

Electronics²

Kontron sets new standards
Development | Prototyping | Production | Assembly

Discover the advantages – Get to know us



kontron
The Power of IoT

Electronics²

»Electronics² is more than just development, prototyping, production and assembly. More than just a company. More than just a location.«

Jochen Gimple
VP Production Kontron Global



The best for our customers: **Electronics²**

Under the offering label „Electronics²“, the companies of the Kontron Group offer a comprehensive range of development and production services as well as innovative products worldwide. The leading electronics service providers united under the umbrella of Kontron AG bundle their expertise and create synergies that offer real added value. The acquisition of KATEK and its subsidiary befex completes the Group's portfolio. Kontron is now one of the top 5 companies in the European ODM/EMS market.

Kontron stands for innovation and quality, with a vision to redefine the world of electronics and enrich it with advanced technologies and sustainable solutions. Experienced electronics service providers offer a comprehensive range of services from the initial idea to the finished product from a single source. Electronics² stands for this comprehensive range of services along the entire production chain: Kontron covers the entire range - from prototypes to small and medium series to high-volume production, which can be offered in the price-sensitive segment.

Consistent quality management and comprehensive certifications ensure that the highest quality standards are met. In addition, special certifications in the medical, avionics and automotive sectors strengthen the position of Kontron's Electronics² range in these sectors.

Our network of manufacturing companies is represented by subsidiaries in Europe and the Americas and partners in Asia. This enables local sites to respond efficiently to the needs of local customers. Flexible structures also enable a local-for-local approach. If necessary, this ensures a rapid response to transport restrictions and trade barriers to ensure smooth delivery.

We set new standards - trust Kontron as your partner.

Jochen Gimple
VP Production Kontron Global



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Electronics²

– Creating synergies for your projects

By combining our strengths and acting as one, we create significant value for our customers. We leverage synergies, develop innovative solutions faster and produce volume products more cost-effectively.





Electronics² – A strong network for development, production and innovative solutions

- ▶ Hardware development of electronic components and devices
- ▶ Software development for automation, communication and visualization
- ▶ Mechanical design with state-of-the-art development tools
- ▶ Product industrialization from prototype to series production
- ▶ Highest quality manufacturing services
- ▶ Stringent quality and functional testing
- ▶ Final assembly of complex assemblies and devices



IoT/Industry 4.0



Mechanical Engineering



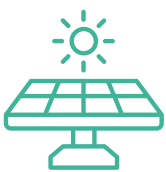
Medical Technology



Building Services Technology



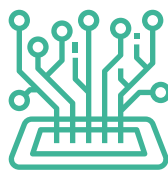
Automotive



Environmental Engineering



Office Technology



Electronics



Laboratory Technology



Home Appliance Technology

CERTIFICATE



ISO 9001:2015

Certificates and mandatory norms

We maintain the highest quality standards through consistent quality management and extensive certifications.

Quality is our calling card, and we operate on the basis of a well-internalized, continually audited quality management system. Our **ISO 9001:2015 Certification** demonstrates our commitment to transparent business operation and thoroughly documented processes across all business segments. We pledge to live up to these values, continually review and develop them, and comply with statutory and administrative obligations at all times.

By virtue of our commitment to the environmental management norm **DIN EN ISO 14001**, we assume responsibility for ecological conservation. We define targets for sustainable and resource-saving projects and processes.

