

JOSY

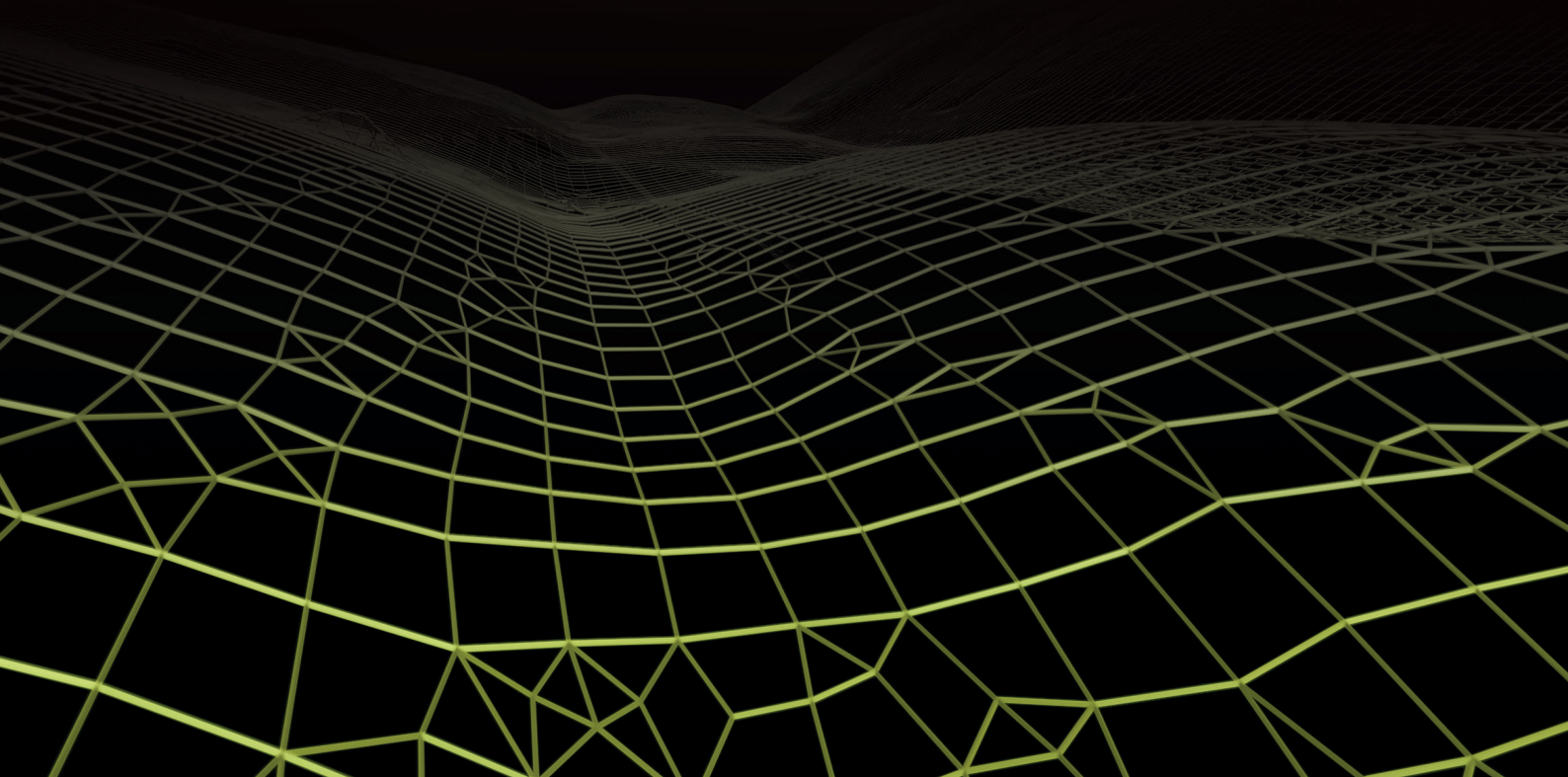
THE COMPLETE **3D** INLINE
WELD INSPECTION SOLUTION

SENSOR

SOFTWARE

SERVICE

100% INLINE INSPECTION . CONTROL QUALITY . REDUCE COSTS . FLEXIBLE & SCALABLE



We are **SmartRay**, market leaders in 3D weld inspection and measurement. A German company trusted by global businesses to improve productivity, maximise quality and reduce costs.



