

<u>Diverse business opportunities</u>

- R&D is the catalyst of any successful life science business and the very reason why it thrives in Bavaria. The state is known around the world for promoting research at universities and non-academic institutions in various fields, including biotechnology, medical technology, digital health, pharmacy and pharmacology, nutritional science, food technology and environmental engineering.
- Over the past two decades, connections between the world of science and business have been reinforced in Bavaria. In addition, digitalisation (and new disciplines such as bioinformatics in its wake) has been a driving force in creating a unique cross-industry innovation and entrepreneurship climate:
 - For example, there are no less than 350 companies in the biotechnology sector in Bavaria.
 - › Medical technology also thrives here. This sector has a total turnover of approx. €6.1 billion of which 93% is generated by small and medium-sized enterprises.
 - In addition, the state is home to a significant number of world-class healthcare institutions and pharmaceutical, chemical and environmental technology companies. As a result, Bavaria enjoys a very diverse life science business landscape.

Get an overview of life sciences in Bavaria here.

Access to talent

- Of the thirty universities and universities of applied sciences in Bavaria, most have faculties with world class R&D programmes in all major life science disciplines. For example:
 - Ludwig Maximilian University (LMU) of Munich: The laboratory for <u>Artificial Intelligence in Medical Imaging</u> (AI-Med)
 - Technical University of Munich (TUM):
 Munich Institute of Biomedical Engineering
 - Julius-Maximilians University in Würzburg:
 Research priority area <u>Molecules, Cells and Organisms</u>
 - University of Regensburg: R&D in the <u>Faculty of Medicine</u>
 - University of Augsburg: Chair of <u>Embedded Intelligence for</u> Health Care and Wellbeing
 - Friedrich-Alexander University in Erlangen-Nuremberg: Chair of Digital Health
 - Ostbayerische Technische Hochschule Amberg Weiden: Digital Healthcare Management, Medical Technology and Physician Assistance
 - Hochschule Ansbach: <u>Industrial Biotechnology</u> and <u>Medical Engineering</u>
- In addition, non-academic institutions are important R&D hubs for life science. For example:
 - Max Planck Society is building a larger "life science campus" in Martinsried where a strong focus will be on Real Life Neuroscience.
 - HelmholtzZentrum München has R&D teams covering a broad range of topics such as genetics and epidemiology, diabetes, health and environment and stem cells.

Effective networks

- Since 2006, the state-funded Cluster-Offensive Bayern has promoted the formation of industry networks to promote cross-functional and cross-industry innovation. Three renowned clusters in life sciences today serve as high performance networking and innovation platforms with international connections:
 - BioM Biotech Cluster
 - Food Cluster
 - > Forum MedTech Pharma for Medical Technology
- Regional networks such as <u>Medical Valley Nuremberg</u> facilitate collaboration in their respective locations, also forming cross-border partnerships.
- In addition, new platforms have been formed over the past several years that harness the power of digital technology. For example, the <u>Digital Health Hub</u> in Nuremberg/Erlangen focuses on the digitalisation of the healthcare industry.
- Most recently, the <u>H+ digital health programme</u> was created by InsurTech Hub Munich and the dmac – Medical Valley Digital Health Application Center. As a true cross-industry initiative it seeks to support teams developing digital health solutions.

Glocal perspectives

- All players in the Bavarian life science ecosystem collaborate with partners cross-border. As a consequence, many international companies in the sector are located here, for example: Amgen, Baxter, Novartis, GE Healthcare, Roche, Daiichi Sankyo.
- There are also many cross-broder projects, such as <u>Siemens Healthineers and Imito AG</u> (software developers from Zurich), who have developed an app solution "ImitoWound" for the digital observation of wounds. Another example is Medigene AG (Martinsried) and Cytovant (Shanghai), who have entered into a <u>service agreement</u> to support the development of a manufacturing process for dendritic cell (DC) vaccines.
- In the same spirit, Bavarian entrepreneurs innovate with a global perspective, with various "hidden champions" acting as world market leaders in their field. They include, for example, medical technology company Brainlab, a world market leader in soft- and hardware for in the fields of surgery, radiotherapy and medical image sharing. Martinsried based Morphosys is a leading player in the field of antibody technology. Bauer Comp is a global provider of breathing air compressor systems and Ireks is known worldwide for first-class baking ingredients with customers in over 90 countries.
- Various institutions, such as <u>Bayern International</u>, assist innovative companies in the life science sector to go global.