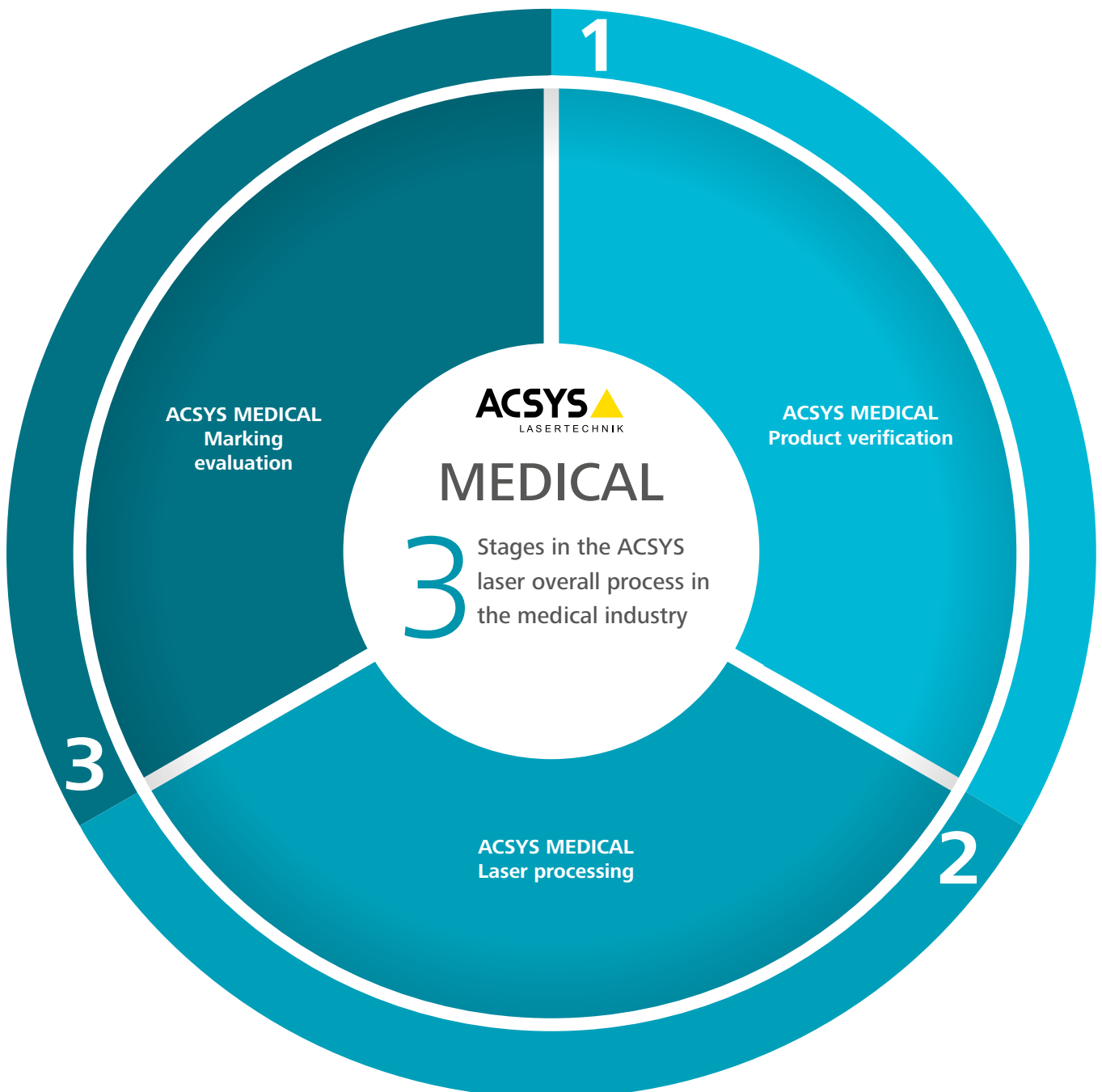


The ACSYS laser overall process in medical technology



More precise, more economical, better - that is our claim.

