



Ministry of Science, Research and Arts Baden-Württemberg

RESEARCH

Research in Baden-Württemberg



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Baden-Württemberg is the No. 1 research location in Europe, be it in artificial intelligence, the life sciences or engineering. With spending on research and development accounting for 5.8 percent of the gross domestic product in 2019, the German Southwest is the driver of innovation in Europe. Non-university and university research institutions work closely together and are linked through extensive networks. This ensures the rapid transfer of results from basic research via applied research into the development of new products and ideas.

The Ministry of Science, Research and Arts oversees all state universities, the majority of non-university research institutions as well as the scientific libraries and archives. At present, there are 50 public universities in Baden-Württemberg. In addition to public universities, the state is home to more than 100 research facilities, including 12 research institutions of the [Max-Planck-Society](#), 20 facilities of the [Fraunhofer-Society](#), 7 institutions of the [Leibniz-Society](#), 2 major research centers of the [Helmholtz Association](#) and 3 sites of the [German Aerospace Center](#) (Deutsches Zentrum für Luft- und Raumfahrt).

In a large variety of these facilities, the Ministry of Science, Research and Arts is involved in funding – either institution-wide or through individual research projects.

For those interested in start-up companies, Baden-Württemberg's research institutions serve as a base for strong networks and advice while also being surrounded by plentiful capital and expertise. Baden-Württemberg's universities encourage students to be courageous enough to pursue their own ideas and dreams while providing the education and support for them to be successful.

Key Fields of Research

Baden-Württemberg focuses on research areas with a high potential for growth. With this goal in mind, the state has created campuses and ecosystems that enable high-level research together with close cooperation with local industry. Baden-Württemberg is particularly strong in the STEM subjects and in medicine, and these research areas are supported in our Innovation Campus Initiative.

Innovation Campus Initiative

Artificial intelligence: Cyber Valley Innovation Campus

Artificial intelligence (AI) is regarded as one of the most important innovation drivers for business and science in Baden-Württemberg.

With the Cyber Valley Innovation Campus in Stuttgart-Tübingen, Baden-Württemberg is certainly the most research-intensive location for Artificial Intelligence in Germany. In Cyber Valley, excellent AI-research meets business, attracting highly talented young professionals and encouraging start-ups.

The ongoing establishment of the [ELLIS Institute](#) (European Laboratory for Learning and Intelligent Systems) in Tübingen's [Cyber Valley](#) will create a highly visible center in the international ELLIS network, where top researchers from all over Europe work together.

Innovation Campus "Mobility of the Future"

Just as it did in the past, Baden-Württemberg continues to play an active role in shaping the transformation and future of sustainable mobility. To this end, the Innovation Campus "Mobility of the Future" was founded as a cooperation between the [University of Stuttgart](#) and the [Karlsruhe Institute of Technology \(KIT\)](#).

This Innovation Campus aims to establish interdisciplinary and cross-location research collaborations to accelerate the development of emissions-free mobility.

Cooperations with companies in Baden-Württemberg are strengthened through initiatives like the "Future Labs" and the "Innovation Challenge". A key element of the future labs are infrastructures that are used for academic research and for industrial applications. Those labs include the ARENA2036 in Stuttgart and the "Forschungsfabrik" (research factory) in Karlsruhe.

Innovation Campus Health and Life Science Alliance



Healthcare is one of the main economic pillars in Baden-Württemberg, benefitting from the state's high-performance research landscape. The "Forum Gesundheitsstandort Baden-Württemberg" (Health Forum for Baden-Württemberg) was founded to connect various research areas, the healthcare industry and healthcare services in order to make Baden-Württemberg one of the leading healthcare-locations in Germany and Europe.

The "Innovation Campus Health and Life Science Alliance" brings together the expertise of university and non-university research institutions as well as university hospitals in the Rhine-Neckar region. The area around Heidelberg and Mannheim offers a unique environment for scientific institutions, companies and start-ups. In this ecosystem, the Innovation Campus conducts internationally visible cooperative and interdisciplinary research on widespread diseases, drugs or procedures for prevention, diagnostics and therapy. The use of Artificial intelligence also plays a large role, allowing for new insights to be gained from large data sets in the field.

QuantumBW



High-performance quantum computers, ultrasensitive sensors or particularly precise MRI devices: Quantum technology offers enormous opportunities in key areas such as health, mobility and climate protection. As an important technology of the future, it is a driver of innovation and value creation in Baden-Württemberg. With the support of the state, global players from the industry have joined forces with universities and research institutions to form QuantumBW.

Quantum^{BW} is based on a strong network in which state universities, non-university research institutions, leading high-tech companies and start-ups pool their expertise. Under this umbrella, innovative structures and measures are being created that will further develop Baden-Württemberg as a quantum hotspot and make its research even more visible internationally. This will also increase the attractiveness for highly qualified researchers and skilled workers. The density of excellent research institutions and leading companies in Baden-Württemberg is already high, especially in quantum sensor technology.

Through coordinated education and training in quantum technology, the expansion of high-performance infrastructures for research and development, and support for cooperative formats between science and industry, the state is creating the best conditions for turning research results and technical innovations into applications and leveraging the enormous potential of quantum technologies. The strategic goals and key fields in Quantum^{BW} are summarized in the Baden-Württemberg quantum strategy, which also serves as a roadmap for development over the next ten years. The four fields of action are: Networking & Visibility, Cooperation Projects, Infrastructure, Spin-offs & Education and Training.

At the center of these activities is an office funded by the Ministry of Science, Research and Arts and the Ministry of Economic Affairs and Labor, which coordinates the implementation of the quantum strategy, brings information together about the quantum ecosystem in Baden-Württemberg and promotes the

further networking of research and economic centers. Based on these activities and the structures now being created, Quantum^{BW} will be expanded into an innovation campus in the field of quantum technologies.

Finances

In Baden-Württemberg's state budget, around 6.3 billion euros are earmarked for science, research and the arts (2023). The universities' third-party funding income in 2020 was around 1032 million euros. Added to this is third-party funding income from university medicine of just under 433 million euros.

Spending on research and development accounted for 5.8 percent of gross domestic product in Baden-Württemberg in 2019 - well above the national average (3.2 percent) and the EU average (2.2 percent). The USA (3.1 percent), China (2.2 percent) and Japan (3.2 percent) also spent proportionately less on research and development.

[Call for proposals \(in German\)](#)

Link dieser Seite:

<https://mwk.baden-wuerttemberg.de/en/research>