



Baden-Württemberg

Microsystems Technology

Microsystems Technology in Baden-Württemberg

Microsystems technology is a key technology which offers best opportunities for growth in different industry sectors of Baden-Württemberg's economy. With a broad range of research institutes and technology service providers, technology transfer plays an important role in Baden-Württemberg.

Numerous companies use microsystems technology for innovative applications in various fields, such as:

- Micro sensors for the automotive industry
- Vaporizers and implants for medical technology
- Micro components for electronics and IT

Being a cross-section technology, integration of microsystems technology creates a valuable development potential for advantages in competition for companies from many sectors. With companies and research institutes leading in microsystems technology as well as with specialized courses at universities, Baden-Württemberg is a location which offers excellent conditions.



Microsystems Technology – Selected Companies



2E mechatronic GmbH & Co. KG, Wernau

<http://www.2e-mechatronic.de>



BioFluidix GmbH, Freiburg

<http://www.biofluidix.com>



efm-systems GmbH, Stuttgart

<http://www.efm-systems.de>



Baden-Württemberg

Microsystems Technology – Selected Companies



Your expert for embedded systems

embeX GmbH, Freiburg

<http://www.embex.de>



Endress + Hauser (Deutschland) AG & Co.KG, Lörrach

<http://www.endress.com>



Festo AG & Co. KG, Esslingen

<http://www.festo.com>



Baden-Württemberg

Microsystems Technology – Selected Companies

LITEF GmbH

LITEF GmbH, Freiburg

http://www.litef.de/index_e.htm



BOSCH

Robert Bosch GmbH, Reutlingen

<http://www.bosch.com>

micropelt
Thin film thermoelectrics.

Micropelt GmbH, Freiburg

<http://www.micropelt.com>



Baden-Württemberg

Microsystems Technology – Selected Companies



Rohwedder AG Micro Technologies, Bruchsal

<http://www.rohwedder.com>



SICK AG, Waldkirch

<http://www.sick.com>



VISENSO GmbH, Stuttgart

<http://www.visenso.de>



Baden-Württemberg

Microsystems Technology – Research



Institute for Microelectronics Stuttgart - IMS

<http://www.ims.chips.de>

Being a foundation of the state of Baden-Württemberg the Institute for Microelectronics Stuttgart is involved in industry-oriented research in silicon technology, application-specific integrated circuits (ASICs), photo lithography and image sensors as well as vocational education. The institute has alliances with small- and medium-scale companies in Baden-Württemberg in particular and cooperates with top international semiconductor corporations and suppliers.



Forschungszentrum Karlsruhe

<http://www.fzk.de>

The Microsystem Technologies Program of the Forschungszentrum Karlsruhe is based on "Fabrication Technologies and Materials" covering the fields of "Primary Structuring", "Replication Techniques", "Materials Development and Molding" as well as "Systems Assembly". The findings developed in these fields are implemented in four application-oriented areas of high long-term relevance and have given rise to a number of products already, such as "Electronic noses", "Micro Process Engineering", "Microoptics" or "Protein Analysis and Microfluidics".



Institut
Produktionstechnik und
Automatisierung

Fraunhofer Institute for Manufacturing Engineering and Automation IPA, Stuttgart

<http://www.fhg.ipa.de>

The Ultraclean Technology and Micromanufacturing department deals with production-technology issues connected with miniaturized and contamination-critical production processes. The area of work extends from the conceptual design of production equipment through to industrial implementation, production and support. The R&D services are focused on cleanliness and cleaning technology, contamination measurement systems, microassembly, plant development, production IT, logistics, production planning and optimization.



Baden-Württemberg

Microsystems Technology – Research



Hahn-Schickard-Gesellschaft Institute for Micro and Information Technology (IMIT), Villingen-Schwenningen

<http://www.hsg-imit.de>

The HSG-IMIT belongs to the leading R&D service providers in Baden-Württemberg for microtechnological components and systems in the fields of sensors, microfluidics and system integration. Competences include thermal and inertial sensors, energy autonomous systems, microdosage systems, lab-on-a-chip and micro medical technology.



Hahn-Schickard-Gesellschaft Institute for Micro Assembling Technology (IMAT), Stuttgart

<http://www.hsg-imat.de>

In close cooperation with the Institute of Time-Measuring Technology, Precision and Micro Engineering in Stuttgart, HSG-IMAT works on housing and joining technology for micro systems with plastic housings and Molded Interconnect Devices (MID). Another field of work is the development of innovative sensor and actuator systems in hybrid construction with micro-structured MIDs.



