who Sets Us Apart

People of TUM

Diverse Talent Community

(Statistics 2024)

209
Tenure Track Professorships

45%
International Students

7,883
Researchers

12,051
Staff Members

36%
Female Students

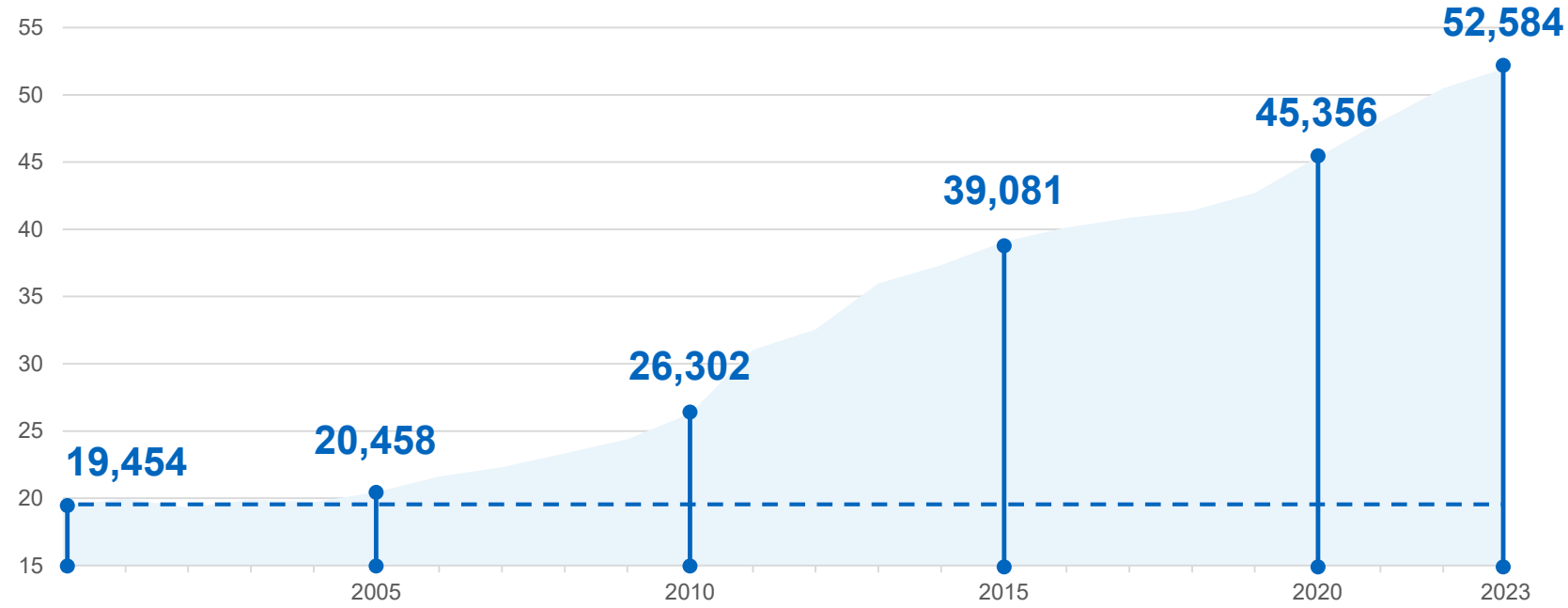
92,500
Active Alumni

81
TUM Emeriti of Excellence

International Student Body

The number of students pursuing one of the university‘s 178 Bachelor and Master degrees has been growing steadily to the record figure of today.

Growth Path Student Enrollment



Global Attraction

(Statistics 2023/2024)

More than

23,400

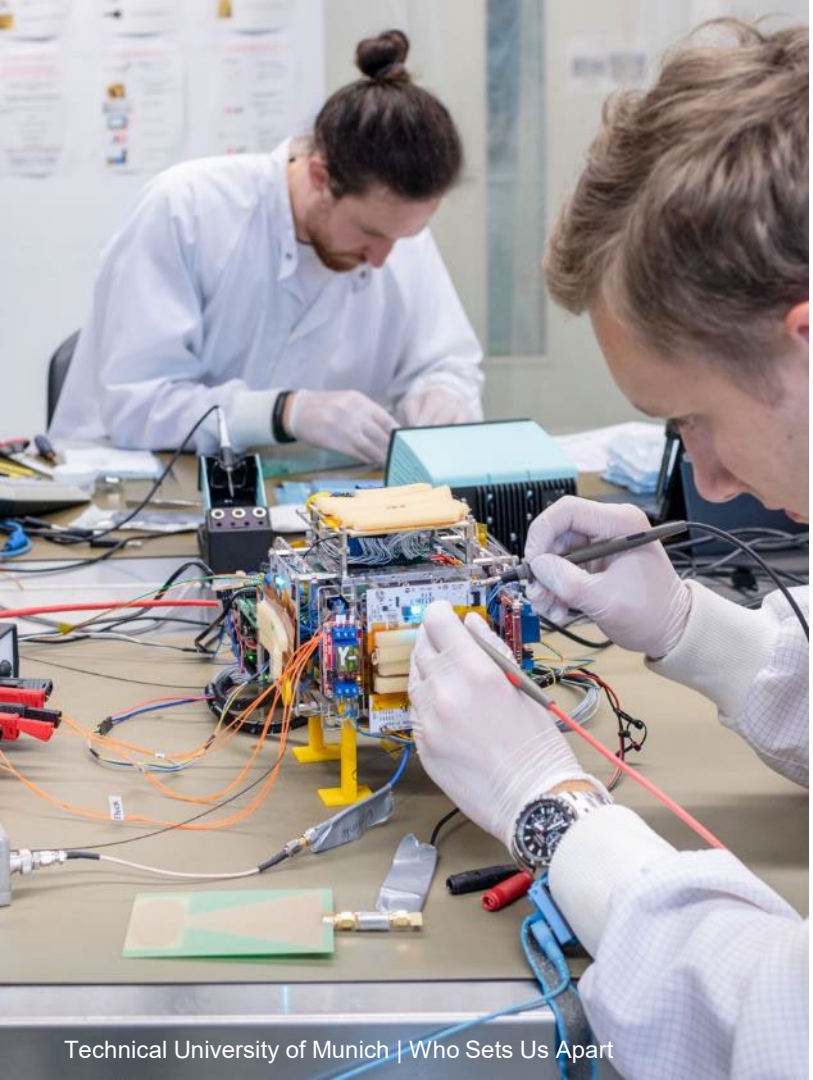
International Students

- China: 19%
- Turkey: 12%
- India: 9%
- Italy: 4%

195

International Appointments of Professors

(2012–2024)



Student Engagement and Campus Life

Our students are actively involved in **numerous projects, initiatives and associations** to immerse themselves in campus life.

Student Engagement and Campus Life

The by-students-for-students **TUM Speakers Series** has been inviting leaders and shapers such as Bill Gates, Tony Blair and Ban Ki-moon to university's campus for over 20 years.

Hyperloop Student Initiative

Founded in 2015 the TUM student team won all editions of Elon Musk's **Hyperloop Pod Competition** by setting new speed world records.

Inspired by the passion of our students, the Department of Aerospace and Geodesy has initiated its own Hyperloop research program.

TUM Entrepreneurs

The university launches 70 to 80 technology-based start-ups each year and offers aspiring founders a wide range of consulting, research and qualification services as well as a strong support network.

TUM aims to establish itself as a leading high-tech startup university in Europe in the coming years.

