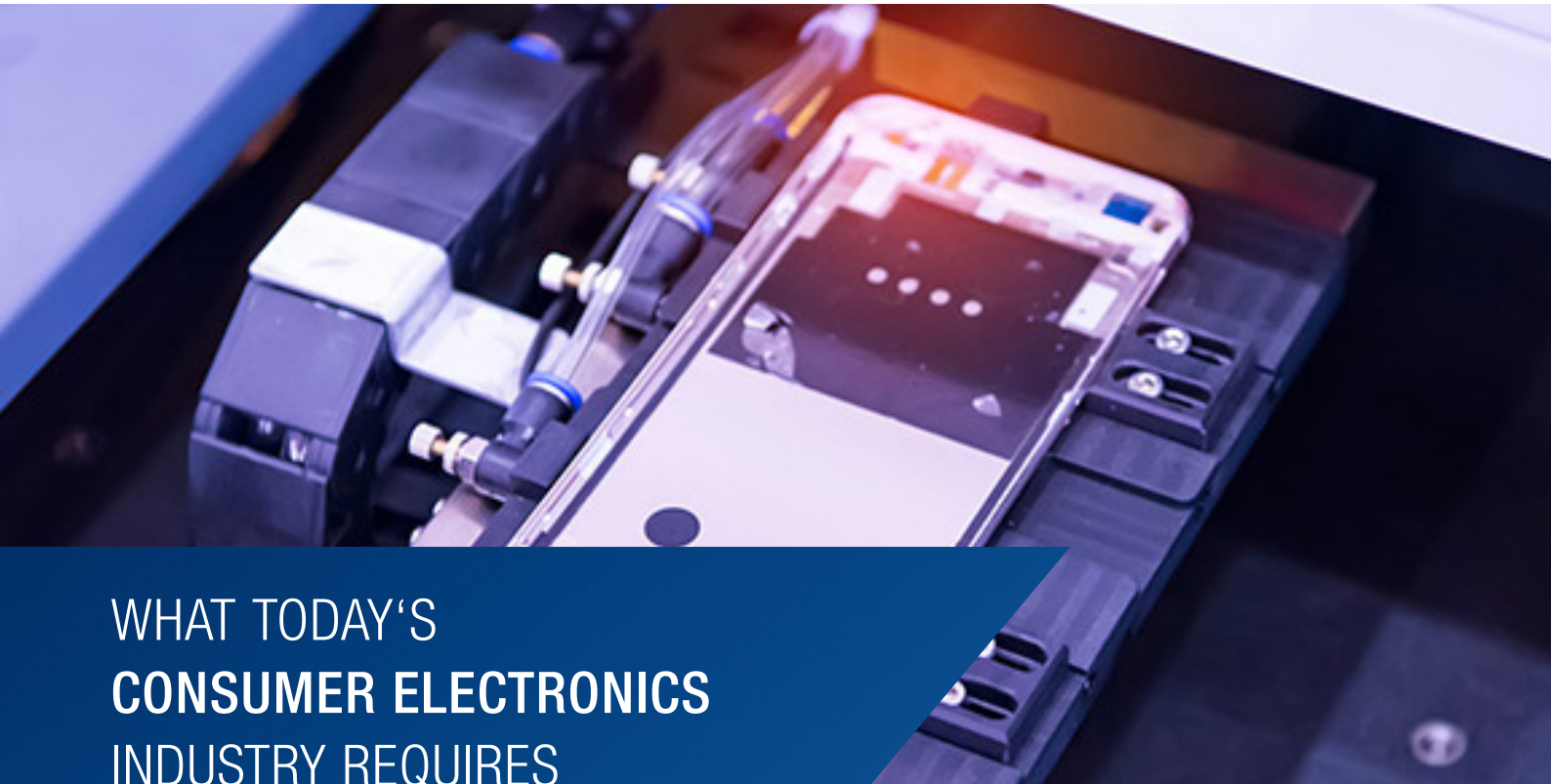


IMPROVEMENT OF PROCESS
AND QUALITY CONTROL IN
**LASER WELDING OF
CONSUMER ELECTRONICS**

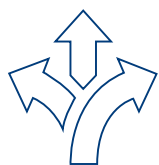


WHAT TODAY'S CONSUMER ELECTRONICS INDUSTRY REQUIRES

In the production process of consumer electronics, visual inspection is often used as the main method of quality control. However, compliance with the requirements of a weld seam can, however, only be assessed to a limited extent purely visually and without process monitoring. Additional influencing factors such as clamping tools, positioning, process parameters and material batches

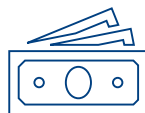
require additional control options. Maximum quality and a reduction in scrap can only be achieved with the use of objective criteria. Due to the high production rates and the associated increased risk of wear, automated control is essential in the production process of consumer electronics. Our quality monitoring systems offer the highest level of security for your process.