NMI Natural and Medical Sciences Institute at the University of Tuebingen

<http://www.nmi.de>

The NMI is a non-profit applied research institute working on interdisciplinary projects for companies in the life sciences, biomedical technology and material sciences. The focus lies on the interface between the life sciences and material sciences. There is a broad range of applications for NMI's microsystems in biotechnology and biomedical technology such as innovative micro- and nanosystems for the manipulation, separation and analysis of molecules, organelles, cells and tissues. Bio-MEMS, lab-on-a-chip and point-of-care represent life science applications of microsystem technologies developed by the NMI and its partners.



Baden-Württemberg

Microsystems Technology – Universities (Research/Teaching)



Institute of Microsystem Technology (IMTEK), University of Freiburg

<http://www.imtek.de>

In 1996, University of Freiburg's IMTEK was founded to be the first institute of a German university with the goal of complete research and education on microsystems technology. Today at IMTEK 15 professors and almost 250 employees cover the whole range of microsystems technology research from the basics to industrial applications. Industrial cooperation is very important for the IMTEK and is realized in many ways such as feasibility studies, contract development or large partner projects.



Furtwangen University

<http://www.fh-furtwangen.de>

Since 20 years Hochschule Furtwangen works on the field of microsystems technology. The focus of the R&D activities lies on the microtechnological realization of physical sensors and actuators as well as on the development of the related process technology. Realized examples: miniaturized silicium microphones, inclination sensors, optical switches, micro-mechanical adaptive optics, humidity sensors. For all tasks a completely equipped silicium technology laboratory is available, with a clean room area of 270 m². All processes are included which are necessary for manufacturing and processing silicium devices in bulk or surface technology. Hochschule Furtwangen has got many years of experience with participation in and coordination of national and international research cooperations, also together with small and medium sized companies.



Baden-Württemberg

Microsystems Technology – Networks



Mikrosystemtechnik Baden-Württemberg e.V. (MST BW)

The association of Mikrosystemtechnik Baden-Württemberg e.V. (MST BW) was founded upon an initiative of the Baden-Württemberg Ministry of Economic Affairs and 16 companies and institutions. Its goal aims at a closer link between scientific and industrial activities. MST BW organizes the networking within and beyond Baden-Württemberg, workshops and interdisciplinary work groups as well as enhancing educational offers. The association initiates strategic networking and support projects and supports start-up companies.

MST BW

- promotes microsystems technology in Baden-Württemberg for industrial realization as well as in research, teaching and education
- communicates Baden-Württemberg's competence in the field of microsystems technology – nationwide and international
- is responsible for the management of the cluster „MicroTEC Südwest“



Microsystems Technology – Networks



MicroMountains Applications AG

The MicroMountains network in Villingen-Schwenningen has just established a center for technology transfer - named application center - supported by the Federal Government. Main task of the facility will be the massive acceleration of the implementation of research results in small and medium-sized companies. Unlike other research institutions the Micro Mountains application center can act as a legally self-dependent company. It conducts innovation intentions like service jobs - which also is an innovation motor that will push the competitiveness of the Baden-Württemberg economy in the expanding fields of miniaturization and microsystems technology.



Forum angewandte Mikrosystemtechnik e.V. FAM

The FAM (Forum Applied Microsystems Technology) is a federation of representatives from business and science. Their goals are to promote microsystems technologies, processes and applications. In order to achieve those goals, the know-how of the scientists at the University of Freiburg's Institute of Microsystems Technology (IMTEK) and the experience of the industry members is brought together. Thus mutual synergy effects are generated.



Microsystems Technology – Networks



BIOPRO Baden-Württemberg GmbH

BIOPRO Baden-Württemberg as the State-wide service and marketing agency pursues the targeted support of research institutions and companies of the biotechnology and life science sectors.

Through specific measures for the promotion of the economy, targeted location marketing and broad public relations work, it is the task of BIOPRO Baden-Württemberg to present and expand the large potential of this highly innovative technology sector in a transparent and efficient way.



Steinbeis GmbH & Co. KG für Technologietransfer

Steinbeis is a service company for technology and knowledge transfer which operates worldwide. The Steinbeis federation includes about 700 specialised Steinbeis companies of all areas of technology and management as well as cooperation and project partners in 50 countries. They are mainly located at research institutes, universities, universities of applied sciences or academies. The services of Steinbeis comprise consulting, research and development, analyses and expertises and training..



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