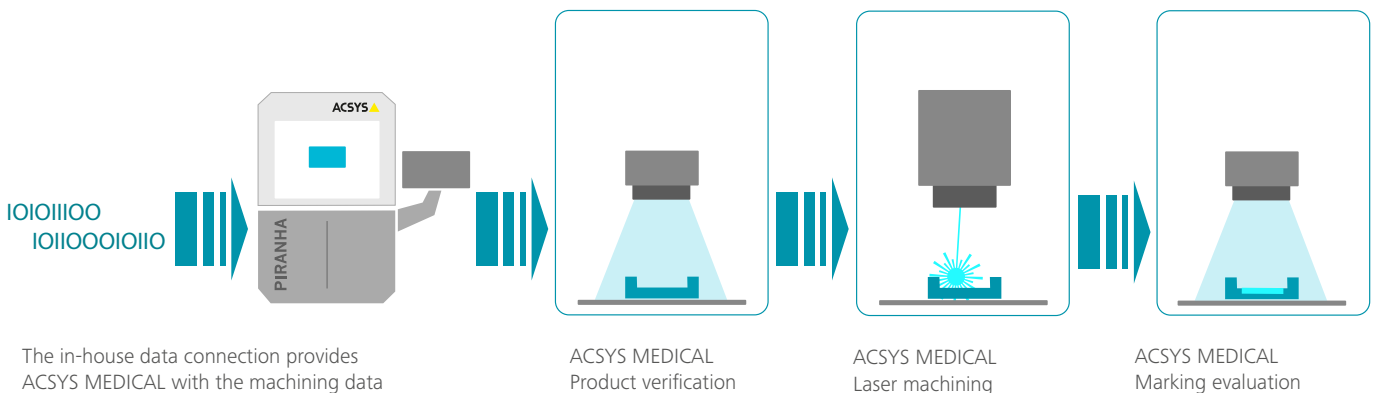
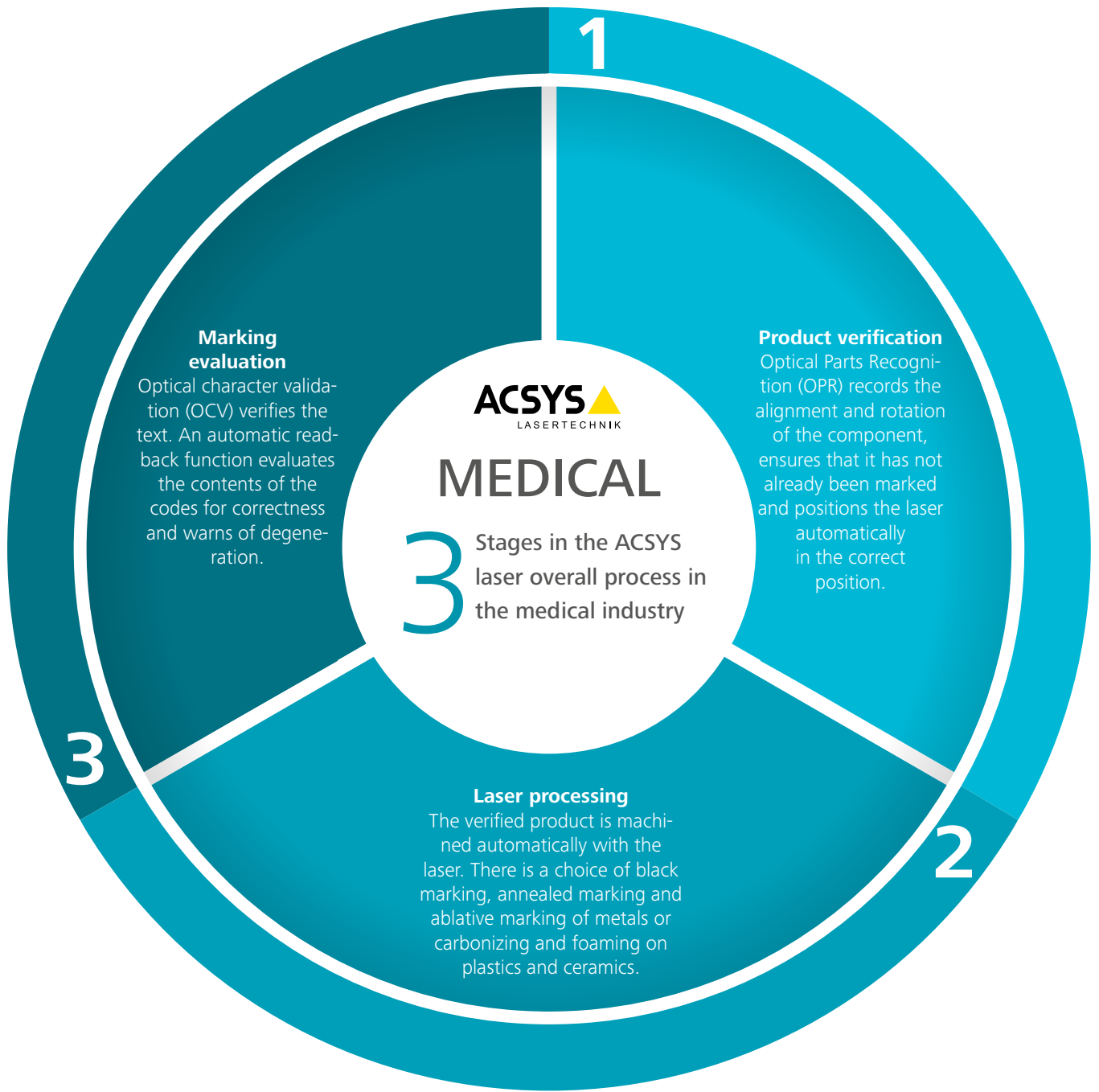
ACSYS MEDICAL laser process in medical technology

