



**MICRO SYSTEMS
ENGINEERING**

an MST company

Your partner and specialist
for advanced microelectronics



Micro Systems Technologies
engineering for life

All key processes from one source

MICRO SYSTEMS ENGINEERING (MSE) Founded as a supplier of electronic modules for active medical implants (e.g. pacemakers), MSE in Berg (Germany) is now an important partner and specialist for the international electronics industry. The company provides sophisticated solutions for advanced electronics at the highest level of quality.

Products & services

FULL SUPPORT CHAIN FROM LAYOUT GENERATION TO MODULE ASSEMBLY

MSE's mission is to support each customer as a partner – from the concept phase through prototyping to volume production, from design support through quality management to procurement.

MSE offers all the key processes needed to manufacture an electronic module from one source. The company applies the expertise and experience it has gained in medical technology to every sector where high reliability, miniaturization, high temperatures, high frequencies or hermetic encapsulation play an important role.

DESIGN SERVICES

Our design support team converts your design inputs and requirements into reliable and robust products.

- LTCC / HTCC
- Thick film
- Organic substrates
- Direct bonded copper
- Thin film



SUBSTRATE MANUFACTURING

In addition to standard thick film technology, we also provide multilayer Low Temperature Co-fired Ceramics (LTCC) – offering a variety of beneficial features like fine line resolution, integrated passive components and many more.

- Low Temperature Co-fired Ceramics (LTCC)
- Thick film



ADVANCED ASSEMBLY

We have at our disposal extensive assembly equipment and inspection technologies. They enable us to assemble an extremely wide range of components on any board material for the production of complex, miniaturized electronic modules.

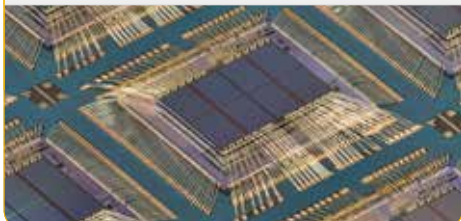
- Fully automated SMD assembly
- Chip on Board
- Flip chip and chip scale packages
- MCM
- Underfill, encapsulation



PACKAGING

We offer various customized packaging solutions for a wide range of base materials, I/O configurations and housing types. Our newest technology development enables the production of SDBGAs using transfer molding technology in small and medium-sized volumes.

- Ceramic and metal packages
- Ball grid arrays
- Hermetic packages
- Stacked die packages
- Transfer molding



SPECIAL CAPABILITIES AND SERVICES

Innovative technologies, committed and highly skilled employees as well as a set of complementary services allow us to offer comprehensive customized solutions from one source.

- Customized electrical tests
- Lot acceptance tests
- Traceability
- Validation
- Global material procurement



Our experience for your demanding needs

Business segments

MEDICAL & HEALTHCARE

We have been manufacturing miniaturized electronic modules for active implants and other medical devices since 1984. All of our business processes reflect this industry's demanding requirements in terms of quality and reliability.

Active implants

Sensors

External medical devices

Detectors



AEROSPACE & DEFENSE

Our materials and process portfolio offers a variety of solutions with robust structures, hermetic sealing or heat sinks for applications that involve extreme environmental conditions.

Radar modules

TR modules

Controller modules

Processor modules



MICROWAVE & RF APPLICATIONS

The features of our LTCC technology – like excellent high-frequency properties and hermeticity – support many applications in the field of microwaves and RF.

Communication links

Transceivers

Voltage-controlled oscillators

Filters



INDUSTRIAL ELECTRONICS

The diversity of our technologies as well as the flexibility of our manufacturing processes allow us to meet the multifaceted requirements in the field of industrial electronics.

Sensor modules

Controller modules

Imaging modules

Processor modules



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About us



MICRO SYSTEMS ENGINEERING GMBH (MSE) specializes in customized solutions for advanced microelectronics.

MSE has experienced continuous growth for more than 30 years, and today the company is among Europe's leading suppliers of complex LTCC (Low Temperature Co-fired Ceramic) substrates as well as board assembly and semiconductor packaging technologies for both ceramic and organic substrates. Our commitment to quality, reliability, cost effectiveness and meeting customer requirements is your guarantee for customized top-level solutions in microelectronics.

MSE is ISO 13485 and ISO 9001 certified.

Micro Systems Engineering GmbH is a company of the MST Group.

iMAPS

MSE is an active member of iMAPS Germany and iMAPS International.



MICRO SYSTEMS TECHNOLOGIES

The Micro Systems Technologies (MST) Group provides innovative solutions from concept to volume production for medical devices and other high-reliability / high-performance industries. Its four coordinated operating facilities – located in Germany, the United States and Switzerland – allow MST to be active worldwide and maintain global business relationships. Just some of the products and services that the MST Group currently offers include: HDI/microvia PCBs, ceramic substrates, design and manufacturing of miniaturized electronic modules, as well as batteries and battery packs for medical implants.

The MST Companies:

DYCONEX AG

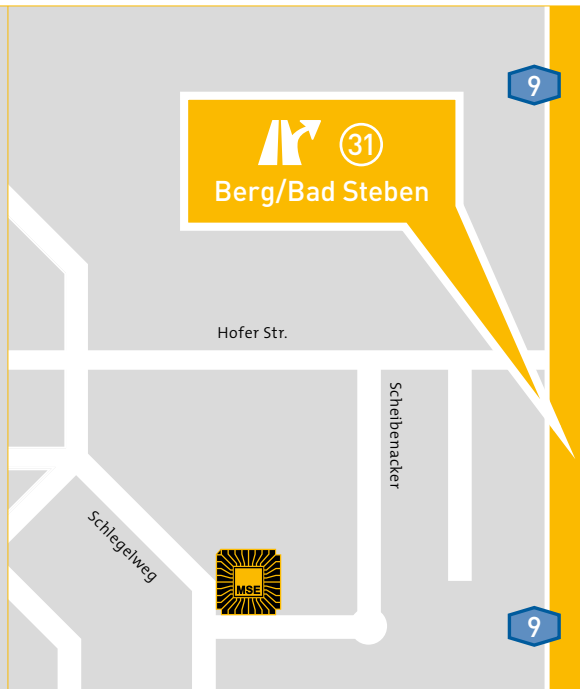
LITRONIK Batterietechnologie GmbH

Micro Systems Engineering GmbH

Micro Systems Engineering, Inc.



MSE has its headquarters in Berg (Upper Franconia, Germany), which is roughly 130 km north of Nuremberg. The town of Berg is located directly on the A9 freeway going from Berlin to Munich and has its own exit (Berg / Bad Steben).



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