YOUR ADVANTAGES AT A GLANCE



Maximum flexibility

- Flexible functionality and easy customization of systems
- Short development and response times for customer-specific adaptations



Highest economic efficiency

- Extremely short and reliable set-up times
- High-speed monitoring and processing in real time



Consistent quality

- Wear-free durability
- Avoidance of scrap

OUR PRODUCTS

FOR YOUR SUCCESS

PROCESS MONITORING FOR MASS PRODUCTION

The Laser Welding Monitor LWM 4.0 is a real-time quality monitoring system for mass production.

During the welding process, the LWM 4.0 system records the emission signals of the process. The recorded sensor data is compared with reference curves to report any resulting deviations to the higher-level control system in real time. Thus, the errors can be detected at an early stage and stability of the process can be guaranteed in the long term.

The flexibility of the system is demonstrated by its easy integration into different laser systems and processing heads. In addition, it offers you the possibility of aligning the measurement data of various process types and modes to your applications and needs.

The LWM 4.0 system can be used universally. Special sensor variants for different laser sources (IR, blue, green) are available. The system shows particular strengths in monitoring mixed joints of aluminum, stainless steel and copper.



HOW YOU BENEFIT

- 100% traceability and transparency
- Reduction of rework and scrap
- Reduction of visual and destructive analysis after welding
- Ability to continuously optimize the process
- Detection of trends
- Easy integration into existing welding systems

HIGH-QUALITY WELDING RESULTS THROUGH FOCUS CONTROL

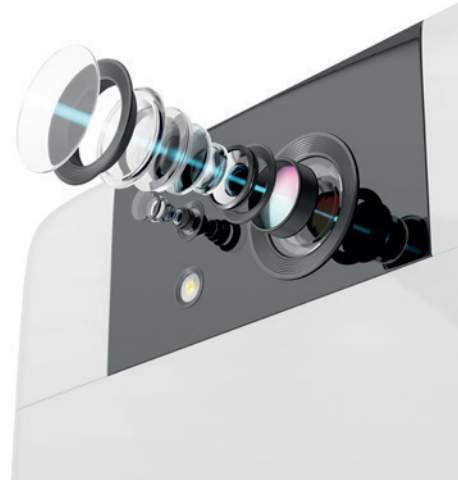
The FocusFinder serves as a focus monitoring system before the actual laser welding process. It uses confocal measurement technology to check for possible deviations between the specimen position and the laser focus. In this way, a reduction in scrap can be achieved even before the welding process. Since a fast and automated process is crucial, especially in mass production, monitoring must be performed in the shortest possible time. The coaxial integration of the FocusFinder measuring beam avoids additional non-productive time, as is known when using conventional distance sensor technology. There is no need to reposition the workpiece and the measuring device. Focus control achieves high-quality welding results.

A BROAD PRODUCT PORTFOLIO

Whatever your requirements, we are your perfect partner not only in quality monitoring. Whether thickness measurement or micro welding, we offer customized solutions specifically to your ideas.



Focus control achieves
high-quality welding results



Other products that might be of interest to you:

- In-Process Depth Meter IDM – monitoring and control of weld penetration depth
- CHRocodile Line Sensor CLS – ultra-precise inline quality control
- Flying Spot Scanner FSS – 3D scanning of surfaces
- Chromatic Vision Camera CVC – quality control through high-resolution 2D imaging
- MiniCutter – laser cutting of thin materials
- ScanWelder – cost-efficient remote laser welding

HOW YOU WILL PROFIT

- Reduction of scrap leads to cost savings and better quality output
- Optimized welding process due to early detection of deviations
- Assumed adjustment of the process due to gap measurement
- Easy communication with the welding system
- Easy integration into existing welding systems

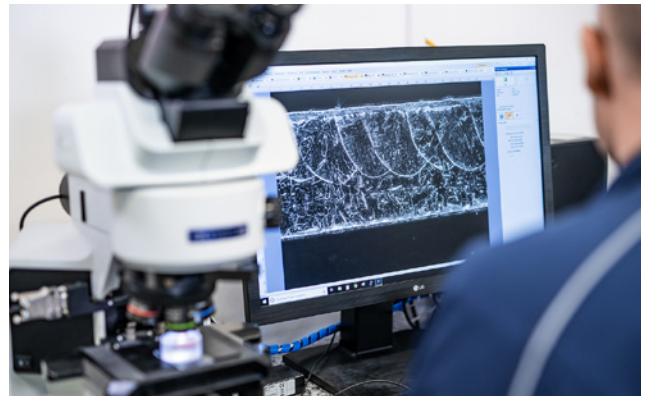
BEST KNOW-HOW FOR YOUR CONCERN

GAINING MORE PERSPECTIVE TOGETHER

Process analysis and simulation of process reality is the first step to success. Our laser and metallurgical laboratories offer all the possibilities. This allows us to find the optimal solution for your needs and to make appropriate process optimizations.

The continuous development of our products leads to a constant improvement of automation and prepares you perfectly for Industry 4.0.

In collaboration with our experts for laser processes and materials science, we expand the technical know-how together with you. In addition, there is little pre-testing effort for you, as our laboratory is approved for prototype testing.