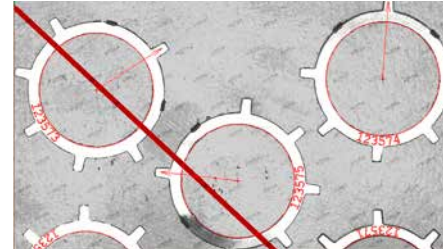
Laser marking and laser engraving are just one part of the overall process that ACSYS can display in medical technology. Our holistic approach and close collaboration with customers enables ACSYS to offer modular and customer-specific solutions. Our in-house software development department produces the appropriate software with database connections, component recognition, the corresponding protocol functions and concluding read-back functions of barcodes and DataMatrix codes as well as plain text entries.

On the following pages, you will learn all you need about the decisive themes:

- 1. Product verification**
- 2. Laser machining**
- 3. Marking evaluation**

ACSYS laser systems are manufactured in accordance with GMP recommendations. A high level of vertically integrated production means that all necessary hardware requirements can be taken into account, required for subsequent operation in the manufacture of medical products.





1. Product verification: Optical Parts Recognition (OPR) enables fully automatic processing of palletized and non-palletized components. The high-resolution camera system ensures that only the correct component is machined.
2. Product verification: Component as seen by the AC-LASER software from ACSYS. The software detects the position and rotation of the component and then marks or engraves it at the previously taught-in location. The software also ensures that a component that has already been machined does not pass through the process once again.
3. The interaction of high-resolution camera systems with precision optics in combination with optimum illumination (in this photo, white light ring luminaires with additional infra-red lighting) provide the required level of process reliability during the product verification process.

Visible know-how in image acquisition.

1. Product Verification

The manufacture of a medical product to the required high standards is resource-intensive and requires the most careful of attention at every stage of production. As a rule, medical products receive their customer-specific marking as the last step in an extended sequence of processes. Manufacturers of medical products must ensure that the correct information is positioned precisely on the right component.

We are the pioneers here, with a unique camera-based setting system – The LAS-Live Adjust System®. With more than ten years of experience in optical part recognition followed by the fully automated processing of palletized and non-palletized workpieces, we are able to provide our customers with a large „modular range“ of options to implement optical product verification. Totally reliable recognition of parts is a process based on a combination of precision camera systems, appropriate lenses and optimum lighting, together with tried-and-tested software.

Advantages:

Optical Parts Recognition from ACSYS

- verifies the product and ensures that only the correct components are machined,
- checks to ensure that the product has not already been marked,
- automatically detects the alignment and rotation of the product,
- and positions the laser for precise laser machining.

Greater process reliability in series.