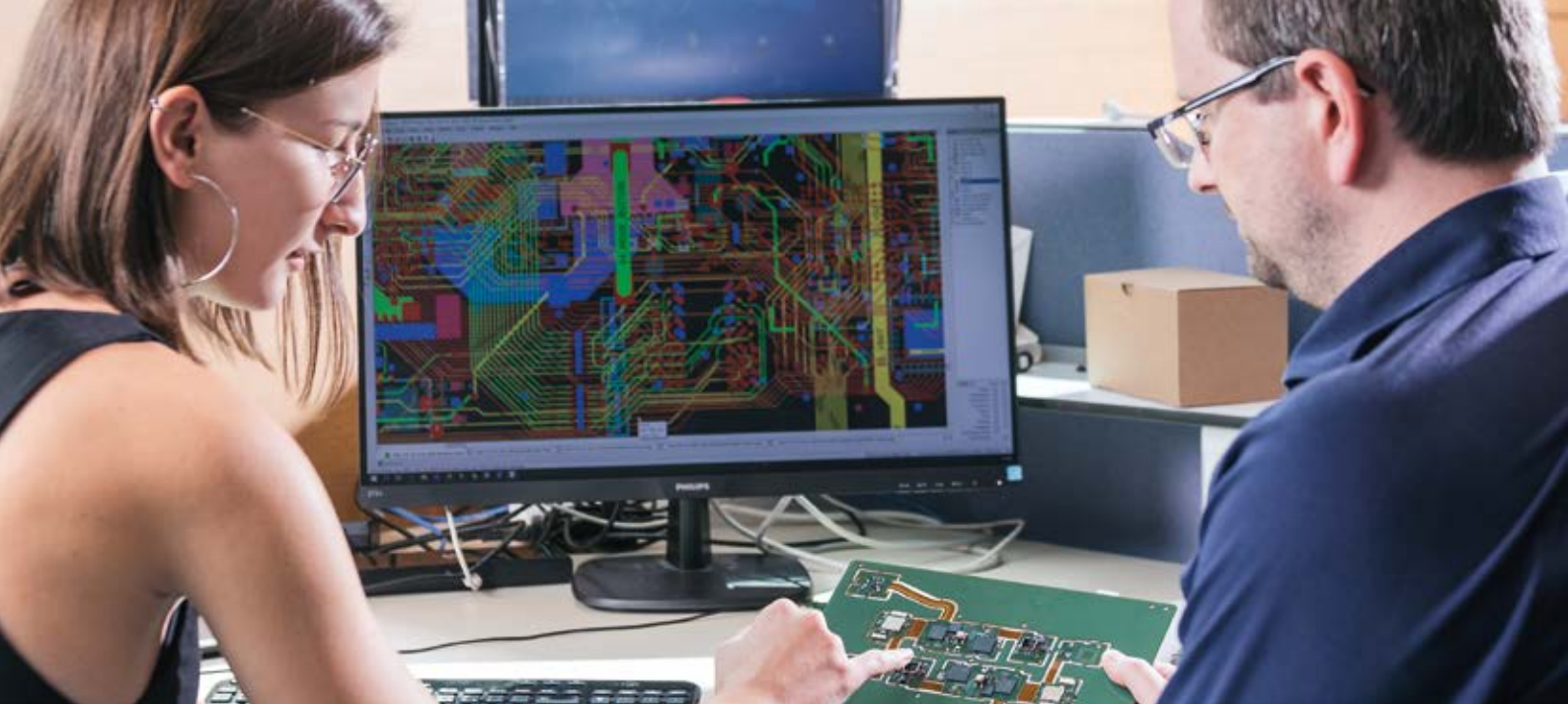
EN ISO 13485 relates to quality management with respect to development and production of custom components and products for the medical technology sector. Only products certified under ISO 13485 may be marketed in the EU.

IATF 16949, a globally recognized standard for quality management systems in the automotive industry, expands our certification portfolio. It covers all aspects of quality management, including product development, manufacturing and customer service.



All facilities are ISO 9001 certified

- **ISO 13485, ATEX/IECEX**
beflex electronic GmbH, Germany
- **ISO 14001, ISO 13485, UL, Apple MFI**
Kontron Electronics GmbH, Germany, Hungary
- **ISO 13485, ATEX-DIRECTIVE 2014/34/EU, UL, Apple MFI**
Kontron Austria GmbH, Austria
- **ISO 14001, ISO/IEC 27001**
Kontron d.o.o., Slovenia
- **ISO 13485, ISO 14001**
Kontron Europe GmbH, Germany
- **Avionics Maintenance and Repair Organisation, Augsburg Reference: DE.145.0092**
Kontron Europe GmbH, Augsburg, Germany
- **ISO 14001, IATF 16949, ISO 13485, ISO 50001, ISO 45001**
KATEK GmbH, Germany, Hungary and Czech Republic
- **ISO 14001, IATF 16949, ISO 50001**
KATEK Düsseldorf GmbH, Germany
- **ISO 14001, IATF 16949, ISO 50001**
Kontron Solar GmbH, Germany, Bulgaria
- **ISO 14001, IATF 16949, ISO 50001, ISO/IEC 27001**
Kontron Leipzig GmbH, Germany
- **ISO 13485, AS9100D, ITAR Registered**
Nextek, Inc., USA
- **ISO 13485, ISO 14001**
Kontron Canada Systems Inc., Canada



Product development

We make your ideas reality

Our many years of development experience and our technology expertise on state-of-the-art components and procedures guarantee your success. Based on your product specs, we develop and optimize your product and bring it to series maturity.

