



Bavaria Environmental High-Tech Center Technology



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Bavarian Ministry of Economic Affairs,
Infrastructure, Transport and Technology

Air cleaning to Water treatment

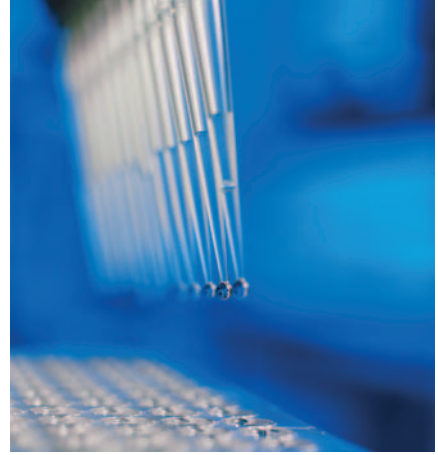
Environmental Technology Research Location

Bavaria is a global leader in innovative environmental technology. From design, development and engineering to industrial plant and equipment, Bavaria offers first-class, reliable business partners. In terms of market potential and technological partners, Bavaria is a top supplier of environmental technology in Europe.

Germany occupies a front-line position in the field of environmental technology: the **market for environmental protection** totals some € 12 billion. About 17 % of this comes from Bavaria and with more than 2,000 firms active in environmental engineering Bavaria ranks high up in the German league. Bavarian environmental firms export their products and expertise to all the major markets in the world and benefit from the State's excellent location in the very heart of Europe.

On the **research front**, Bavaria can draw on top expertise covering the whole spectrum of environmental technology. From power engineering through waste management to soil rehabilitation and from water treatment through clean air conservation to environmental medicine, there are competent partners in science and industry to be found throughout the State.

Environmental technology and environmental services are in great demand in both the private and public sector. The main pillar is the **Environmental Pact of Bavaria** (www.umweltpakt.bayern.de). Under this initiative, which is unparalleled in Germany, the Bavarian Government and Bavarian industry have agreed on a number of concrete projects (ranging from sparing use of resources all the way to eco-management).



Hotspot for Environmental Technology

References and Resources

Bavaria: competence right down the line

Bavarian regions have bundled competences available in the fields of industry and science.

Augsburg/Swabia

This region has a high concentration of competences at its disposal with almost 300 companies working in the field of environmental engineering and is one of Bavaria's high-flyers when it comes to environmental technology.

The offer is rounded off by KUMAS, the Center of Excellence for the Environment Augsburg-Swabia (www.kumas.de), the Bavarian Institute of Applied Environmental Research and Technology (www.bifa.de), the Bavarian Environmental Protection Agency (www.bayern.de/lfu), and the Environmental Technology Business Incubator (www.u-t-g.de).

Munich/Upper Bavaria

With approx. 560 enterprises and a high level of research competence (including institutions like the GSF National Research Center for Environment and Health and the Technical University of Munich), Munich and Upper Bavaria form yet another focal point for Bavaria's environmental technology. Its sales territories show clearly that the sector is definitely oriented towards export markets.

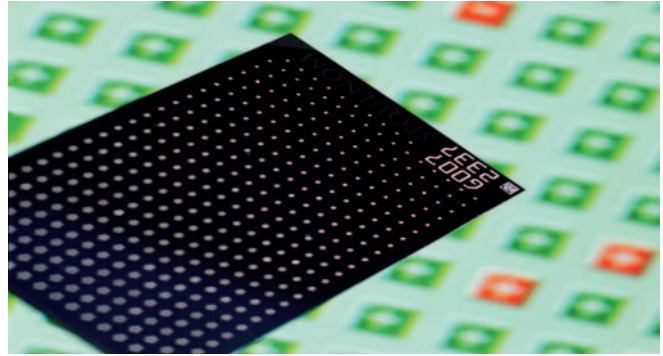
ÖKOPROFIT (Ecological Project for Integrated Environmental Technology ECO-PROFIT, a co-operation project between Bavaria's capital Munich and various Munich companies (www.muenchen.de)), supports the introduction of economically and ecologically efficient technologies in the enterprises of the region, thus promoting the networking of providers and users of environmental technology.

Nuremberg/Middle Franconia

With around 700 enterprises, Middle Franconia is one of the leading regions in Germany for providers of environmental technology. This covers a broad range of manufacturers, service providers and consultancies. To these must be added the know-how of Middle Franconia's universities. The Middle Franconian companies are active in networks such as the Technology Innovation Network of Middle Franconia and the Environmental Competence Network of Northern Bavaria (www.ihk-nuernberg.de).



Bavaria: the innovative environment



Know-how for the Future!

Highly qualified, trained experts

Environmental technology is a forward-looking, cross-sector technology. Special competence can thus be found at most Bavarian universities in the faculties of biology, chemistry, medicine, process engineering/mechanical engineering, electrical engineering, and informatics/mathematics.

Offers of courses relating to the environment are available throughout Bavaria, with **study courses specializing in different fields**: the range extends from environmental technology and process engineering, conservation technology, environmental and bio-engineering and energy and environmental process engineering via environmental ethics, environmental security and sustainable resource management, right down to ecology.

Bavaria is especially active in the field of **advanced training**. At the Environmental Protection Study Center in Lauingen (www.bzu.de), for example, experts qualified in the field of environmental technology receive a specialized training. In addition, the Center trains international public decision-makers on environmental topics.

