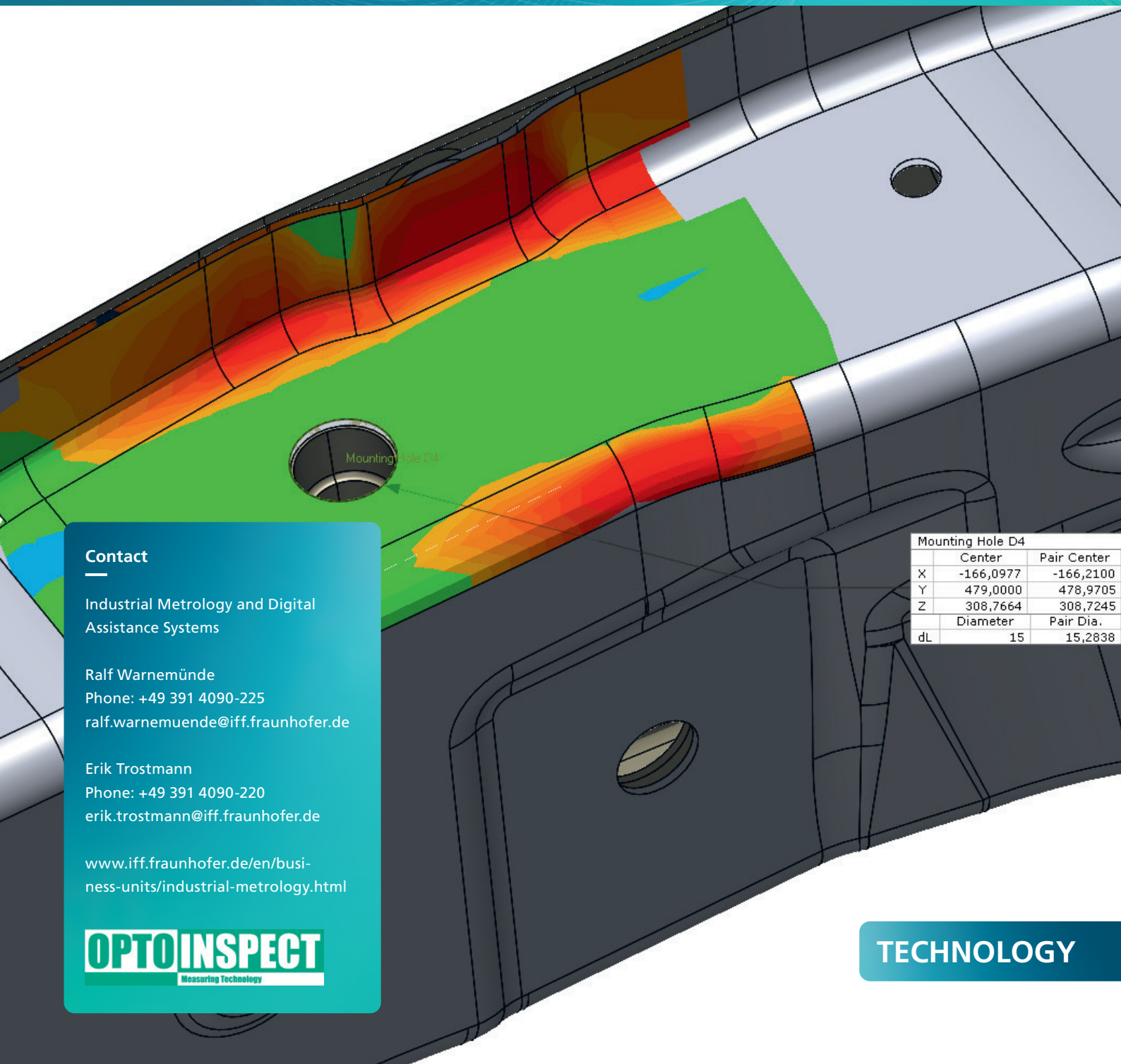
Fraunhofer IFF

**OptoInspect3D**

# Highly Flexible Industrial 3D Scanning Systems

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Industrial Metrology and Digital Assistance Systems

