



Micro Systems Technologies
engineering for life

Your partner
and specialist
for advanced
microelectronics



**MICRO SYSTEMS
ENGINEERING**

an MST company

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.

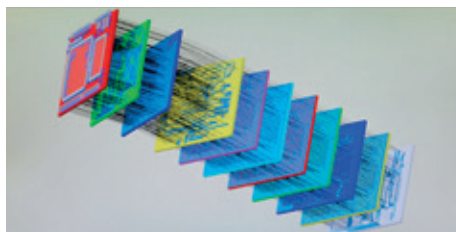
 LTCC / HTCC

 Thick film

 Organic substrates

 Direct bonded copper

 Thin film

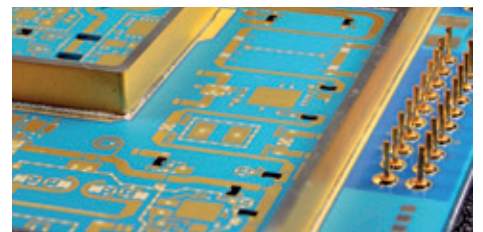


Substrate Manufacturing

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.

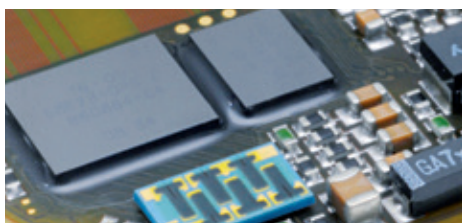
 Fully automated SMD assembly

 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.

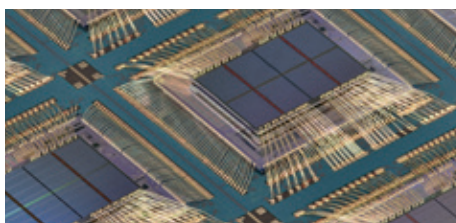
 Ceramic and metal packages

 Ball grid arrays

 Hermetic packages

 Stacked die packages

 Transfer molding



Special Capabilities & 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.

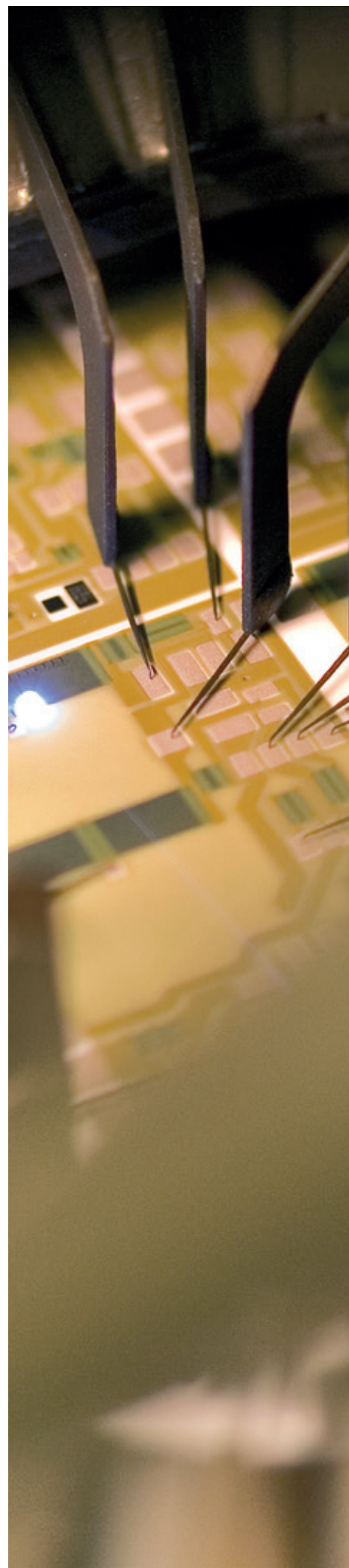
Communication links
Transceivers
Voltage-controlled oscillators
Filters



Industrial electronics

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

Sensor modules
Controller modules
Imaging modules
Processor modules



About us



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Micro Systems Engineering GmbH (MSE)

Micro Systems Engineering GmbH (MSE) specializes in customized solutions for advanced microelectronics. MSE has experienced continuous growth since 1984 for more than 30 years, and today the company is among Europe's leading suppliers of complex LTCC 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.

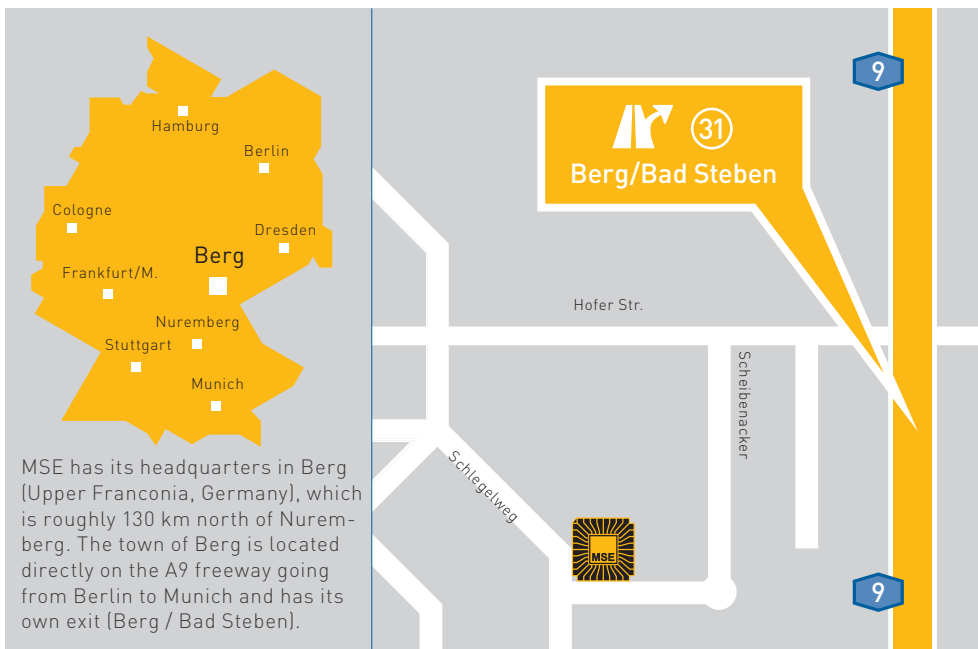
MSE is ISO 13485, ISO 9001 certified & ISO 50001:2011

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

The Micro Systems Technologies

The 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.



IMAPS



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

The MST Companies:

DYCONEX AG

LITRONIK Batterietechnologie GmbH

Micro Systems Engineering GmbH

Micro Systems Engineering, Inc.



MST Showroom



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