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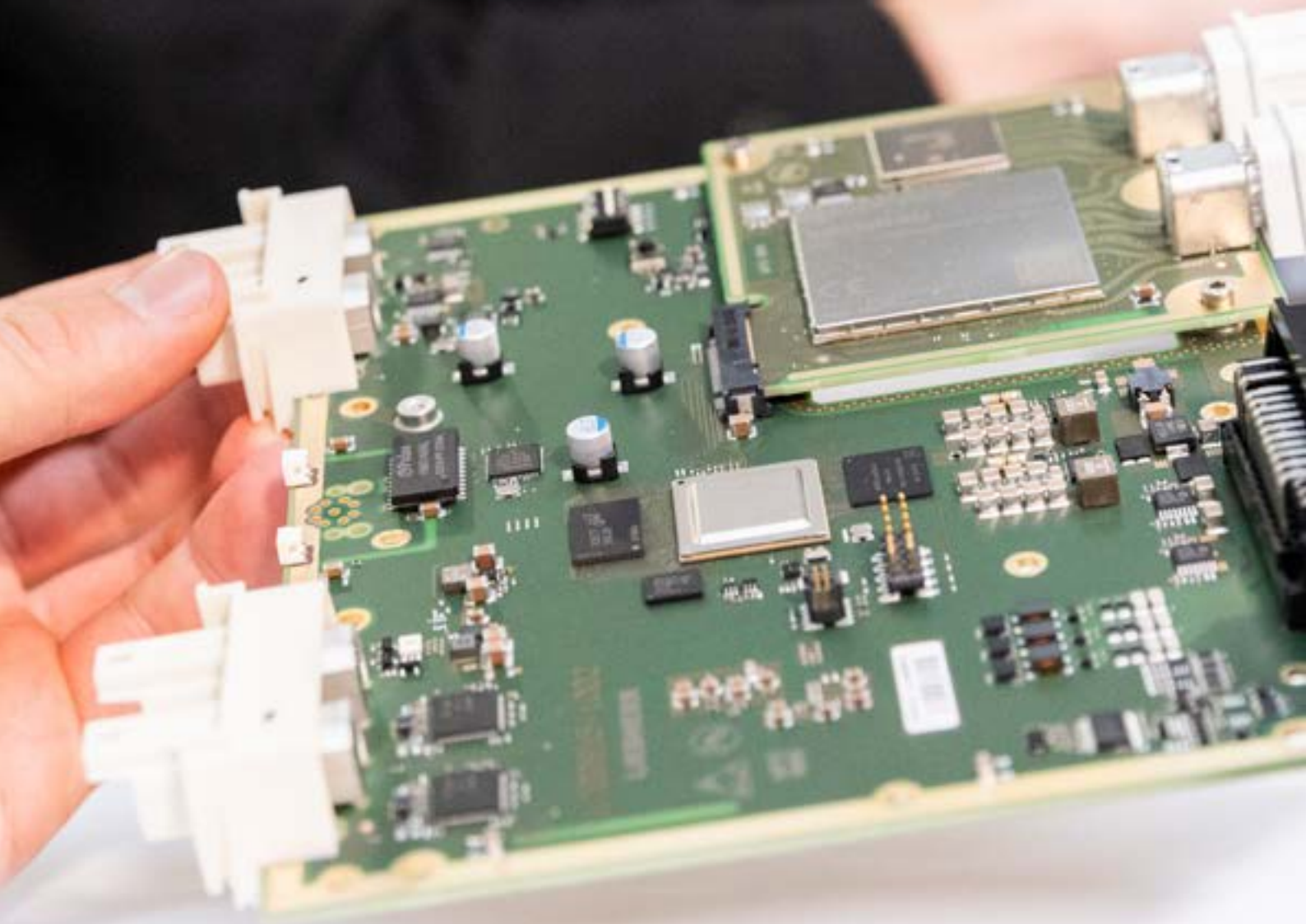
# Electronics Manufacturing Services

