THE BAVARIAN RESEARCH LANDSCAPE - EXCELLENCE IN SOUTHERN GERMANY
ABOUT BAVARIA

Area: approx. 70,000 km²
Population: 13 million
GDP 2019: 633 billion €
University Students: 404,700 in 2020/21, 60,600 (15%) from abroad

Unique combination of landscape, culture, tradition, high level sport, companies and innovation, excellent research
I. GENERAL CONDITIONS OF RESEARCH IN BAVARIA
STAKEHOLDERS OF THE GERMAN RESEARCH AND INNOVATION SYSTEM

- Federal Government
- Governments of the 16 Länder
- Public research
  - Universities
  - Academies
  - Departmental research
  - Research organisations (MPG, Fraunhofer, HGF, Leibniz Association)
- Industrial research
  - German Federation of Industrial Research Associations (AIF)
  - Zuse-Gemeinschaft
- Intermediaries
  - German Research Foundation (DFG)
  - Foundations (public and private)
  - Stifterverband
  - Associations and chambers
- Consultancy
  - Commission of Experts for Research and Innovation (EFJ)
  - High-Tech Forum
  - Innovation Dialogue
- Research and development in the private sector
  - Large and multi-national enterprises
  - Small and medium-sized enterprises

Source: BMBF
RESEARCH AND FUNDING IN GERMANY

Source: own depiction; rounded financing approaches/estimations; state of depiction 2013/18 (GWK, WR, Statistik-Portal)
RESEARCH AND FUNDING IN GERMANY

DFG (German Research Foundation)

Federal Government

Excellence Strategy:
- Excellent research clusters (57)
- Excellent universities (11)

2005 – …
533 million € p.a.

16 States

Dept. research (federal)

Non-university research org. (natl.)

Universities (state)

Non-university research org. (state)

Dept. research (state)

Source: own depiction
RESEARCH AND FUNDING IN GERMANY

- **DFG** (German Research Foundation)
  - Federal Government
  - 16 States
    - Programmatic funds
    - "Unmarked" funds
  - Dept. research (state)
  - Non-university research org. (natl.)
  - Universities (state)
  - Non-university research org. (state)
  - Dept. research (state)

Source: own depiction
BAVARIA: RESEARCH INFRASTRUCTURE

- 13 Max Planck Institutes + 1 Research Group
- 2 Helmholtz Centers + 3 Helmholtz Institutes
- 30 Institutes & Research Establishments of the Fraunhofer Association
- 17 Research and Technology Transfer Centres

- 11 Universities (9 state funded)
- 25 Universities of Applied Sciences (17 state funded)

Numerous projects funded by the Federal Ministry of Education and Research (BMBF) and the European Research Council (ERC) + 7 institutes of the Leibniz-Association
RESEARCH FUNDING IN BAVARIA

BUDGET FOR SCIENCE AND CULTURE IN 2021 – FUNCTIONAL SHARES
(8.265 MILLION EURO)

- research universities; 37,68%
- universities for applied science; 8,88%
- university medical centers; 9,96%
- art academies; 1,04%
- other university programs; 21,03%
- private universities; 0,81%
- universities for applied science; 8,88%
- museums, collections; 1,50%
- theaters; 3,59%
- libraries, archives; 1,16%
- preservation of monuments; 0,59%
- education grants; 6,08%
- other (incl. pensions, healthcare subsidies); 1,36%

Source: Bavarian Ministry of Finance, 2021
II. COOPERATION OF UNIVERSITIES AND INDUSTRY
BAVARIAN COMPANIES – SUCCESSFUL PLAYERS IN THE WORLD
Goal: strong regional university-industry networks

Tool: Technology Transfer Centers of universities (10) and UAS (17)

Technology Transfer Centers are located in smaller towns without their own university, but with strong companies.
PROMOTING UNIVERSITY-INDUSTRY COLLABORATION

Bavarian cluster organisations

**Digitalization**
- Information and communication technologies
- Mechatronics and automation
- Power electronics
- Sensor technologies

**Energy**
- Energy technologies
- Environmental technologies

**Health**
- Biotechnology
- Medical technologies
- Food industry

**Materials**
- Chemical industries
- Forestry and wood
- Nano-technology
- New materials

**Mobility**
- Railway technology
- Aerospace
- Automotive
III. HIGH TECH AGENDA (2019) AND HIGH TECH AGENDA+ (2020)
**HTA/HTA+: AN ACTION PLAN FOR THE FUTURE**

**Strategic Investment of € 2900 Mill.**

*(2019 – 2023)*

| Driving forward AI and the SuperTech program | Reorganising and expanding accelerator programs for universities and mobile networks in Bavaria | Large-scale reform of universities | Sustainable SME offensive for the Bavarian economy with focus on digital, start-up and automobile funds |
HTA/HTA+: 100 NEW AI CHAIRS

50 new AI chairs:
- Munich: AI Mission Institute
- Würzburg Data Science node
- Ingolstadt: Mobility node
- Erlangen: Health node
Another 50 new AI chairs:
HTA/HTA+: BAVARIAN QUANTUM INITIATIVE

Goal: establish a major hub for quantum sciences and technologies (QST)

www.munich-quantum-valley.de/
HTA/HTA+: EFFECTS ON UNIVERSITIES

- 1,000 new professorial positions
- 2,500 new positions in total
- 10,000 new study places at Bavarian universities
- More than 20 new research centers
- Renovation and new building projects
- University law reform
- Less teaching obligation for professors
- Distinguished Professorships (better payment/conditions)
IV. BAVARIA’S INTERNATIONAL COOPERATION
INTERNATIONAL COOPERATION

• International relations are individually driven by each university

• Additional funding of the State of Bavaria for:
  ✓ fellowships for students and international visiting professors
  ✓ institutions for the promotion of international academic cooperation (International University Centers, Bavarian Research Alliance)
  ✓ various funding programs
  ✓ international research and study marketing
THE BAVARIAN RESEARCH ALLIANCE (BAYFOR)

- provides
  - comprehensive advisory services on EU research and innovation funding
  - assistance for establishing scientific cooperations
- supports the networking activities of the Bavarian Research Associations
- **BayIntAn**: Bavarian initial funding program for international research partnerships
THE BAVARIAN ACADEMIC CENTER FOR CENTRAL, EASTERN AND SOUTHEASTERN EUROPE (BAYHOST)

- Founded in 2002, located at the University of Regensburg
- Mission:
  - Initiating academic partnerships between Bavaria and CEE countries
  - Building and maintaining an academic network
  - Promoting student mobility
  - Acquisition of specialists
  - Providing expertise in languages and intercultural affairs
Thank you for your attention!