We are there to support you when you need construction advice, help with generating CAD layouts or defining specifications for components and design. In addition to a wide array of testing methodologies, we develop and manufacture test equipment for electronic validation of your components. Our EMC lab ensures full compliance with the relevant guidelines and regulations throughout the development process.

Our focus lies on these key industry sectors: Mechanical engineering, automation, transport, home appliance technology, building services engineering, environmental engineering, electric mobility, gateways, IoT devices and medical technology.

Hardware

- › Product specification
- › Circuit design
- › Layout design
- › Commissioning

Software

- › Real-time software
- › Linux BSPs
- › Applications programming
- › Web technology

Mechanics

- › Industrial design
- › 2D/3D construction
- › Materials
- › Tool procurement

Product industrialization

- › Prototype construction
- › EMC lab
- › Declaration of conformity
- › Construction of test equipment



Electronics manufacturing and final assembly

Quality and precision at every stage of production

As an experienced provider of electronics services, we deliver maximum competence in a wide range of manufacturing procedures. We offer a broad scope of services for your entire component assembly, from circuit board mounting to various soldering processes, application of protective coatings and final assembly.

We are pleased to support you with our technology expertise, develop ideas and solutions for your prototypes and assist you in bringing your product to series maturity. We are the trusted partner at your side.

Assembly technologies

- › SMT technologies
- › THT assembly

Soldering processes

- › Reflow soldering
- › Wave soldering
- › Selective soldering

Surface protection

- › Coating
- › Nano coating
- › Potting

Final assembly

- › Electromechanical assemblies
- › System integration
- › Box building





Testing and programming

Modern technology and maximum quality

All electronics components, modules and systems produced by Kontron are subjected to strict functional and quality testing. For us, secure recognition of potential errors is an absolute prerequisite for optimal production quality.

Thanks to our many years of experience in developing and building test equipment and based on our own custom testing infrastructure, we ensure that components are validated in strict compliance with customer specifications.



Inline inspection procedures

- › SPI solder paste inspection
- › 3D AOI automated optical inspection

End-of-line testing processes

- › ICT in-circuit test
- › FPT flying probe test
- › FKT function test
- › BST boundary scan test
- › High-voltage test
- › X-ray

Test equipment development and construction

- › Testing according to customer specification
- › Own test infrastructure
- › Test software development
- › Hard- and software development

Traceability

- › Traceability on component and process level
- › Process data monitoring and archiving

Special services

- › Prototyping
- › Cleanroom production
- › Pressfit
- › Cable assembly



Maintenance and services

We are optimally equipped

Benefit as a customer from our global supplier network and the advantages of large procurement volumes within the Kontron Group. We are ideally positioned to handle the immense range of requirements, components and production technologies that our customers bring to us.

Our service scope encompasses a wide range of tasks along the entire product lifecycle. Each and every day, we do our best to fulfill your expectations.

»Our SCM and global sourcing teams connect with our suppliers in the closest possible way. Our customer focus and clearly defined delivery channels guarantee efficient supply in normal times but are essential in times of shortage and crisis.«



Thomas Ebner
CPO

Material management

- › Kontron global sourcing, worldwide demand consolidation and direct price negotiations with manufacturers
- › Direct support of all leading semiconductor manufacturers
- › Global network of suppliers
- › On-site staff in the most important procurement markets

Product lifecycle management

- › PCN process, EOL monitoring, sourcing, and stocking of discontinued parts
- › Search for and testing of alternative components
- › Connection to silicon experts
- › Long-term storage of components with nitrogen

Logistic concepts

- › Consignment stock for a flexible and needs-based supply
- › Kanban
- › Rolling forecast
- › Security stocks