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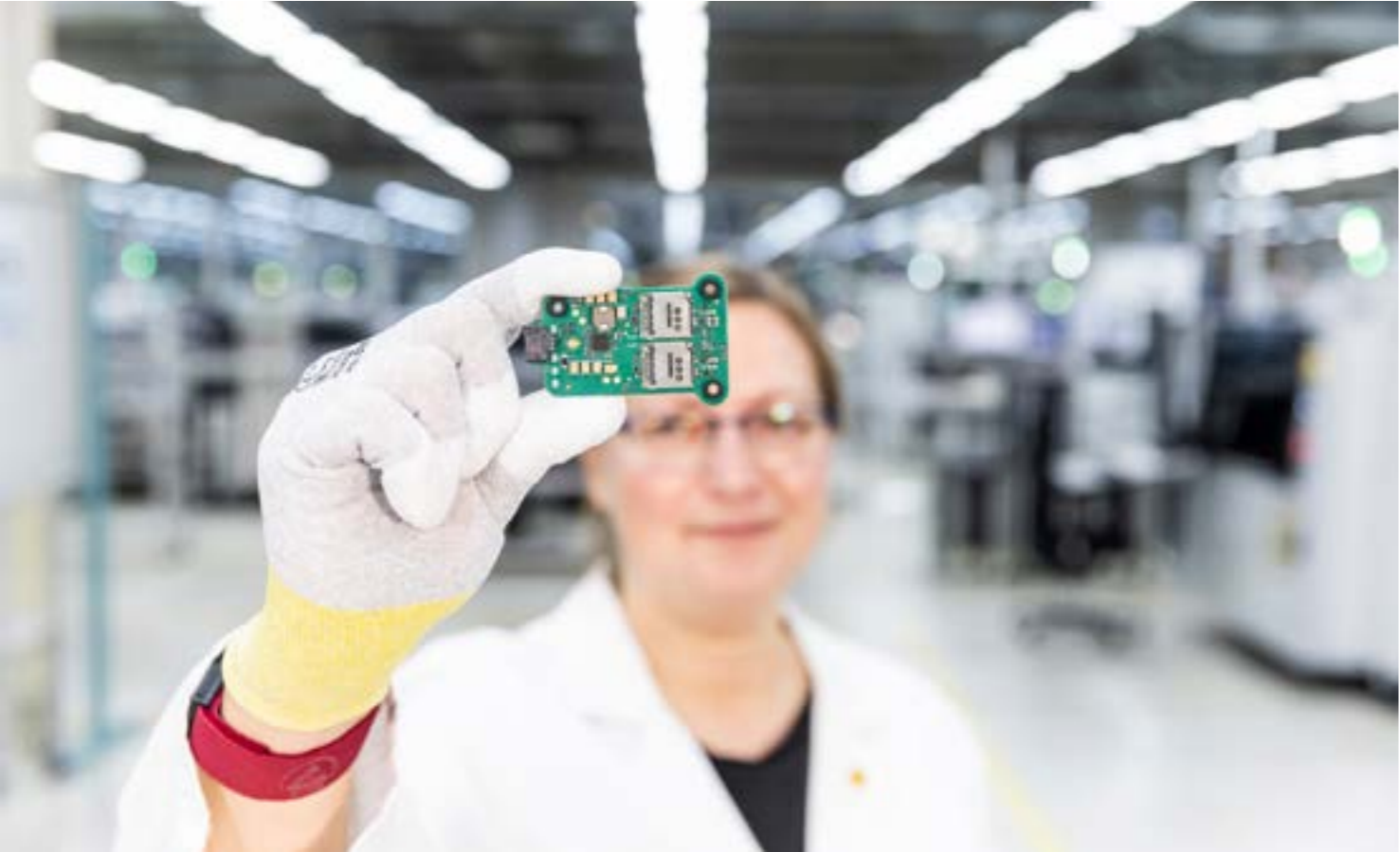
Competence center  
for electronics

**LIEBHERR**

Components  
Electronics



# Competence center for electronics – our know-how for your product



At Liebherr-Electronics and Drives GmbH, around 1,000 employees currently develop and manufacture customer-specific hardware and software solutions for industry and aviation.