Success Stories

Isar Aerospace, founded in 2018 by TUM students, is a leading satellite launch service provider utilizing next-generation rockets developed near Munich.

The Decacorn: Celonis SE

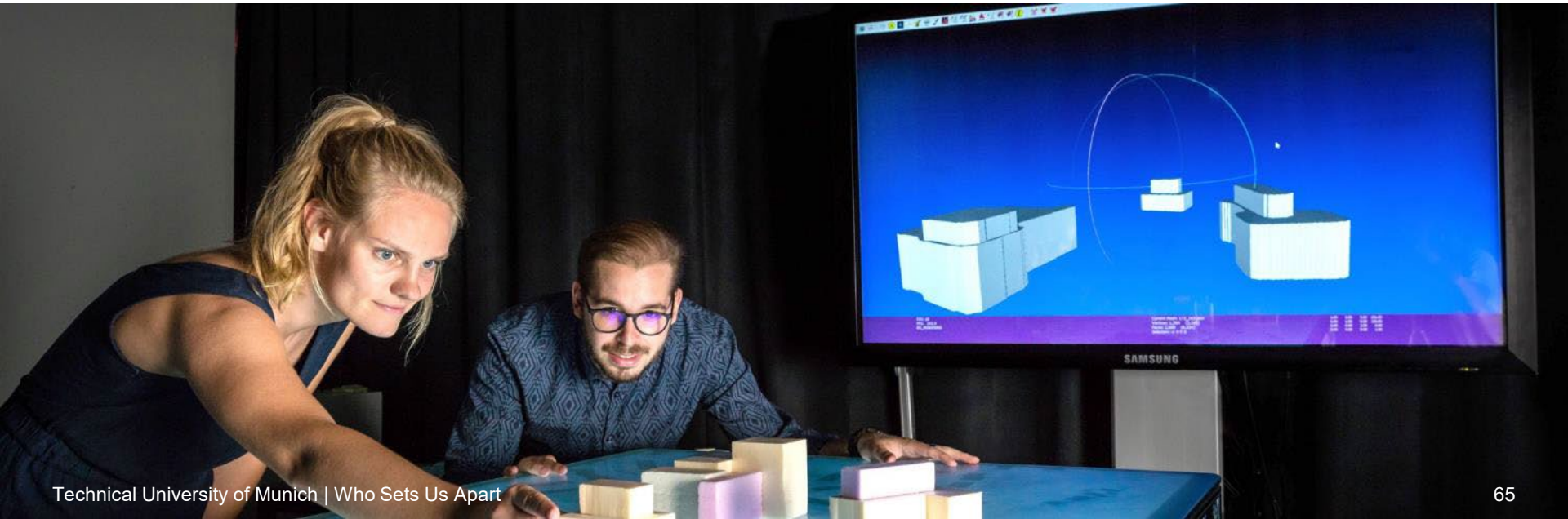
The first German start-up worth **ten billion dollars** was launched by three students with the support of TUM.

After crossing this threshold, Celonis is now **the second most valuable** start-up in Europe.

The provider of software helps companies analyze and improve their **business processes**.

TUM Venture Labs

Fostering entire families of start-ups in key tech fields is the objective of the new TUM Venture Labs initiative that started in 2020.



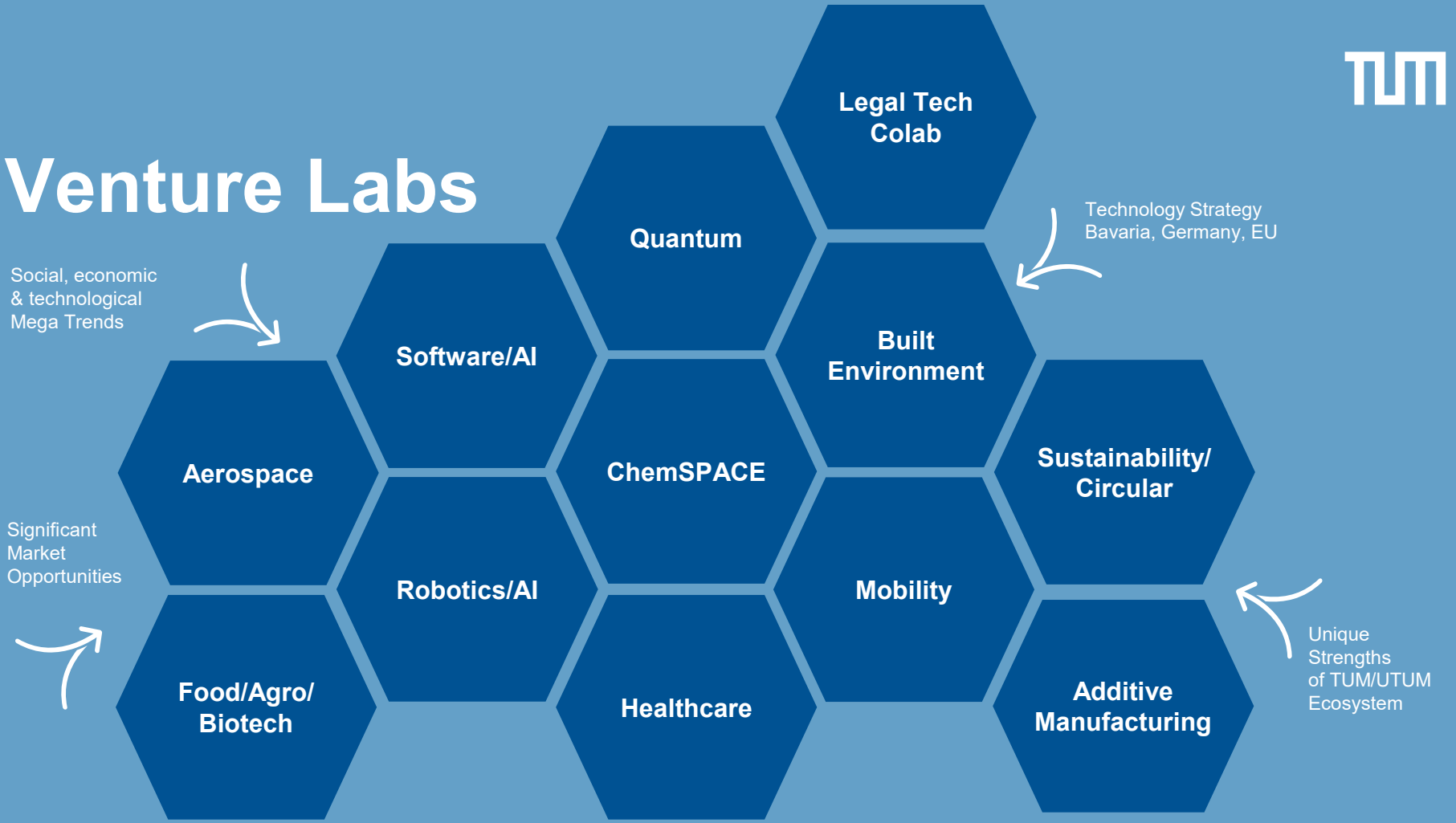
TUM Venture Labs

TUM Venture Labs are the joint initiative of **TUM** and **UnternehmerTUM** with partner institutions and companies.

