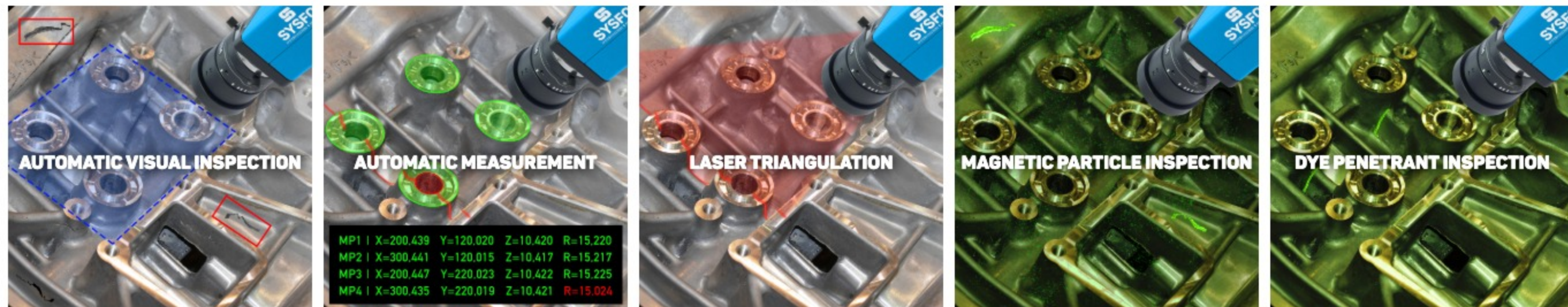


IMAGE PROCESSING

Surveying, surface inspection, automatic recognition systems, pattern recognition, crack detection, inspection, defect recognition or classification – where the human eye reaches its limits, digital image processing is the choice.

Production monitoring, single part inspection or complete documentation – what used to be conceivable only through enormous personnel work effort is now provided by modern industrial cameras in combination with intelligent software. We will be happy to advise you and find the right system and cost-efficient solution.