Competence in research

Close co-operation between the research institutes and industry is the key to Bavaria's outstanding competence in the field of research. In cross-faculty centers experts try to find **innovative solutions** to new problems:

- in traditional fields like regenerative energies, combined heat and power (CHP), fuel cell technology, and air-, water- and soil-quality control methods
- in specialized fields as
 - heat insulation and heat transport (www.zae-bayern.de)
 - modern forms of land use (www.wzw.tum.de)
 - sustainability through innovative materials and scenario technology (www.physik.uni-augsburg.de)

For joint projects, companies can draw on the broad sphere of competence offered in facilities throughout Bavaria:

- **ATZ Development Center** (Sulzbach-Rosenberg)—engaged in the generation of energy from biomass and waste as well as in protection against wear and corrosion in power engineering. Development of innovative processes and new materials for decentralized generation of energy from the study phase to pilot scale production (www.atz-evus.de).
- **GSF National Research Center for Environment and Health** (Neuherberg/Munich)—complete range from environmental research through investigation into the impact of pollutants on ecosystems, animals and humans to clinical research and epidemiological studies (www.gsf.de).
- **Research and Development Center for Special Technologies** (FES) (Schwabach)—research services in the field of process engineering for industrial waste requiring special monitoring (www.fes-schwabach.de).
- **Bavarian Institute of Applied Environmental Research and Technology** (BIfA) (Augsburg)—sustainable management, precautionary approach to protection of the environment and development of future-proof technologies and products on national and international level (www.bifa.de).
- **Center of Excellence for Renewable Raw Materials** (Straubing)—activities relating to renewable raw materials within a scientific center, a technology and support center TFZ and the C.A.R.M.E.N organization (www.konaro.bayern.de).
- Other major institutions involved in environmental research:
 - Max Planck Institutes of Biochemistry, Neurobiology and Plasmaphysics,
 - Fraunhofer Institutes of Process Engineering and Packaging and of Silicate Research
 - Institute for Meteorology and Environmental Research (IMK-IFU)
 - German Research Agency for Food Chemistry (DFA).



The Bavarian Research Networks

Bavaria also supports many research networks (www.abayfor.de), where there is an active exchange between companies, institutes, associations and universities. Examples of such networks include:

- BayFORREST—Bavarian Research Cooperation for Waste Management and Recycling Research
- KW 21—Power stations of the 21st century
- FORTVER—Bavarian Research Cooperation for Turbulent Combustion



Networks and partners

Best Available Partner

The Center of Excellence for the Environment Augsburg-Swabia, **KUMAS**, is a central co-ordinating body for the topic of environmental technology in Bavaria. Within the KUMAS framework more than 170 companies and institutions are currently co-operating on joint projects thus forming an active nucleus for the environment technology network in Swabia (www.kumas.de).

BAIKUM, the Bavarian Innovation and Cooperation Initiative for Environmental Technology, is committed to strengthening the innovative capacity, competitiveness and export viability of Bavarian environmental technology enterprises throughout Bavaria.

BAIKUM provides up-to-date information on new developments in environmental technology and offers a platform for the initiation of targeted contacts to partners from industry and science. BAIKUM provides support in developing new markets and international competitiveness (www.baikum.de).



Established events

IFAT Munich (www.ifat.de), the most important international trade fair for waste disposal and the environment, and **Analytica** (www.analytica.de)—also in Munich—along with numerous renowned congresses and symposia, regularly present the industry with the latest achievements in the field of environmental protection.



Sustainable Support

Tailormade support for investments

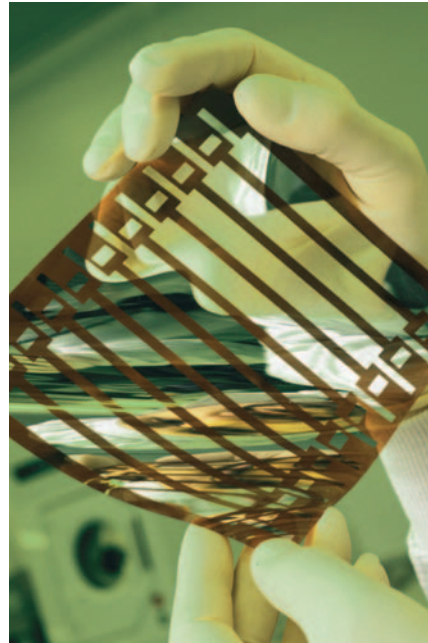
Under its regional development and energy saving programs, the State of Bavaria supports companies that are setting up new production facilities or expanding their existing ones. Innovative companies investing in technologies of the future are also eligible for targeted support under technology development schemes (www.stmwivt.bayern.de).

Venture Capital

Munich is Germany's stronghold for national and international VC and PE funds. Through Bayern Kapital GmbH (www.bayernkapital.de) Bavaria gives added impetus to the provision of risk capital. The investment of private (lead) investors can then be tripled by Bayern Kapital and tbg Technologie-Beteiligungs-Gesellschaft mbH investing the same amount.

Investments in the environmental sector

The LfA Förderbank Bayern (www.lfa.de) has developed special offers to promote regenerative measures and projects protecting the environment. Investments by small and medium-sized industrial enterprises are eligible for support in fields as waste water treatment, clean air conservation, noise and shock protection, waste management and energy saving.





Environment: Enjoy it!

Beautiful Bavaria

When you invest in Bavaria, you not only secure a strong business location—here you live and work in a region which offers a very high quality of life.

The Alps and the central uplands, the lakes and forests, castles, churches and historic cities make up a cultural landscape, which is quite unique. Genuine Bavarian charm and cosmopolitan flair go hand in hand.

There is a great emphasis on hospitality in Bavaria—a whole range of delicacies, traditional beer gardens and of course, the world famous Oktoberfest.

The opportunities for leisure activities are endless—ranging from skiing to top cultural events in museums, opera houses and galleries.



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