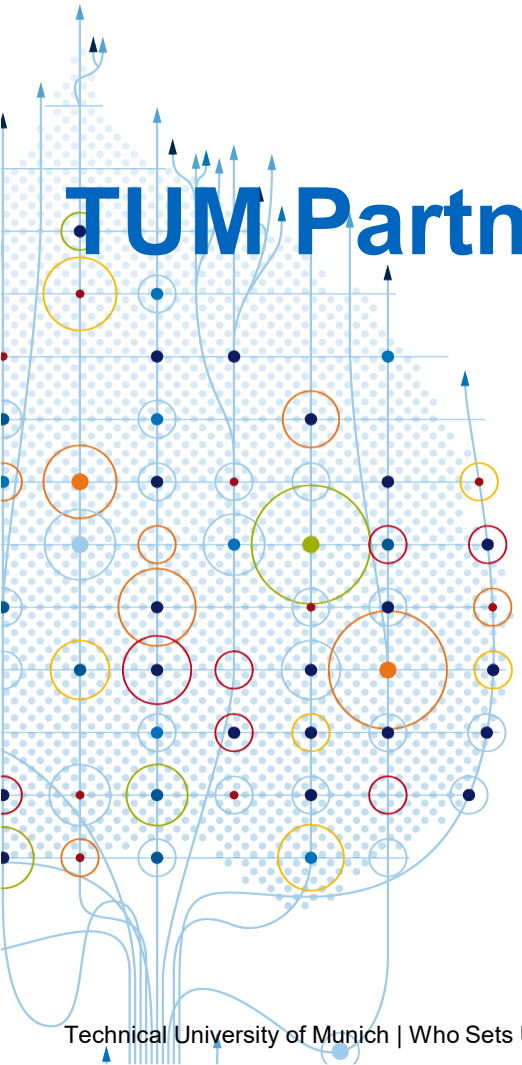
Leveraging the **unique research power**, the goal is to increase the quality and quantity of **scalable technology spin-offs** and ventures in the region **by a factor of ten**.

The resulting leading technology hub in Europe aims to become **a driving force** for the **future technological sovereignty of the continent**.

Venture Labs



TUM Partners of Excellence



Airbus Group
ALTANA AG
AUDI AG
Bayerischer Bauindustrieverband e. V.
BMW AG
Robert Bosch GmbH
Busch Vacuum
Clariant International AG
Dräxlmaier Group
Evonik Industries AG
Google
Herrenknecht AG
HUAWEI
Infineon Technologies AG
Linde AG
MAN SE
Nestlé AG
Rohde & Schwarz GmbH & Co. KG
RWE Group
SAP SE
SGL CARBON SE
Siemens AG
TRUMPF GmbH + Co. KG
TÜV SÜD AG
vbw – Vereinigung der Bayerischen Wirtschaft e. V.
Volkswagen AG
Wacker Chemie AG

TUM University Foundation

A singular network of alumni, patrons and partners in Germany

Over 178 individual donors, including 26 Partners of Excellence | Endowment: € 61 | Value of funding in 2021: € 2.6M

TUM Campus Weihenstephan

TUM School of Life Sciences

Facts and Figures

(Statistics 12/2024)

3
Research Departments

4
TUM Technology Core Facilities

1
CRC

12
ERC Grants

~100
Professorships

32%
Female Professors

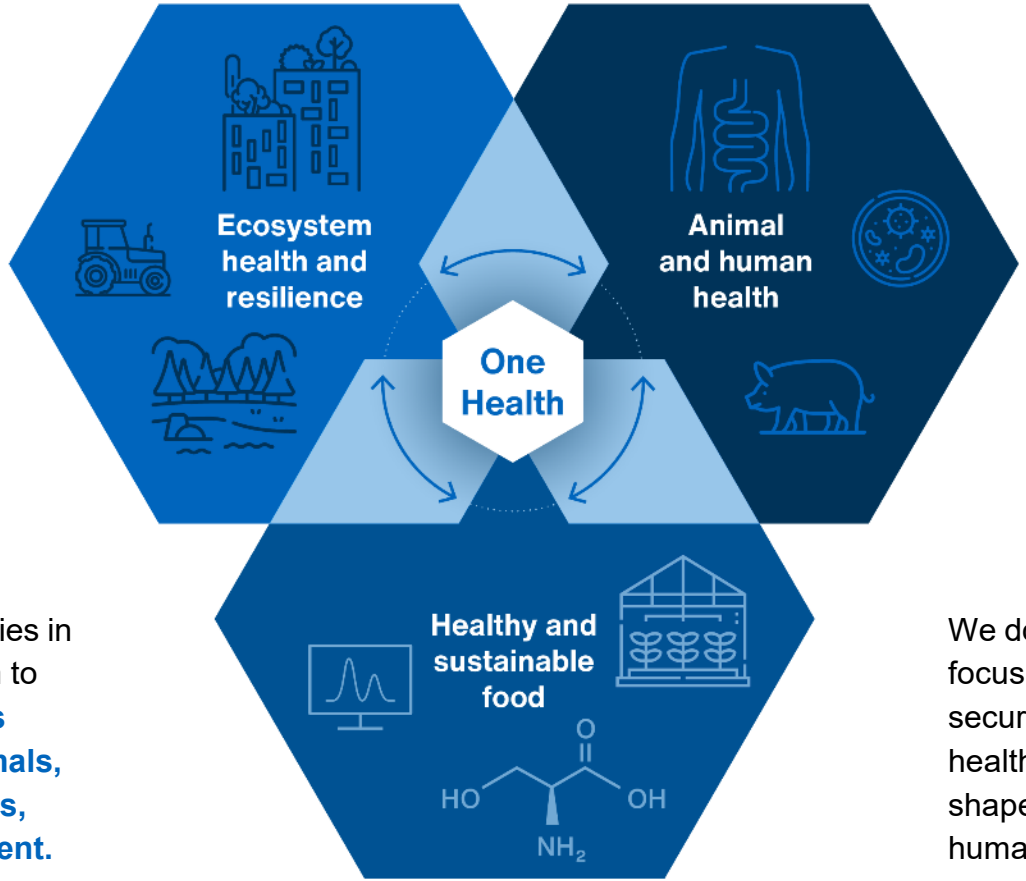
More than
4,600
Students

More than
1,000
Doctoral students

Working for One Health

3 Research Departments | 4 TUM TechCores

TUM School of Life Sciences: Working for One Health

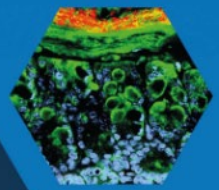


Bundling the competencies in the life sciences, we aim to understand **interactions between humans, animals, plants, microorganisms, soil, and the environment.**

We do interdisciplinary research focusing on **„One Health“** to secure the foundations of healthy living and sustainably shape the coexistence of humankind.