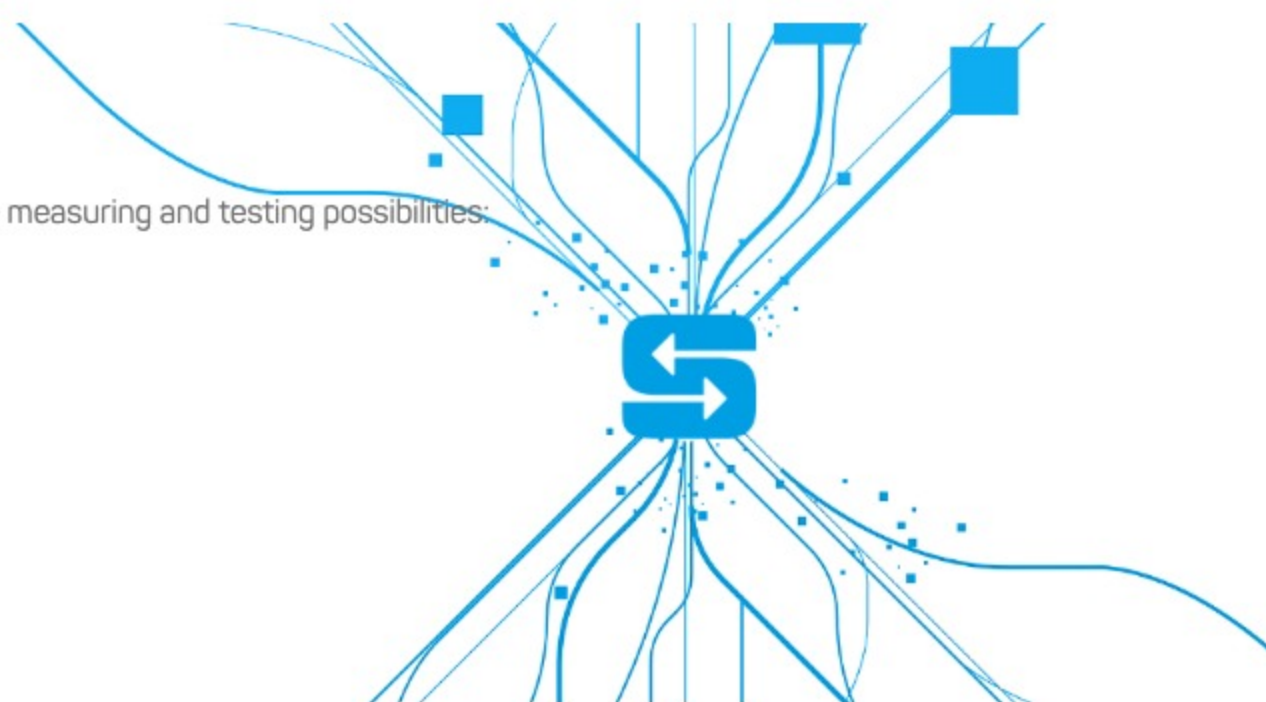


For this purpose, materials or components are recorded from all sides by means of high-resolution special cameras, even in motion or during transfer. The intelligent evaluation of the image material takes place automatically with our image processing software Surface Inspector IV.

BRANCHES OF INDUSTRY

Such test stations can be used for the following industrial areas due to the possible measuring and testing possibilities:

- Hot and cold rolling mills in the hot and medium strip sectors
- Tube and profile production (welded)
- Automotive industry (safety-relevant structural components)
- Processors of ship steels and so-called safety steels (armouring)



YOUR ADVANTAGE

The human visual inspection (VT) is much less efficient than the automated inspection. In addition to the tiring activity, the test results are influenced, for example, by fluctuations in concentration, performance pressure and environmental influences.

In the case of complex tests, random samples have yielded a percentage value of 5-30% of undiscovered defects.

The process-reliable evaluation of the image material delivers reproducible quality and is fully documented. The data obtained can, for example, be used and processed for the following purposes:

- Early detection of tool wear
- Monitoring and optimization of process parameters, adjustment
- Archiving and comparison of measurement data in a database
- Visualization of measurement results and crack indication
- Cutting optimization on the basis of the process and error data determined
- Marking of defects (e.g. using paint)
- Robot-controlled error correction
- Complaint handling, quality documentation

Many industrial companies, both national and international, now rely on our systems for intelligent image processing tasks.

[TO OUR REFERENCES](#)

SOFTWARE

The intelligent software first prepares the image material to suppress interference and amplify the displays. It then checks the images for characteristic peculiarities, patterns such as edge reflections or shadows. These are measured and evaluated by adaptive classifiers. Each display is backed up with characteristic measurement data such as size, strength, location, judgments and shape. The final inspection criteria of the image processing software can be parameterized to customer specifications. This allows the operator to easily adapt the software evaluation to customer requirements.

We have developed various overall plant engineering concepts for the optical visual inspection procedures. These concepts usually consist of a special camera, lighting, automatic image processing, documentation, discharging facilities or marking of faulty test pieces and system monitoring. The system is designed in such a way that, if necessary, several pattern recognition processes can be combined. This means that surface defects can be measured and cracks and lettering recognized simultaneously.

The test results and image material are automatically archived and can be displayed and managed using the Surface Explorer IV software. This has great advantages over direct visual inspection (visual inspection according to ISO 9712).

The intuitive software Surface Explorer IV offers different modules and serves for visualization, archiving and statistical evaluation of the test results.

This visualisation software enables an on-line display of the current inspection processes from any authorised PC workstation in the company. The software is also used for research purposes, for example in the case of complaints. Based on the data, information and images can be made available for the creation of test and quality certificates.

INTEGRATION INTO THE CUSTOMER'S IT STRUCTURES >

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