2. Laser Machining

More precise, better, more economical - that is our claim. Machine solutions from ACSYS impress with their ultimate standards of accuracy, precision and repeatability. A holistic view of machine and workpiece processing allows us to achieve highly precise, uncompromisingly tailor-made solutions for processes and products.

Our systems are reliable service providers in automated production processes, in 3-shift operation and for just-in-time logistics. At the exciting interface where high-performance technology encounters cutting-edge applications, we can provide you with production tools precisely designed to suit your processes.

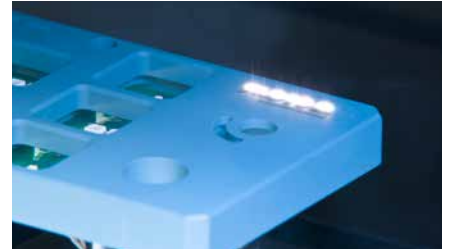
For us, reliability is not just a quality argument. Instead, it is a fundamental tenet of our corporate and product philosophy.

Advantages of the laser:

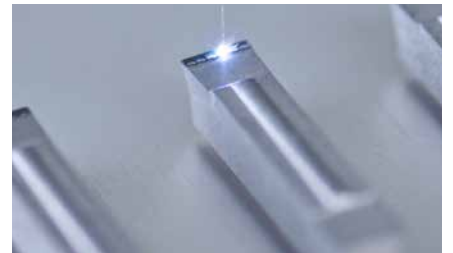
- High speed
- Stability
- Ultimate precision
- High process stability
- Contactless operation
- Short retooling times
- Low maintenance requirement
- No additional costs for drills or turning tools



1.



2.

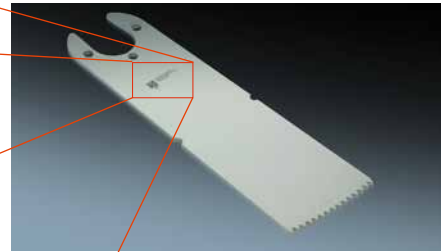


3.

1. Laser process of a micro-enchaving.
2. Marking of plastics.
3. Precision laser removal



1.



2.



3.

1. + 2. UDI marking (2D DataMatrix code [ECC200] GS1-compliant) on an orthopedic sawblade. The entire marking measures only 2 x 1 mm in size.

3. The interaction of high-resolution camera systems with precision optics in combination with optimum illumination (in this photo, white light ring luminaires with additional infra-red lighting) provide the required level of process reliability during the marking evaluation process.

Seeing and recognizing are not the same ...

3. Marking evaluation

Evaluation of laser marking is yet another challenge for the overlapping laser machining process in the medical industry. Once a component has been marked, the marking, the barcode or the DataMatrix code (DMC) must be checked.

The precision camera system (LAS) from ACSYS ensures that the position, alignment and size of the marking comply with what was intended. Optical Character Verification (OCV) in the AC-LASER software from ACSYS verifies that every marked character matches the intended content.

In the same step, the integrated code verification and read-back facility of the AC-LASER checks the contents of the lasered 1D and 2D codes (DataMatrix [ECC 200, GS1], QR). It also allows classifying codes in quality levels. The system warns of any degeneration in marking (grading), thereby assuring a reliable process. The direct read-back of 1D and 2D codes (e.g. DataMatrix [ECC200] GS1-compliant) is a central component of the UDI directive.

Advantages:

- Maximum efficiency: Product verification, laser marking and marking evaluation in one process and one system.
- Seamless traceability and compliance with regulations.
- Very high product quality and low levels of rejects.

Made in Germany.



Simplicity made by ACSYS – Solutions for you from a single source.

ACSYS laser systems

In every specific requirement, we see an active challenge. In meeting that challenge, we broaden the scope of our technological expertise – to your benefit.

Our solution-oriented wealth of innovativeness and our reliability are consistently harnessed to meeting your individual requirements. We take due account of economic aspects to help guide your company toward corporate success - with our process reliability and our systems, all designed for high productivity.

We master all disciplines of laser machining on a vast array of different materials. Through continuous investigation and development of new as well as extended solutions and customer applications, we can offer our target markets state-of-the-art technologies from a single source. Your application is our challenge – whether it involves marking, engraving, cutting, or welding. Challenge us with your application!



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