TUM School of Life Sciences: Working for One Health

Biodiversity leveraging ecosystem services

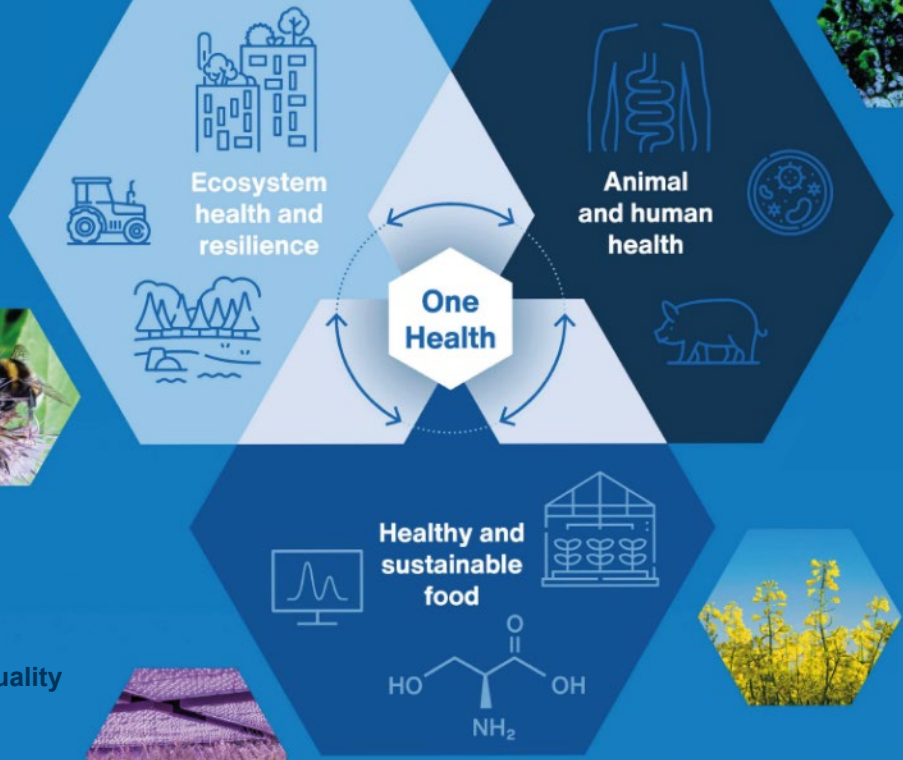


Microbiome and infection

Sustainable land use fostering climate resilience

Food transformation meets precision nutrition

Plants for high quality food

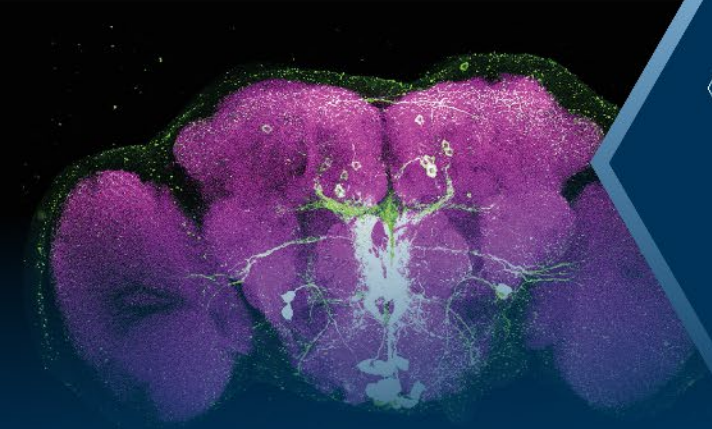


TUM School of Life Sciences: Research Departments working for One Health

Life Science Systems

| 34 Professorships

One Health



Molecular Life Sciences

| 47 Professorships

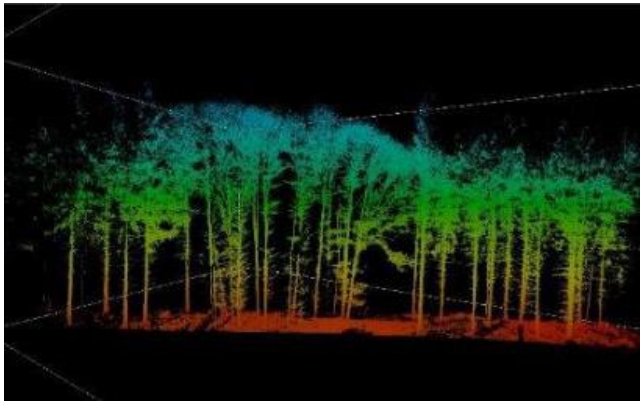
Life Science Engineering

| 19 Professorships

Research Departments

Molecular Life Sciences (MLS)

Explores biomolecular foundations from the molecule to the cell to entire organisms such as humans, animals, and plants.

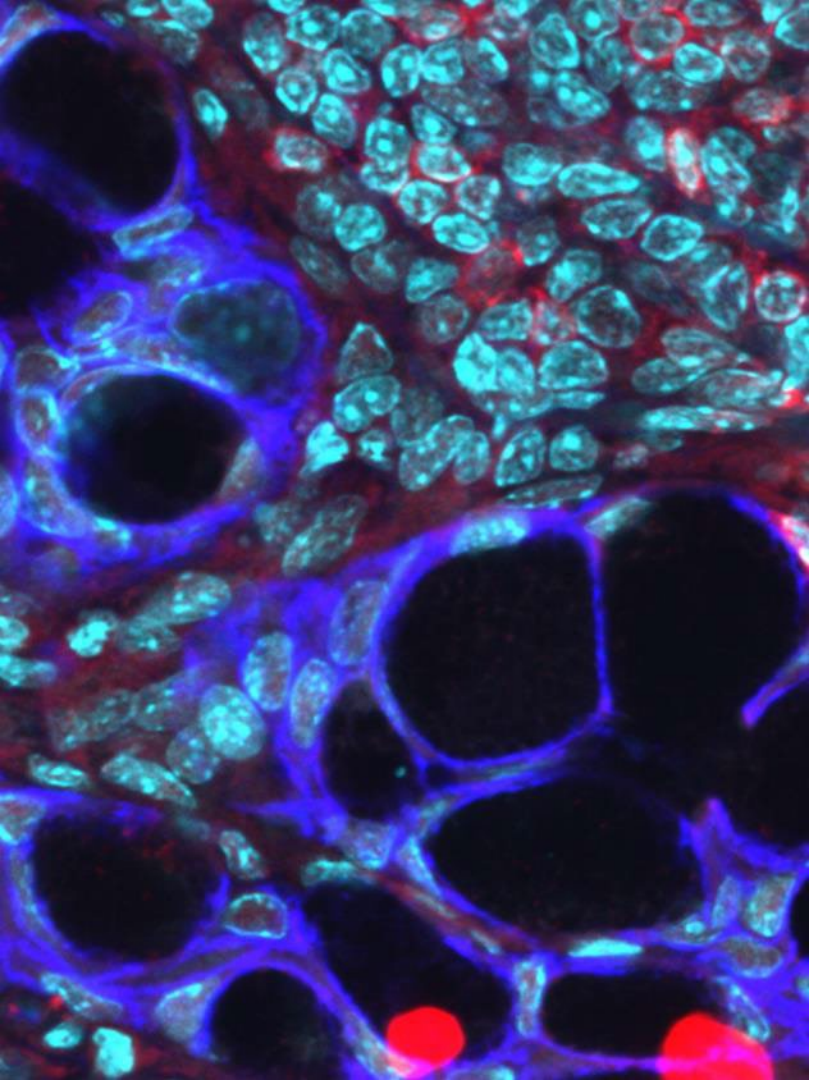


Life Science Systems (LSS)

Investigate systems in forestry and agriculture, including ecological, societal, and economic aspects, such as the causes and consequences of climate change.

Life Science Engineering (LSE)

Combines engineering with biological systems and food science, develops additive production processes using innovative biomaterials, and shapes the digitalization of value chains.



Collaborative Research Center (CRC) 1371

Microbiome Signatures

The goal of the CRC 1371 initiative is to **understand the functional relevance of microbiome signatures** and to determine their precise contribution in a disease-specific manner.

FOR 5298

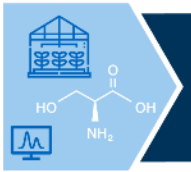
iMAGO – Personalized diagnostics for the treatment of obesity

The FOR 5298's goal is the development of new diagnostic approaches through label-free measurement of the current metabolic status, which will create new possibilities in personalized nutrition and medicine for the treatment of overweight and obesity.