The Liebherr Group as well as numerous external customers rely on the know-how and the high-quality electronic products from Lindau and Biberach – made in Germany.

# Our services at a glance

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Manufacturing
- 

Industrialisation
- 

Fast response time
- 

Test development
- 

Supply Chain
- 

Service
- 

Certifications
- 

Test methods

[EMS WEBSITE](#) →



## Comprehensive service through the product life cycle

Beginning with the procurement of materials and extending through PCB assembly and mounting, the creation and implementation of complex test concepts and qualification processes to logistics and after-sales service – our experienced EMS team is at your side, from the initial inquiry to the finished device.



### **Experienced partner**

With our many years of experience as a competence center for electronics, we support you in the manufacture and mounting of your products



### **One-stop shop**

Thanks to our holistic approach, we offer fast decision-making processes, high flexibility, speed and security of supply.



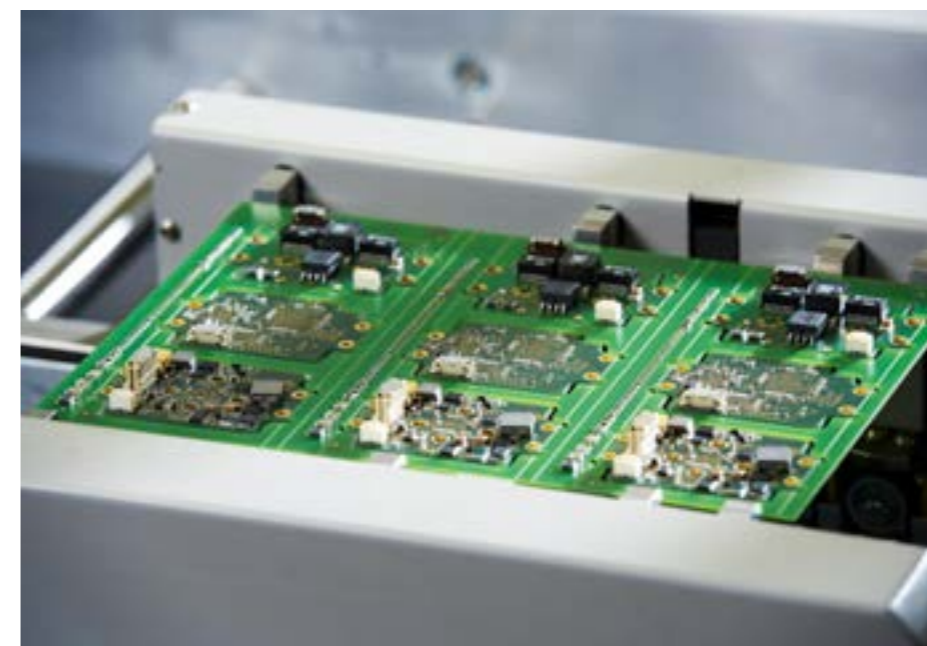
### **Focus on your core competencies**

With our support, you can focus on your core business while we take care of your electronics.

## EMS@Liebherr

Together with you, we identify the ideal manufacturing method for economical and efficient production of high-quality electronics. With us at your side, you can concentrate on your core competencies - that's a major advantage.

Our production spectrum ranges from PCB assembly through partial assembly with functional testing to complex final assembly. We also offer a comprehensive range of additional services.



## Manufacturing

SMT

Reflow convection soldering

Optical worker guidance and monitoring

THT wave and selective soldering

Force-displacement monitored press-fit technology

Partial and final assembly

Automatic gluing, dispensing and potting technology

Automated and manual coating

Manual and automatic depaneling

**EMS VIDEO**





## Smart data analysis and design support

By using state-of-the-art programs, we check your data for manufacturability, testability and safety during the development phase.