FOUNDER AND MANAGING DIRECTOR
MATHIAS REITER

"We started in 2005 with a lot of good ideas and great passion. At that time we were real pioneers in 3D. We began with Audi working on turnkey weld inspection solutions and now, with JOSY, we are the market leaders in Europe."

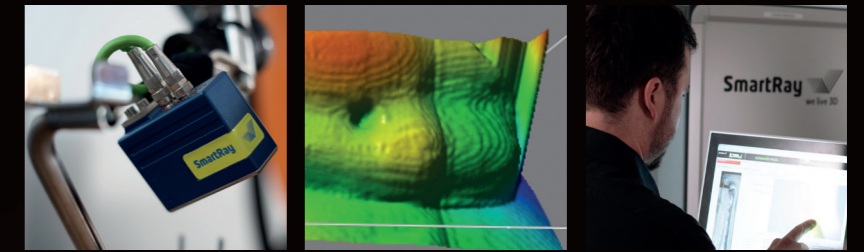


Our core competency is ultra-precise measurement realised through 3D laser triangulation. We offer reliable, repeatable defect inspection to micron levels, protecting quality, optimising processes and automating production.

All delivered through leading-edge sensors retrieving very high levels of inspection data, and processed through SmartRay's proprietary high-performance analytical reporting software. Versatile integration into a wide range of systems.

Integrate certainty with **JOSY** – the complete turnkey solution for automotive weld inspection.

SmartRay **JO**ining **SY**stem named **JOSY** offers an all-in-one solution for non-contact visual 3D inspections. JOSY offers exceptional quality, accuracy and reliability, suited to all joining technologies and meets precise QA demands of automotive production. JOSY is the preferred weld inspection solution for the world's leading automotive brands.



- SENSOR
- SOFTWARE
- SERVICE
- PRECISION 3D VISION
- SCALABLE PERFORMANCE
- EXPERT SUPPORT

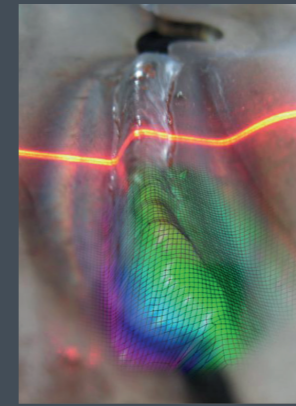


By combining SmartRay's pre-calibrated 3D sensors with advanced algorithm processing, JOSY's **high-accuracy** weld inspection meets international measurement standards.

Sensor performance is essential to the accuracy of a weld inspection system. The JOSY turnkey weld inspection solution relies on SmartRay's advanced 3D metrology sensor technology. Compact, agile and accurate, JOSY's sensors are pre-calibrated for reliable, repeatable results, enabling JOSY to be configured in the best way for each application.

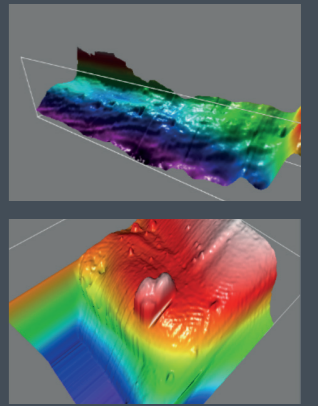
INSPECTED WELD DIMENSIONS

- Length
- Width
- Throat thickness
- Cross-sectional area
- Weld toe angle
- Position
- Asymmetry & leg length
- Concavity, convexity



INSPECTED WELD DEFECTS

- Pores
 - Macro pores
 - Micro pores
 - Porosity (pore nests)
- Holes
- Undercuts
- Incompletely filled groove
- Incomplete welds
- Spatter



This industry-leading turnkey solution provides repeatable results you can rely on – for the quality control you need.

ISO
10042

ISO
5817

VDA
5

IP65
ENCLOSURE

Able to access complicated, hard-to-access spaces other sensor technologies cannot, JOSY's market-leading **reachability** inspects more welds than any other system.

As SmartRay's ECCO 3D metrology sensors are the most compact on the market, JOSY is able to inspect more welds than any other inspection system. JOSY's high-accuracy sensing enables 100% automated inspection capability for a wide range of parts.

This unrivalled reachability speeds up cycle times across multiple inspection processes – ensuring you meet your targets.