TUM School of Life Sciences: Structures facilitating research

Ecosystem health and resilience

Animal and human health



Healthy and sustainable food

Institute for Food & Health — ZIEL

World Agricultural Systems Center — HEF

Center for Infection Prevention — ZIP

Food and Agro Center for Innovation and Technology — FACIT

Plant Technology Center — PTC

Animal Research Center — ARC

Bavarian Center for Biomolecular Mass Spectrometry — BayBio MS

TUM CORPORATE RESEARCH CENTERS

TUM TECHNOLOGY CORE FACILITIES

TUM Center for Infection Prevention (ZIP)

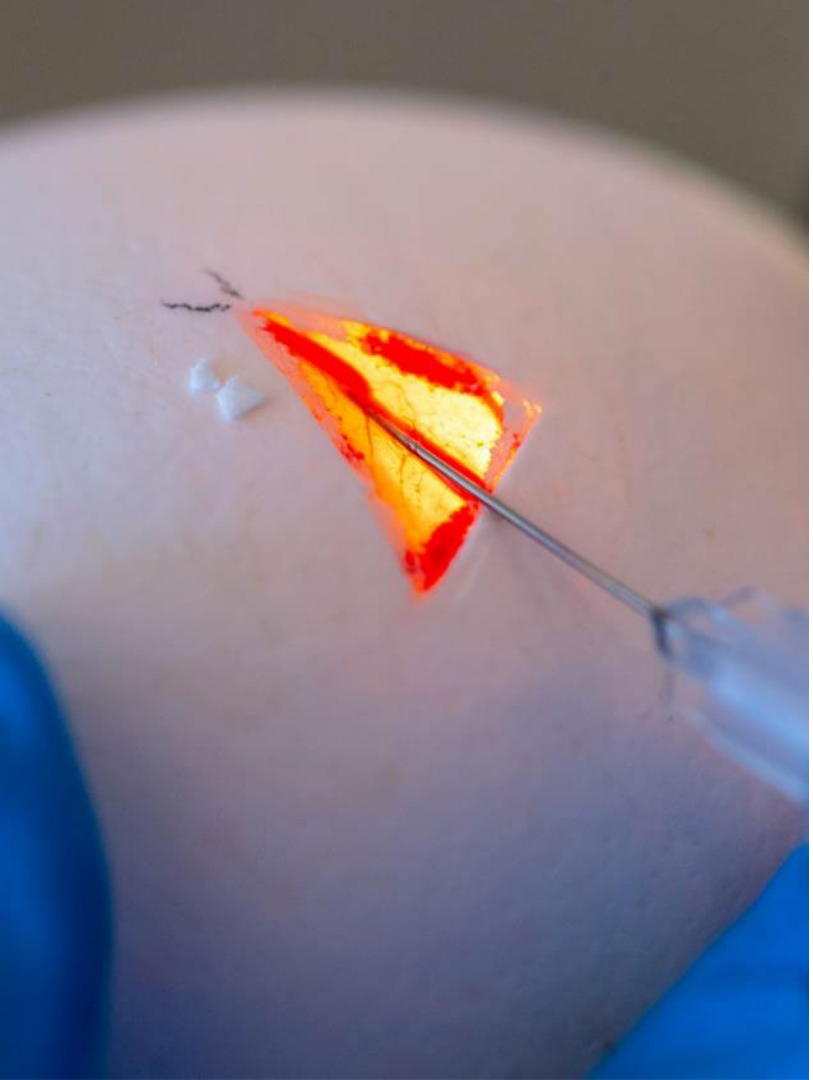
Topping-out ceremony in Weihenstephan in September 2024

with Dr. Florian Herrmann, head of the Bavarian State Chancellery

TUM Technology Core Facilities on campus

Plant Technology Center (PTC)

The TUM Plant Technology Center brings together **expertise from plant sciences, ecology, forestry and agriculture** to address current and future challenges of life sciences with an inter- and transdisciplinary approach.

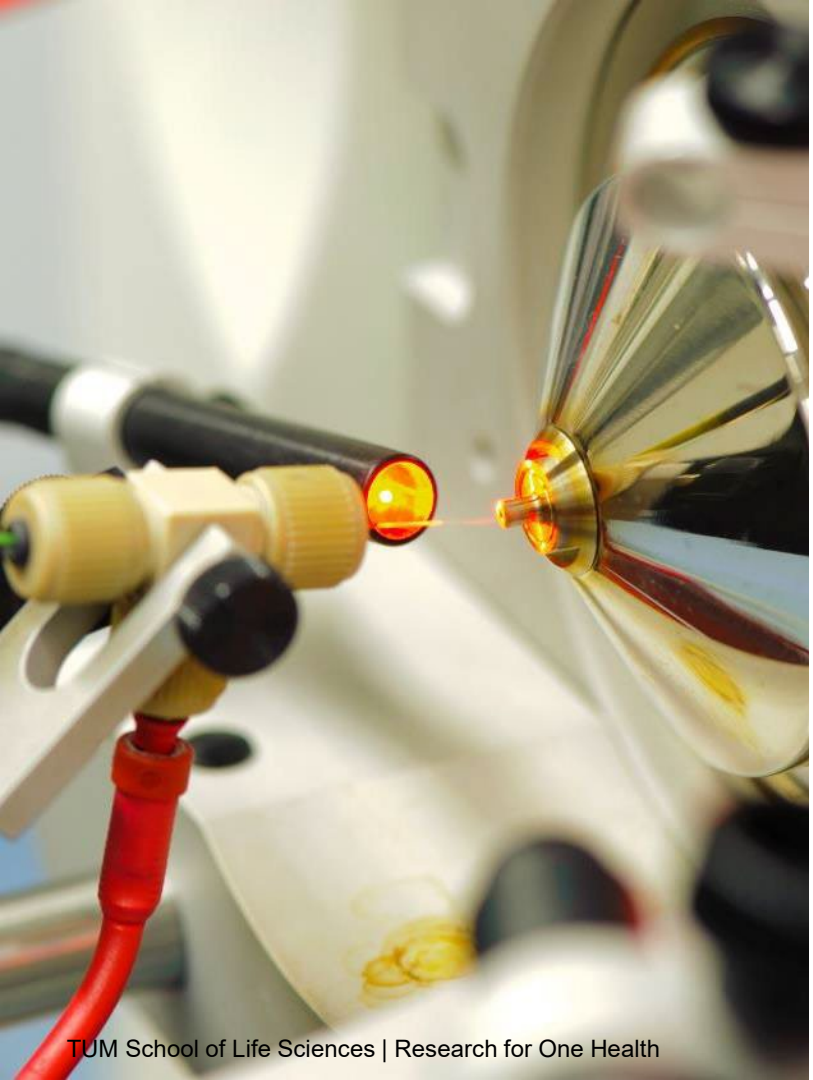


TUM Technology Core Facilities on campus

Animal Research Center (ARC)

The ARC provides the necessary research infrastructure for small and large animals, including aquaculture.

New research and husbandry facilities and the establishment of a Genetic Engineering Core Unit will make the ARC internationally competitive.



TUM Technology Core Facilities on campus

Bavarian Center for Biomolecular Mass Spectrometry (BayBioMS)

The BayBioMs, which was founded back in 2015, offers **state-of-the-art proteomics and metabolomics tools** for application in biomedicine, plant and food research.

TUM School of Life Sciences | Research for One Health

TUM Technology Core Facilities on campus

Food & Agro Center for Innovation & Technology (FACIT)

The FACIT is a **Tech Core Facility and university incubator for startups in the food, agriculture, and biotechnology sectors**.