Repairs service

- › Repair in cases of warranty and services
- › Technical support

Electronics²

– Development, Prototyping,
Production, Assembly

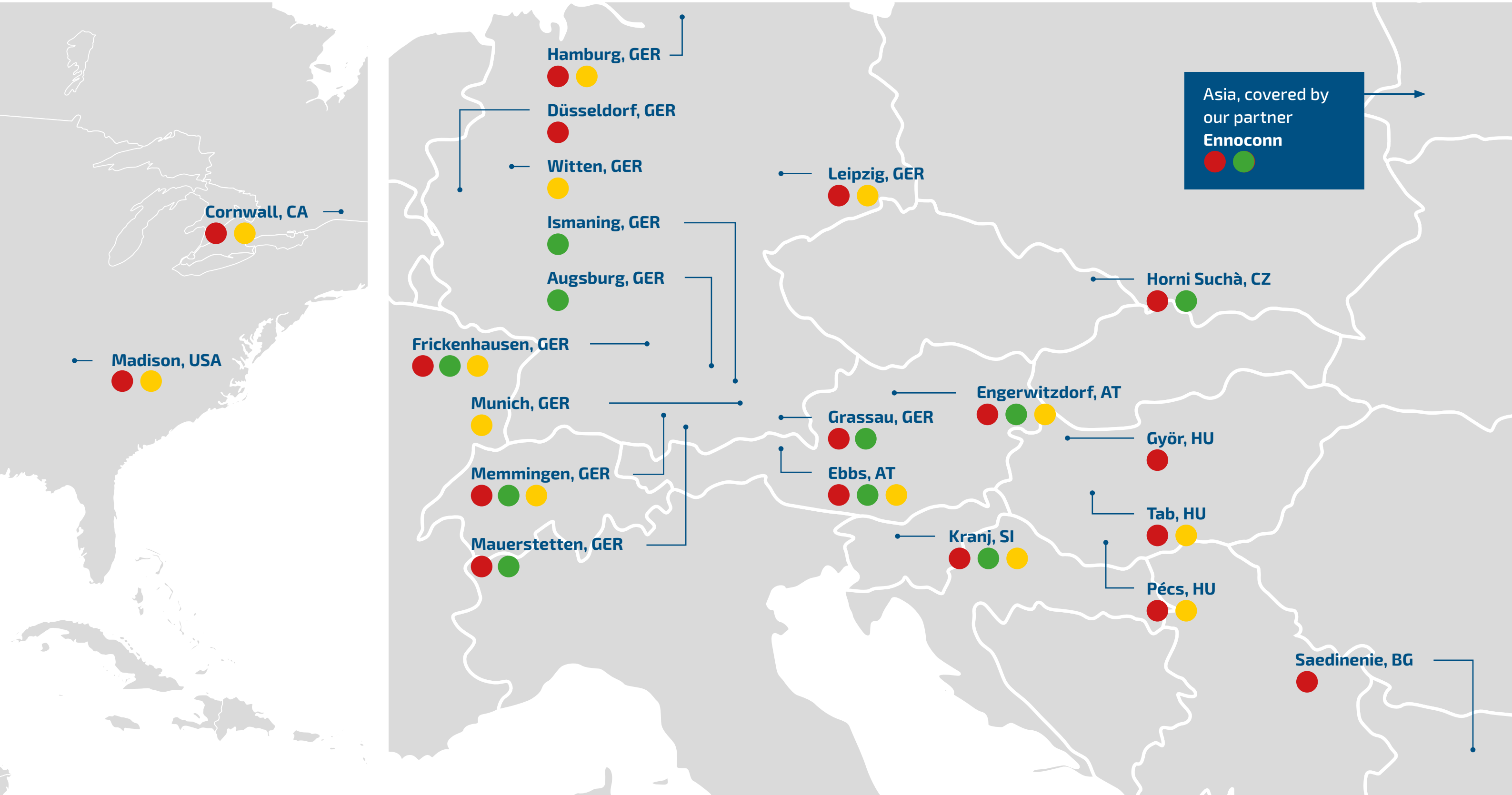
	beflex electronic GmbH, Germany	Kontron Europe GmbH, Germany	Kontron Electronics GmbH, Germany, Hungary		KATEK GmbH, Germany, Hungary, Czech Republic	Kontron Solar GmbH, Germany, Bulgaria	Kontron Leipzig GmbH, Germany	KATEK GmbH Düsseldorf, Germany	Kontron Austria GmbH, Austria	Kontron d.o.o., Slovenia	Nextek Inc., USA	Kontron Canada Systems Inc.
Development services												
Hardware		✓	✓		✓	✓			✓	✓		✓
Layout	✓	✓	✓		✓	✓			✓	✓		✓
Software		✓	✓		✓	✓			✓	✓		✓
Mechanics		✓	✓		✓	✓			✓	✓		✓
Development and construction of test equipment	✓	✓	✓		✓	✓		✓	✓	✓	✓	
Production services												
SMT assembly	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Number of SMT assembly lines	2	10	5		12	5	7	6	5	4	4	5
Number of Prototype lines	6					1			1		3	1
Wave soldering		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Selective soldering	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Pressfit		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Cable assembly						✓			✓	✓	✓	✓
PCB cleaning	✓	✓	✓		✓		✓		✓	✓	✓	
Inline inspection procedures												
SPI solder paste inspection	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓
3D AOI automated optical inspection	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Testing process												
ICT in-circuit test	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
FBT flying probe test	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓
FKT function test	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
BST boundary scan test	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
High-voltage test	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
Test and quality												
Traceability	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Cleanroom	Klasse 8				Klasse 2							
X-ray		✓			✓	✓	✓		✓	✓	✓	✓
Surface protection												
Coating		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Thick-film coating		✓	✓		✓	✓	✓		✓	✓		✓
Nano coating					✓	✓			✓	✓		
Grouting		✓	✓		✓	✓	✓		✓	✓	✓	
Final Assembly												
System assembly for complex devices and systems	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
Box building	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Typical quantities per year												
Large-scale production (> 100.000)		✓	✓		✓	✓	✓	✓		✓		✓
Medium series (500 – 100.000)		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Small series (< 500)	✓	✓	✓			✓	✓		✓	✓	✓	✓
Prototyping (< 50)	✓	✓	✓			✓			✓	✓	✓	✓