THE BENEFITS ARE IMMEDIATE

- Most compact 3D metrology sensor available
- Accesses hard-to-reach areas to cover more weld points
- Enables inspection of wider range of parts across the production process

SmartRay 



APPLICATION ENGINEER
JOSY SYSTEMS
PATRICK SCHUCKALL

"If the sensor and cables cannot enter or access a weld, the part needs to be inspected manually – greatly increasing cycle time and inspection costs. Production line planners can be sure that the inspection process covers all weld joints with the versatile compact SmartRay sensors."



JOSY
ADVANTAGE
Actual sensor size

SmartRay's intelligent, analytical software tools meet the **productivity** challenges of automobile production, measurably increasing efficiency and output.

JOSY constantly optimises the production process. Staff and system costs required for additional inspection needs are reduced, while increased uptime is supported by identifying preventive maintenance needs.

And JOSY's acclaimed manual rework tools transform the efficiency and potential of the rework process: intuitive software that enables users to undertake efficient, rework. Users are able to log and analyse statistical data more effectively, opening new diagnostic capabilities to allow identification of systematic issues in the production process.

GET THE BENEFITS

- Significant rework reduction
- Continuous process optimisation
- Uptime maximization/preventative maintenance



SmartRay 

JOSY provides **certainty** for our customers. Compared to human inspection it gives the same result day after day, year after year, with no fluctuation, no subjectivity.

High speed scanning:

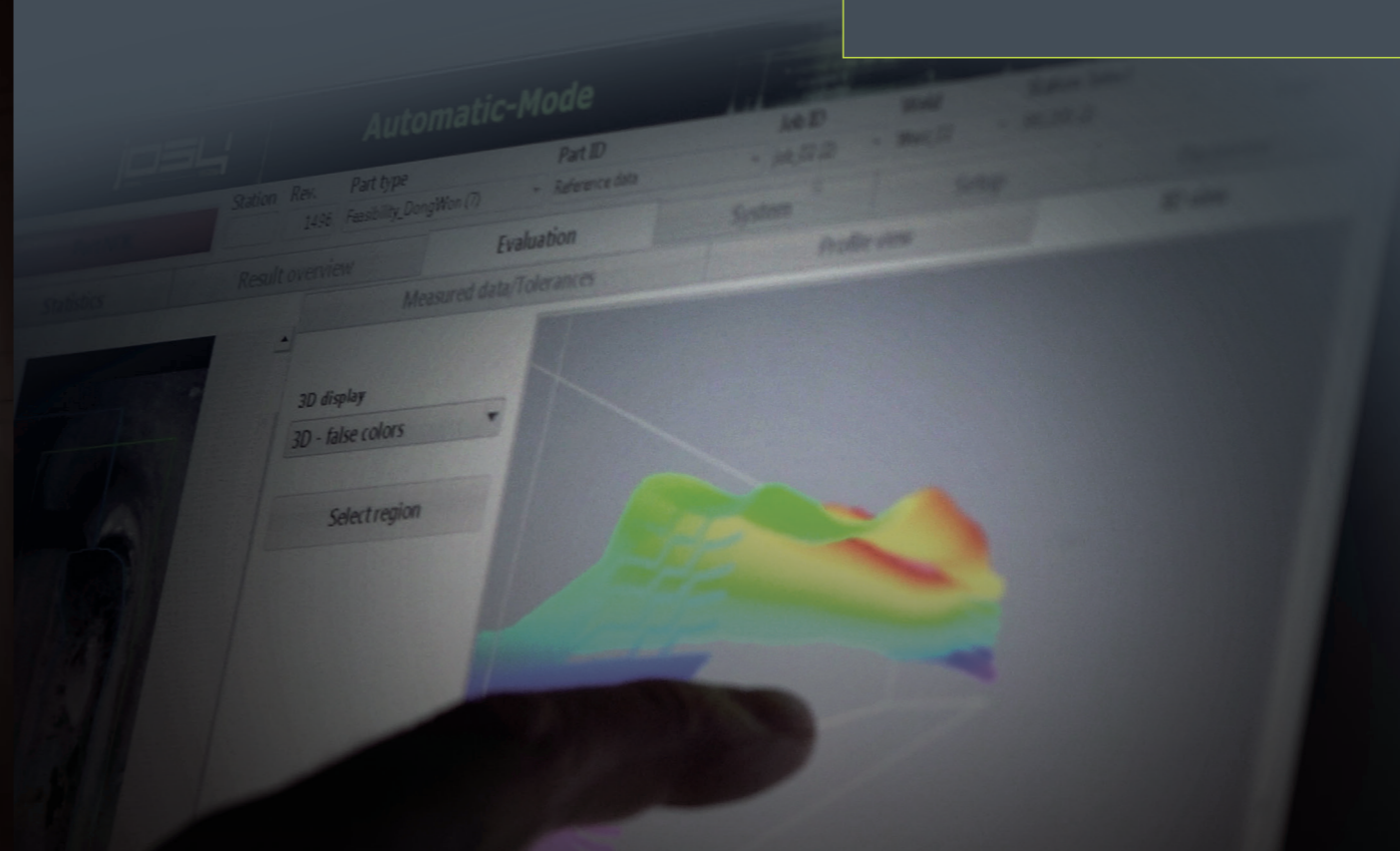
8
kHz

400
mm/s



**BUSINESS UNIT MANAGER
JOSY WELD INSPECTION**
BERND LOROESCH

"By providing the fastest weld inspection solution on the market, process planners can be sure that all welds are inspected within the cycle time. Based on 100% inspection and objectively proven and documented weld quality, production managers gain the certainty that all parts produced meet the quality standards of their customers."



Using our flexibility and agility to determine the right solution with our customers, we transform results together, building a long lasting **partnership** for productivity.

With an experience of over 250 installed systems worldwide, we understand that during the project planning phase not all requirements or future demands are known. SmartRay not only meets the requirements specified at project inception, but also the tools and services our experience indicates necessary to run the system efficiently over many years.

Our reliable and planned installation process includes pre-commissioning, with technical and organisational coordination, and commissioning with pre-configured and tested hardware. We deliver a full, customised after-sales service that ensures your staff are trained to the appropriate level, and your JOSY system remains optimised and maintained. This ensures JOSY continues to provide the accurate, repeatable results your process demands, year after year.

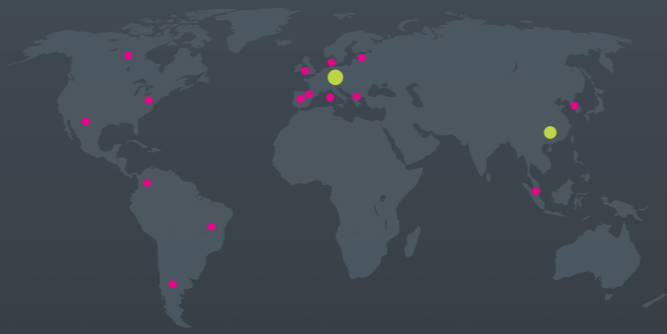
GET THE BENEFITS

- **Support in production line planning**
- **Reliable, planned commissioning**
- **Customised after-sales support**



PARTNERING FOR INTEGRATION

- **We have a strong partnership with our customers**
- **Together we unlock new ways to solve inspection and measurement challenges**
- **We develop process-specific solutions in close consultation with every customer**
- **Our approach combines metrology expertise with the right sensor – for the best result**



SmartRay works closely with global welding specialist Abicor Binzel to offer installation of the JOSY system, as well as localized technical and commercial support by their highly trained experts around the world.

SmartRay **ECCO** 3D sensors.

SmartRay's 3D sensor technology forms the core of our JOSY solution for weld inspection. Our ECCO range has revolutionised the 3D sensor market, providing high performance and exceptional value.

Named for their **E**conomic and **C**ompact qualities, ECCO sensors improve product quality, guide automation and reduce production costs for automotive, electronic, industrial and consumer applications.

Combining laser triangulation with innovative image formation technology, they deliver accurate inspection and precise measurement.

- **Superior 3D image quality**
- **Ultra-high resolution**
- **Smallest, most economic 3D sensor in its class**



See the ECCO range of 3D sensors at smartray.com



2 3R	Choice of laser class
2 h	Installation time
Up to 100% 24/7/365	True inline inspection
Up to 8 kHz Up to 400 mm/s	High speed scanning
ISO 5817 ISO 10042 VDA 5	Objective and compliant with industrial standards
Down to 0.1 mm	Pore detection
180 g IP65	Compact and robust sensors with superior image quality