The Life Science Tech Core Facility provides technical facilities and workshop infrastructure for start-up projects, as well as research and teaching.

TUM Corporate Research Centers on campus

World Agricultural Systems Center

Hans Eisenmann-Forum for Agricultural Sciences (HEF)

Research on plants and animals, soil and water, ecology and economy – from the molecular and cellular level to the agricultural landscape

- Networking of agricultural science-oriented chairs and institutions of TUM
- Cooperation with external institutions
- Provision of professional expertise
- Platform for communication, dialogue, and knowledge transfer to society

TUM School of Life Sciences | Research for One Health

TUM Corporate Research Centers on campus

ZIEL – Institute for Food & Health

Interdisciplinary research of food, nutrition sciences, and medicine

- Production of food
- Food processing
- Human physiology
- Nutritional medicine

Development of prevention programs

Co-development of safer and healthier food

Cooperation with industry and authorities

TUM Corporate Research Centers on campus

Center for Infection Prevention (ZIP)

In the fight against germs and pathogens

- Researching new strategies to contain resistant pathogens and to be able to combat them in the event of an infection
- Five competence teams on the topics of microbiome, microbiology, immunology, technology and translation

TUM Corporate Research Centers on campus

Center for Brewing and Food Quality (BLQ)

Interface between science and practice:

- Supporting the brewing and beverage industry from a technical, technological, and economic perspective
- Accredited testing labs to perform chemical, chemical technology, and microbiological analysis
- Involved in teaching and offering an extensive range of further training courses and seminars

TUM School of Life Sciences: Partners on campus

Research Stations

TUM School of Life Sciences mainly uses three off-campus research stations in Bavaria.

Limnological Research Station Iffeldorf

Environmental Research Station Schneefernerhaus Garmisch-Partenkirchen

Friedrich N. Schwarz Research Station Berchtesgaden

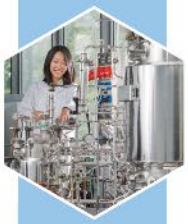
Study and teaching at the TUM School of Life Sciences

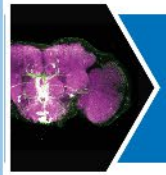
Interdisciplinary Teaching

7 fields of study | 24 degree programs |
4 international master's programs

TUM School of Life Sciences: Research & Teaching





Molecular Life Sciences

Life Science Systems

Life Science Engineering

- Agricultural and Horticultural Sciences
- Biosciences
- Brewing, Food Technology and Process Engineering
- Forest Science and Resource Management
- Landscape Architecture and Landscape Planning
- Nutrition Science and Food Chemistry

Agricultural and Horticultural Sciences

- Agricultural and Horticultural Sciences B.Sc.

- Agrosystem Sciences M.Sc.
- Agricultural Biosciences M.Sc. (in English)
- AgriFood Economics, Policy and Regulation M.Sc. (in English)

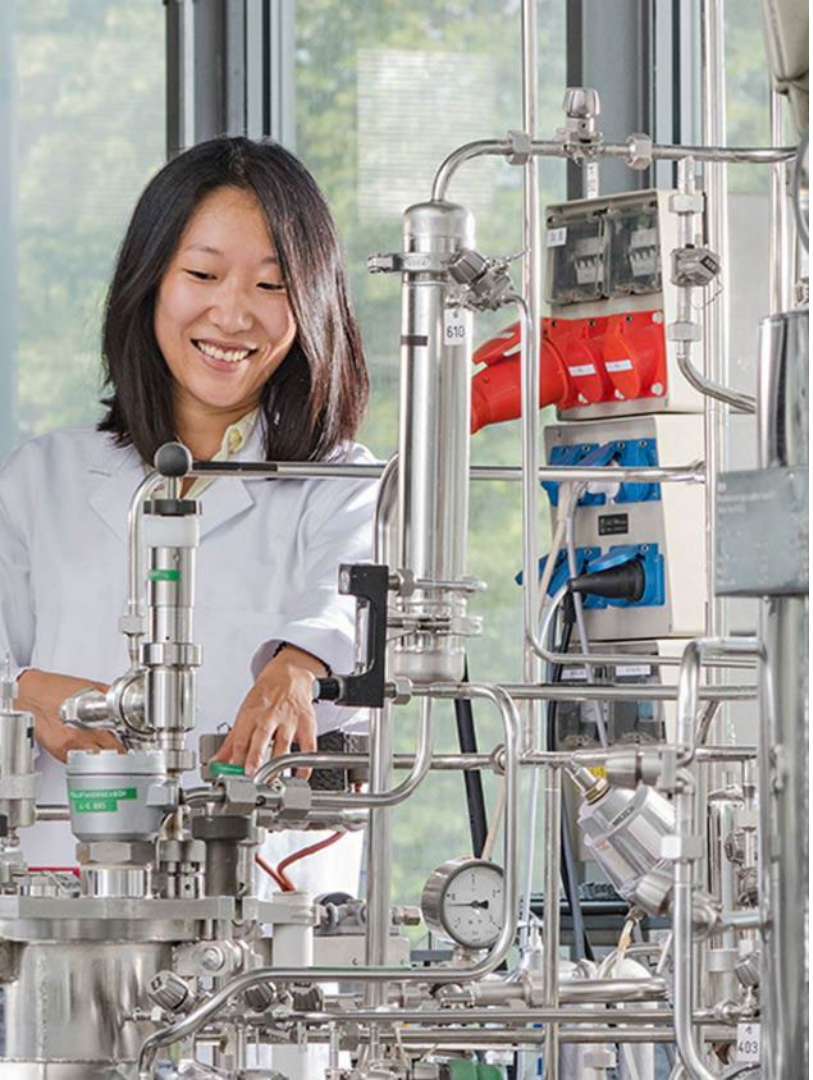
- Teacher training at vocational schools in the field of agricultural economics B.Ed. / M.Ed. *

* In cooperation with TUM School of Education

Biosciences

- Life Sciences Biology B.Sc.
- Biology M.Sc. (in German and in English)
- Molecular Biotechnology B.Sc. / M.Sc.
- Teacher training for grammar school, science education (first and second subject biology) B.Ed. / M.Ed *

* In cooperation with TUM School of Education



Brewing and Food Technology

- Brewing and Beverage Technology B.Sc. / M.Sc.
- Brewing with degree Master brewer (Diplom-Braumeister)

- Food Technology B.Sc. / M.Sc.

- Pharmaceutical Bioprocess Engineering B.Sc. / M. Sc.