Our experienced production engineers can provide support at an early design stage in order to develop an economical and high-quality product. We also support you in optimising your electronics for smooth series production.



## Industrialisation

Design to manufacture

Design to test

Cost optimisation

Manufacturability analysis

Lead time reduction

Focus on quality





## Fast response time

Xpedition Enterprise

Xpedition EDM  
Supply Chain

Supplyframe

Valor NPI & PP



## Test development

Definition of a test strategy

Test coverage analysis

Test programming and trouble-  
shooting

Development of test adapters and  
functional tests (HW+SW)

Report and traceability of test data

## State-of-the-art software for fast and precise order processing

By using various software applications, we have quick access to the global availability of components, the demand situation and the costs. This enables us to make well-founded decisions about your request in short time.

We can also provide early feedback on the availability of your assembly by quickly and automatically checking your data package. This enables us to ensure both an efficient quotation phase and order execution, so that we can produce your product in the desired timeframe and to the highest quality in a cost-optimised manner.



## Customised test strategy

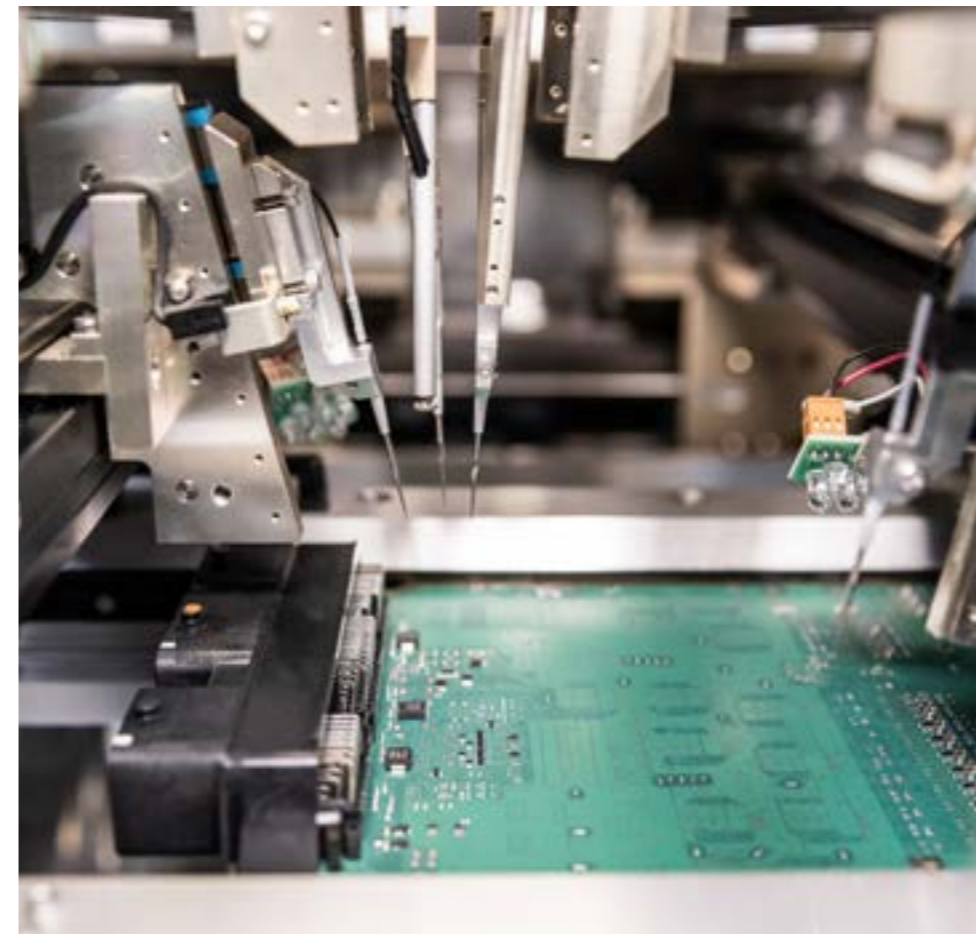
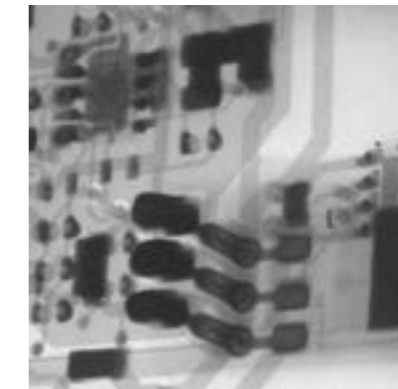
Based on your requirements, we work with you to develop the right test concept for your design.