Electronics²

– Development, Prototyping, Production, Assembly

- Production
- R & D
- Prototyping

With a strong network of specialized locations, we offer comprehensive solutions from a single source. Discover where and how we can lead your projects to success.





Electronics² – Your advantages at a glance

- ▶ **Low volume/high mix to very high volume/low mix**
As a leading electronics service provider, we cover the entire spectrum – from prototypes to small and medium series through to high-volume series production.
- ▶ **Network of electronics service providers**
With locations in Europe and America as well as partners in Asia, we are ideally positioned to meet the needs of our customers locally.
- ▶ **Active site selection**
We will advise you on which location best meets your requirements.
- ▶ **Internal second source**
We offer maximum supply security in the event of production downtime. Thanks to site-independent redundancy, we are able to ensure resilient production.
- ▶ **Lifecycle analysis and management**
We use SiliconExpert forecast data to help you determine the optimum time for your new design or redesign.
- ▶ **Product and cost analysis**
Our experts offer solution-oriented advice on how to reduce costs when selecting components and manufacturing processes in order to achieve the best result for you.
- ▶ **Logistics concepts**
Our solutions include consignment stock, Kanban, rolling forecast and safety stock to ensure your continuous supply.
- ▶ **Secure supply chains**
Take advantage of our global purchasing network. We avoid supply bottlenecks through forward-looking planning and strategic partnerships.
- ▶ **Consistent quality management and comprehensive certifications**
We ensure that the highest quality standards are maintained and that your requirements are always met.
- ▶ **One-Stop-Shop for comprehensive solutions**
Comprehensive development and manufacturing services as well as standard products, from modules to complete systems. Software from secure operating systems to complex applications. Industry-specific solutions for future markets such as solar energy, eMobility, 5G communication and transportation.

Your Powerhouse for Electronics Solutions.



Electronics²

»Development and manufacturing are matters of trust. That's what we stand for with our name and reputation – now and in future.«

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