
# ZEISS AIMax cloud II

High-speed sensor for measuring
complex features in the production line

ZEISS

Seeing beyond


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# 100% measurements with maximum speed

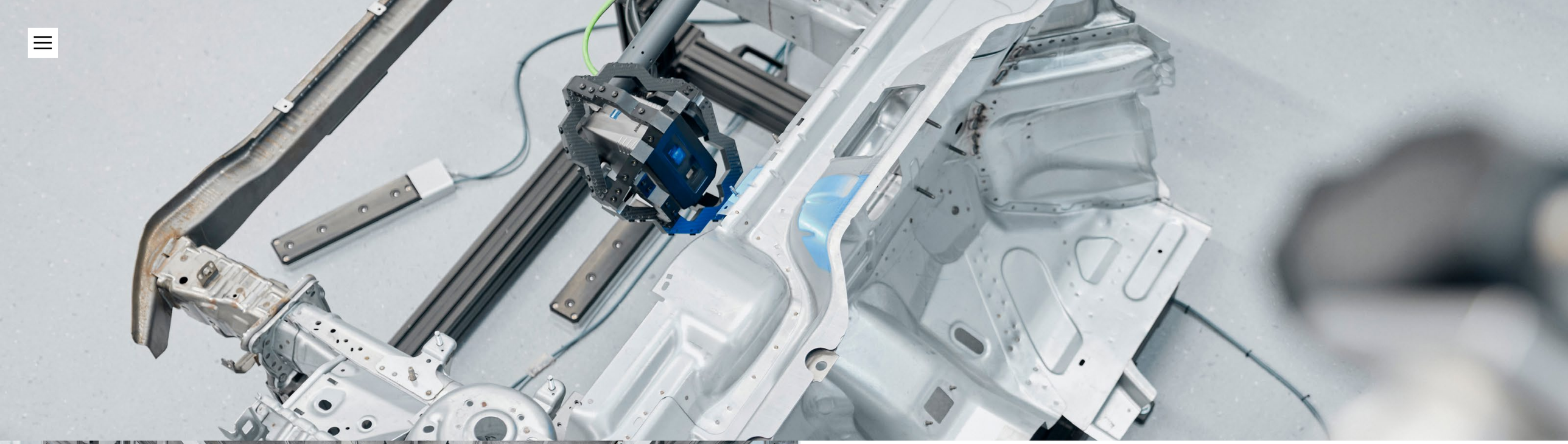
ZEISS AIMax cloud II optical 3D sensor was specially developed for quickly measuring features in the production line that are easy to evaluate. Using its projection technology and high 3D resolution, the sensor generates a very dense point cloud and measures complex car body specific features such as rivets, bending edges, surface points, or T-pins with just one image. This robot-guided inline measuring system is ideal for the sheet metal processing industry and car body construction, allowing for fast 100% measurements in short cycle times from individual parts to the entire car body.