Forest Science and Resource Management

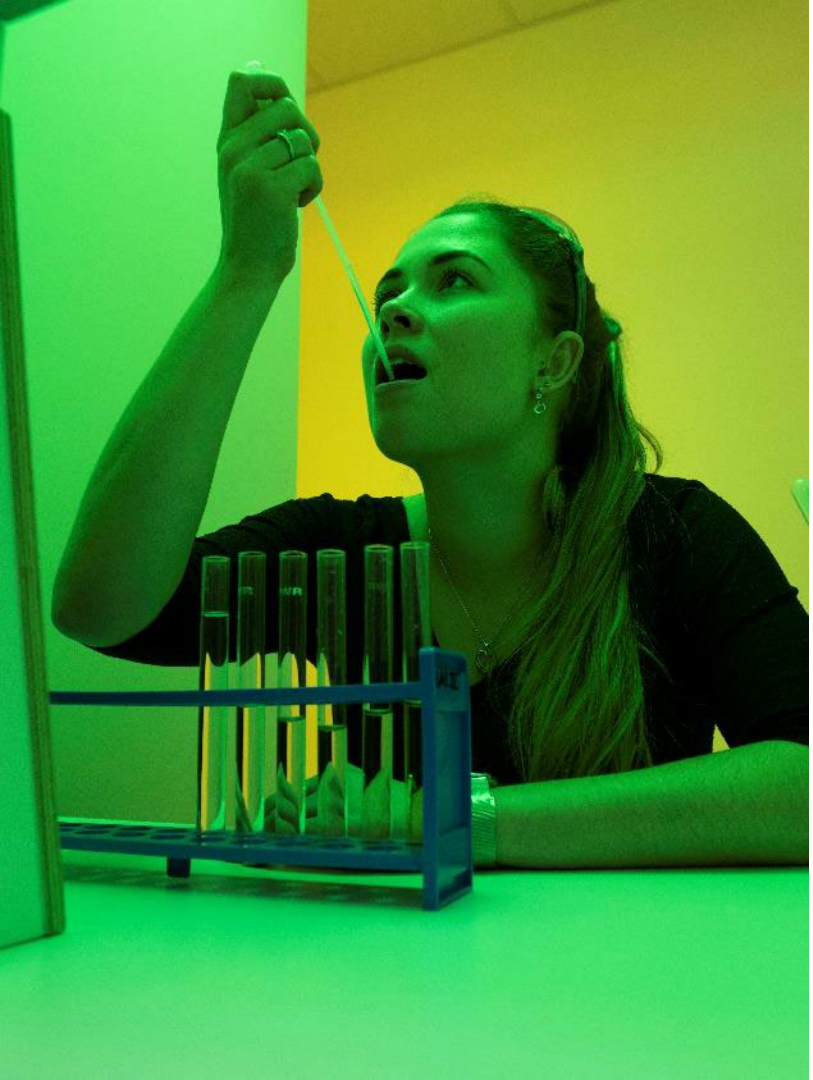
- Forest Science and Resource Management B.Sc.
- Forest and Wood Science M.Sc.
- Sustainable Resource Management M.Sc. (in English)

Landscape Architecture and Landscape Planning

- Landscape Architecture and Landscape Planning B.Sc.
- Ecological Engineering M.Sc.
- Conservation and Landscape Planning M.Sc.

Nutrition Science

- Life Sciences Nutrition B.Sc.
- Nutrition and Biomedicine M.Sc. (in English)