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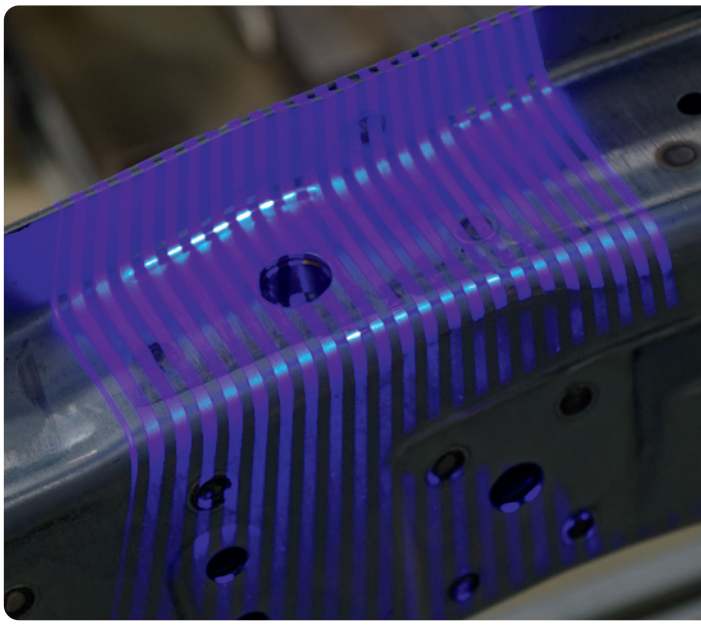
OPTOINSPECT Measuring Technology

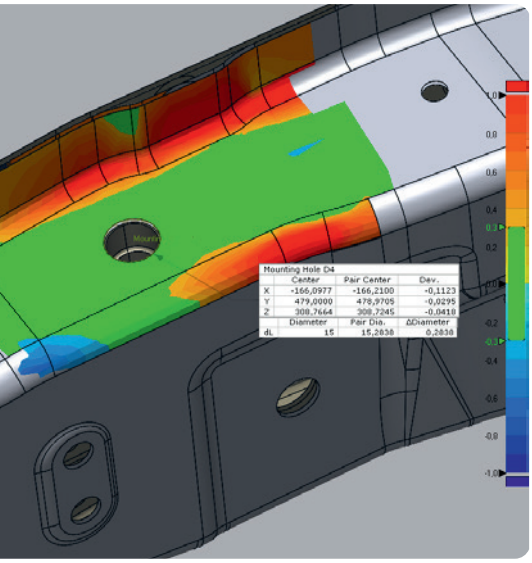
**TECHNOLOGY**

# OptoInspect3D
## HIGHLY FLEXIBLE INDUSTRIAL 3D SCANNING SYSTEMS

### Product

Industrial inline 3D scanning systems are increasingly becoming a key element of digital manufacturing in smart factories. They detect quality defects and process deviations automated and timed. They enable closed quality control loops, zero-defect products and efficient manufacturing. Optical scanning systems's good automation capability and fast, noncontact operation make them attractive for inline applications with direct process or machine integration.
We use our set of OptoInspect3D technology modules to develop highly flexible, innovative inline industrial 3D scanning systems for the dimensional inspection of size, shape and position tolerances for our clients.






### Technology

The OptoInspect3D technology kit comprises methods and tools for the efficient development and implementation of system solutions for specific applications. Its outstanding feature is the model-based approach from end to end. CAD models of the device under test (DUT) and a modeled description of the test system function are the basis of the scanning system's high flexibility. Scan simulations and DUT models enable automatic sensor positioning and interpretation of the measurement data for each feature to be tested. Established principles of 3D scanning, such as structured-light 3D scanning and laser light section sensing, and kinematics (robots or linear axes) that position sensors relative to a component are employed.

### Benefits

OptoInspect 3D inline scanning systems provide:

- High product quality and stable manufacturing processes
- Self-adapting testing whenever DUTs and tests change ("the component model controls the test process")
- Automatic sensor positioning without teaching
- Cost-effective automation capability of quality inspection despite great product diversity and small lot sizes