## Focus on quality

With the help of modern and production-accompanying test methods, we ensure the best quality for your products.

We also carry out development and qualification tests in our in-house test center.



## Test methods

SPI: 3D solder paste inspection

SMT-AOXI: Automatic optical and X-ray inspection after SMT soldering process

THT-AOI: Automatic optical inspection after THT soldering process

Flying probe test, in-circuit test, boundary scan

Insulation test

Function test

Vibration and temperature test

End-of-line test

Run-in test

Optional X-ray analysis after THT soldering process

Implementation of development and qualification tests in the in-house test center

TEST-CENTER →



## Active supply chain risk management

Throughout the entire procurement process, there are numerous risks such as fluctuations in demand and price, quality problems or supplier failures. Through our active management and wide supplier network, we minimise your risks and ensure reliable delivery performance.

## Supply Chain

- Over 1,000 approved and certified suppliers
- Direct manufacturer contact
- Obsolescence / component management
- Lifecycle and risk assessment of parts lists
- Long-term supply contracts
- Continuous supplier management
- Predictive forecasting
- Own database on SVHCs in accordance with REACH
- Process-controlled material supply across the entire value chain through various logistics concepts



## Your reliable partner beyond production

After the delivery of your products, service is our top priority. We are happy to take on the complex tasks of after-sales support for you.



## Services

- Obsolescence and change management
- 100% traceability and batch traceability
- Long-term stockpiling
- Spare parts management
- Repair services
- Methodical failure analysis
- Analysis laboratory with state-of-the-art measuring and testing technology



## Certifications

Quality management system:

EN 9100 including

ISO/EN/DIN 9001

German Federal Motor Transport Authority

We also have approvals from the German Federal Aviation Office and the Federal Aviation Administration (FAA):

EASA Part-21 (Subpart G)

EASA Part-145 for repairs

US standard FAR-145

## Quality for a long product life

Customer satisfaction is at the heart of everything we do. Our many years of experience in electronics production, targeted further training measures for our employees and the continuous monitoring and improvement of our processes guarantee you a long term high level of quality.



## Environmental management for greater sustainability



Our environmental- and energy management is based on the DIN ISO 14001 and DIN ISO 50001 standards and is certified. We take active measures to ensure operational environmental protection and improve our energy efficiency by:

- monitoring and continuously improving emissions and resource consumption
- reducing the use of chemicals and making workplaces safer (compliance with REACH and RoHS)
- avoiding waste (e.g. introducing a circular packaging concept with our customers and suppliers)
- switch to e-mobility (electric vehicles at the Lindau and Biberach sites)
- have our own charging stations for our electric vehicles
- use renewable energies (photovoltaic system in Lindau)
- Offer our employees the option of a job bike

Environment and energy management:  
ISO 14001 / 50001

FURTHER CERTIFICATIONS →

ENVIRONMENT FLYER →



## Get in touch with us

Are you interested in our Electronics Manufacturing Services?

Use our form for your inquiry. We will get back to you as soon as possible.

Tel. +49 8382 2730-0

**INQUIRY FORM**



**Liebherr-Electronics and Drives GmbH**  
Peter-Dornier-Str. 11  
88131 Lindau (Germany)  
+49 8382 2730 0  
info.led@liebherr.com  
www.liebherr.com

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**LIEBHERR**