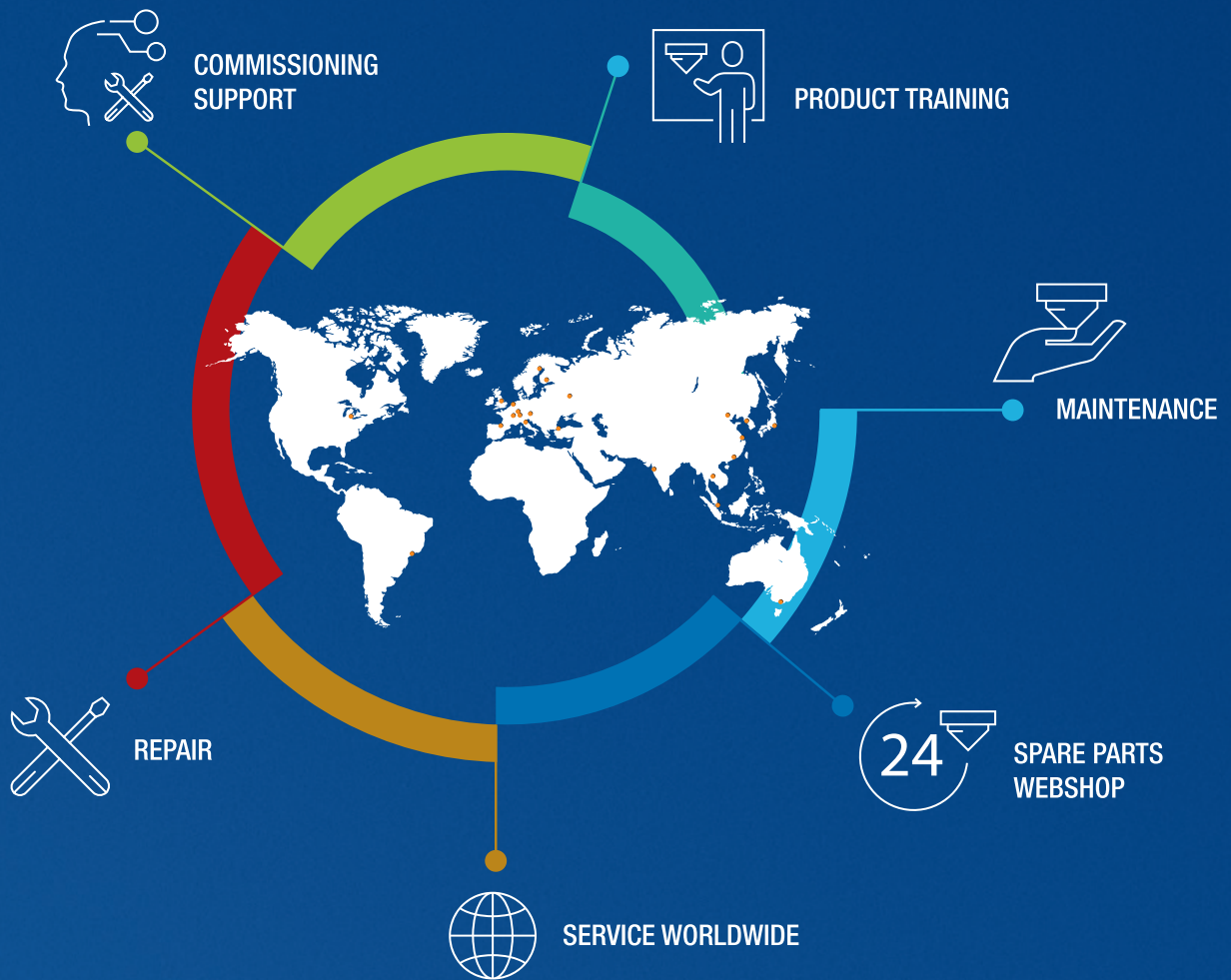


TAILOR-MADE CUSTOMER SUPPORT

We look at every customer from the perspective of supporting your business in the long term. That's why we invest in professional customer support worldwide. Our global sales and service team of highly skilled and experienced technicians provides 360° customer service.

Our service for your requirements:

- Our dedicated R&D team finds solutions for your monitoring tasks.
- We conduct tests with your sample parts in our application laboratories around the world.
- We support you with tests performed at your site.
- We advise and support you in integrating our systems into your production process.
- We take care of installation, setup, training and production support, tailored to your specific needs.



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WHY PRECITEC STANDS OUT

MADE IN GERMANY. WORLDWIDE SERVICE. 25 YEARS OF EXPERIENCE.

Precision, flexibility and stability – these are our hallmarks and we are recognized for them. The installation base of thousands of systems speaks for itself.

More than 25 years of experience as an innovative market leader in laser welding and cutting point to the highest quality of our products.

Our worldwide presence ensures that you always have a reliable partner at your side. And as a family-owned company, we place particular value on close customer relationships based on trust, reliability and the high level of expertise of our teams.



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