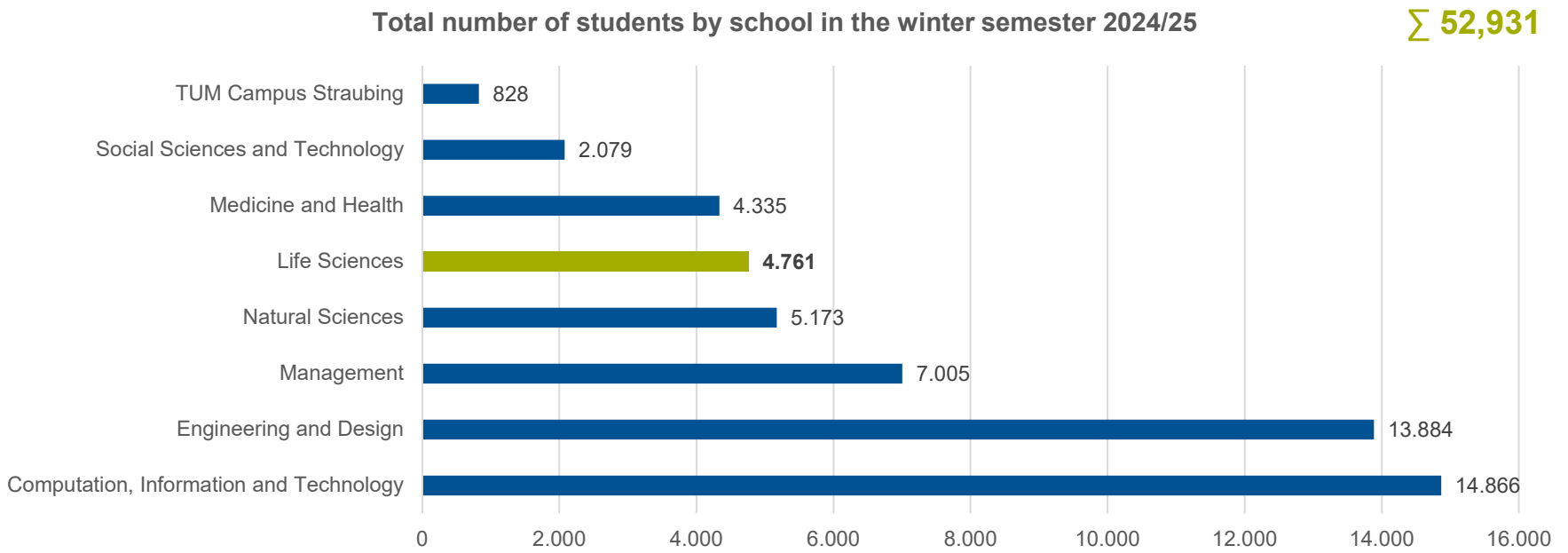
Food Chemistry and Sustainable Food

- Food Chemistry B.Sc.*
- Food Chemistry M.Sc.
- Sustainable Food, M.Sc.**

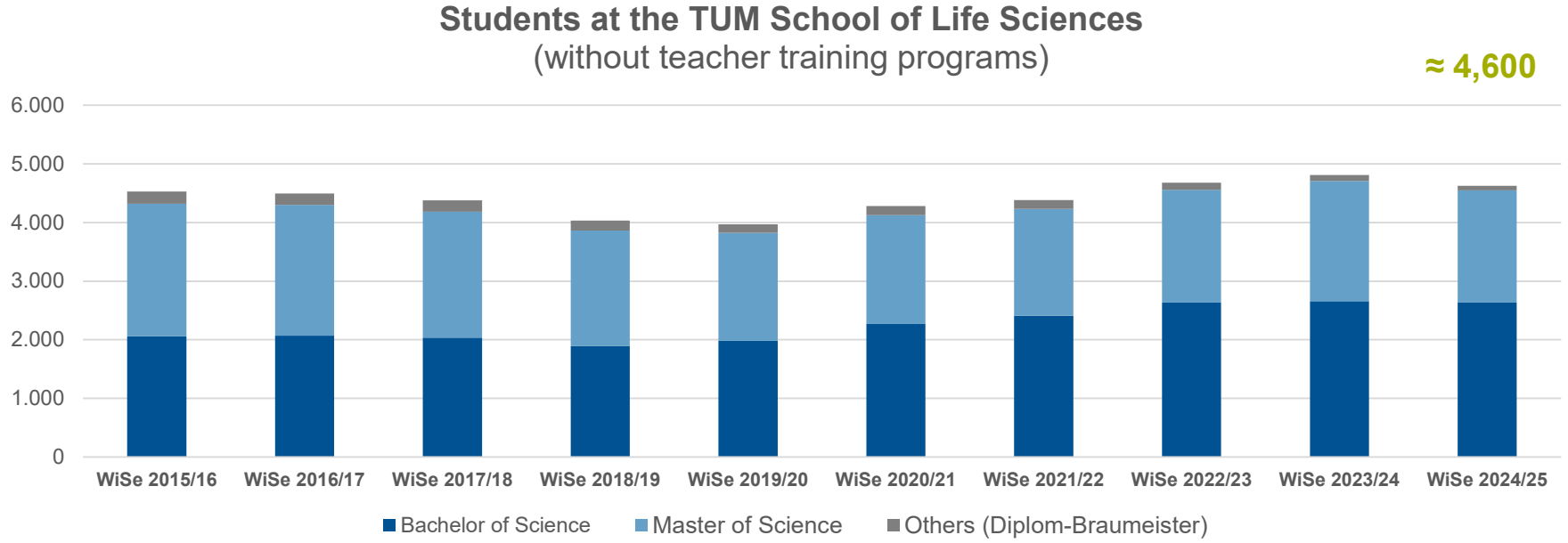
* At the TUM School of Natural Sciences

** At TUM Asia in Singapore

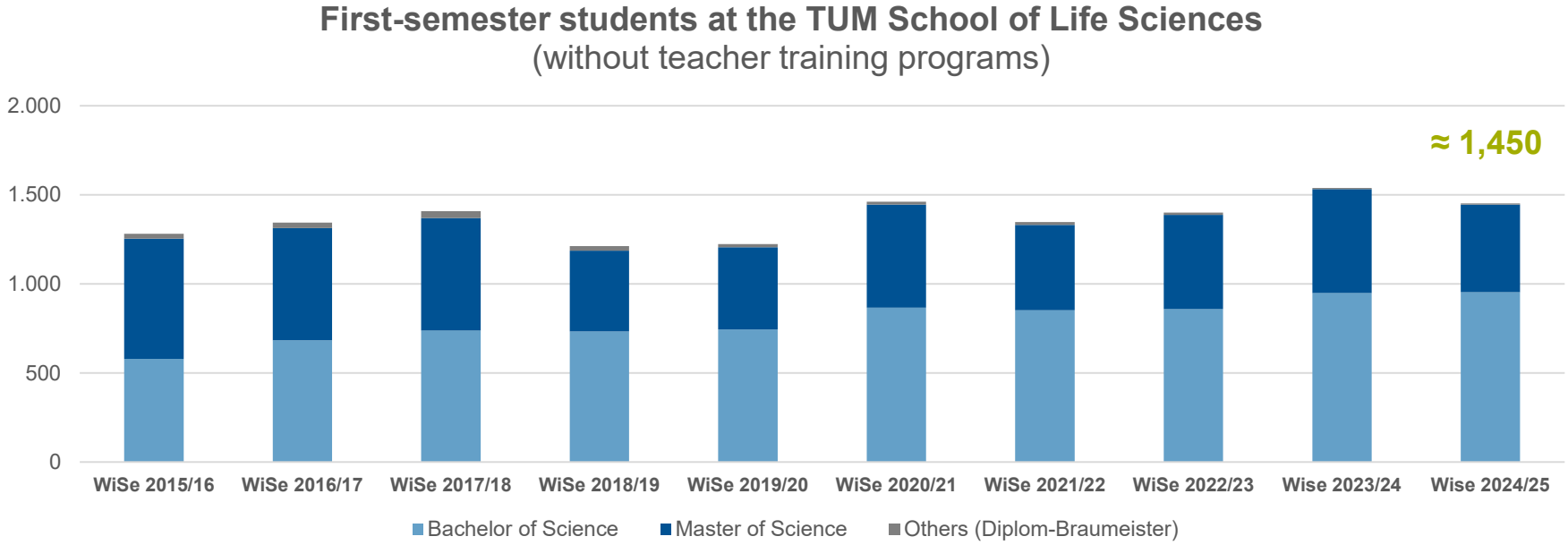
Total number of TUM students



Total number of TUM LS students



TUM LS student enrollments



International student community

International student community

(statistics WiSe 2023/24)

98

countries of origin of international students

Top 10:

- China: 229
- India: 200
- Turkey: 118
- Pakistan: 62
- Indonesia: 53
- Russia: 51
- Bangladesh/ Italy/ Austria: 43
- USA: 36

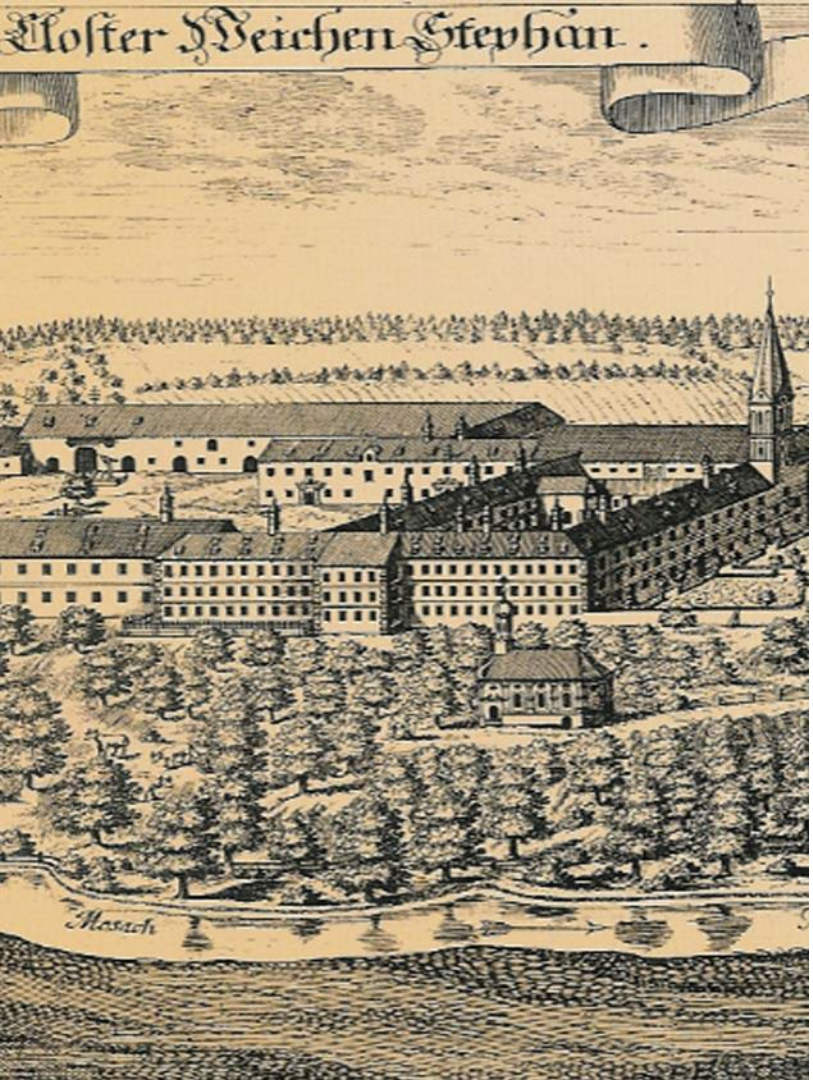
By continent:

Asia: 52 %
Europe: 32 %
Americas: 10 %
Africa: 5 %

StudiTUM – House of the Students

A modern learning environment in a historic setting of the old experimental distillery of Weihenstephan, including 200 learning places, a rehearsal room, a family room, and a lounge

University Library Life Sciences



History of

Weihenstephan

- **1803** Founding of the „School of Agriculture“
- **1895** „Royal Bavarian Academy for Agriculture and Beer Brewing“
- **1928** Incorporation in the Technical College of Munich (later to become TUM)
- **1998** Relocation of TUM Department of Biology
- **1999** Forestry Department becomes part of TUM
- **2000** Four departments united to the TUM School of Life Sciences Weihenstephan
- **2020** Transformation in TUM School of Life Sciences