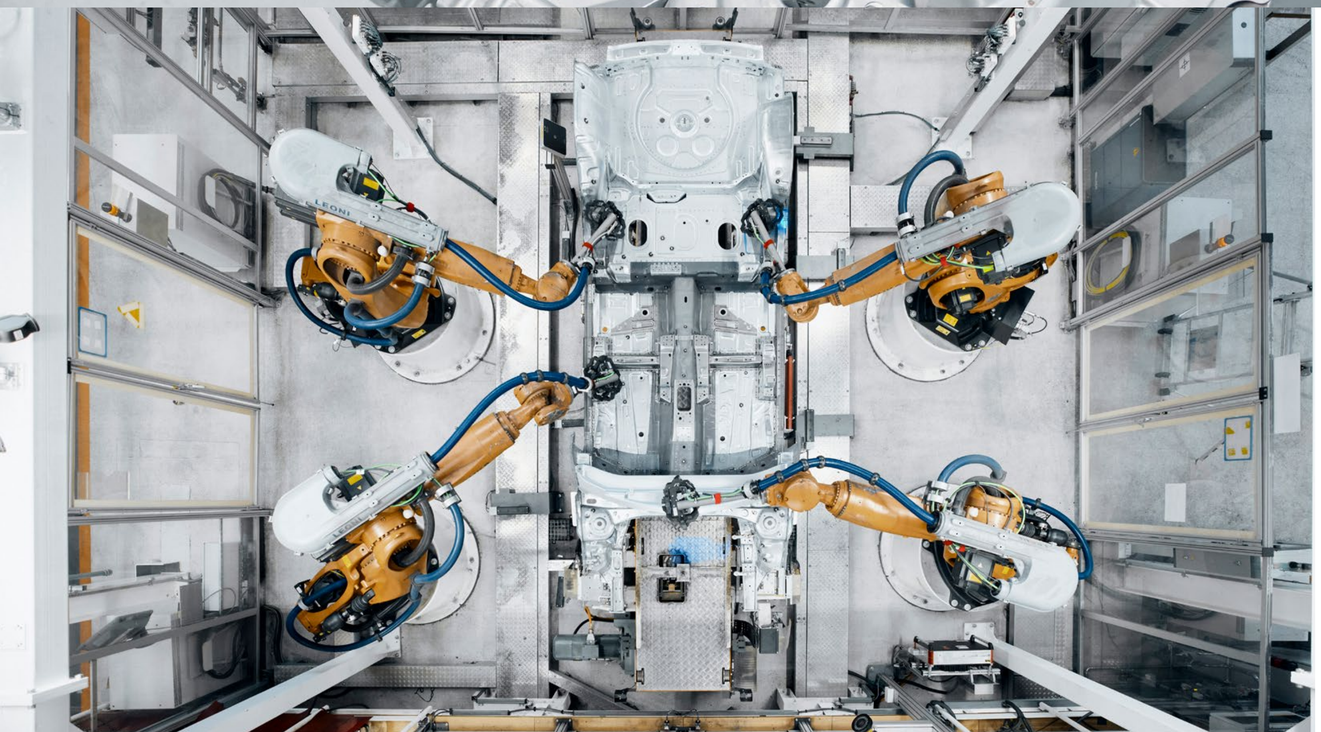
Due to its compact design, all measuring points in the production line are easily accessible. The measurement setup is quick and intuitive, and the result is visualized immediately after the measurement.


# Areas of application

In the automotive industry, ZEISS AIMax cloud II measures car body specific features such as bolts, hole patterns, or rivets. The inline measuring system also supports users in testing of assembly and welding processes. Furthermore, the sensor enables the measurement of characteristic design lines.

Another application is the aerospace industry: the sensor can efficiently and quickly measure specific features such as rivets or important functional dimensions on aircraft fuselages, wings, vertical stabilizers, and aircraft doors.



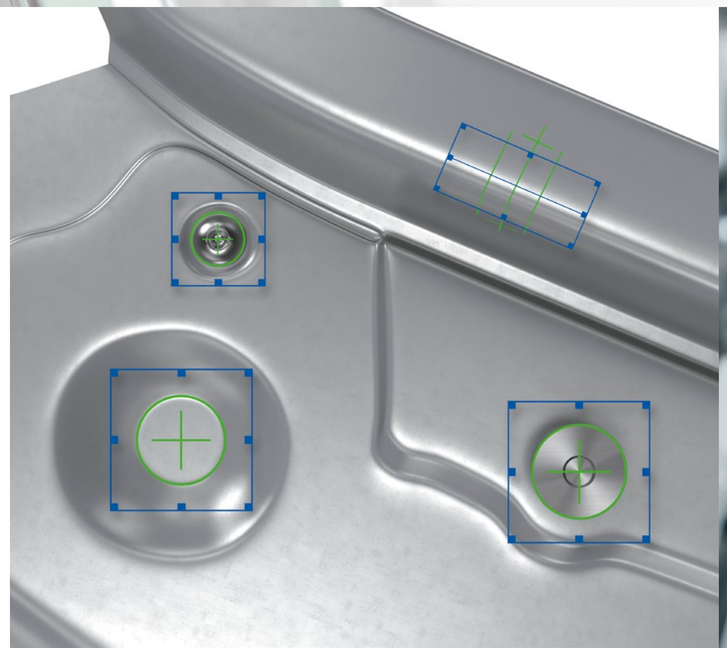


# Correlation-free and metrologically traceable inline metrology

ZEISS AIMax cloud II can also be used in the metrologically traceable inline measuring system ZEISS AICell trace. Providing reliable and meaningful measurement and inspection data, this technology has the required accuracy from the first part. As a result, correlation measurements in the measuring room are no longer necessary.

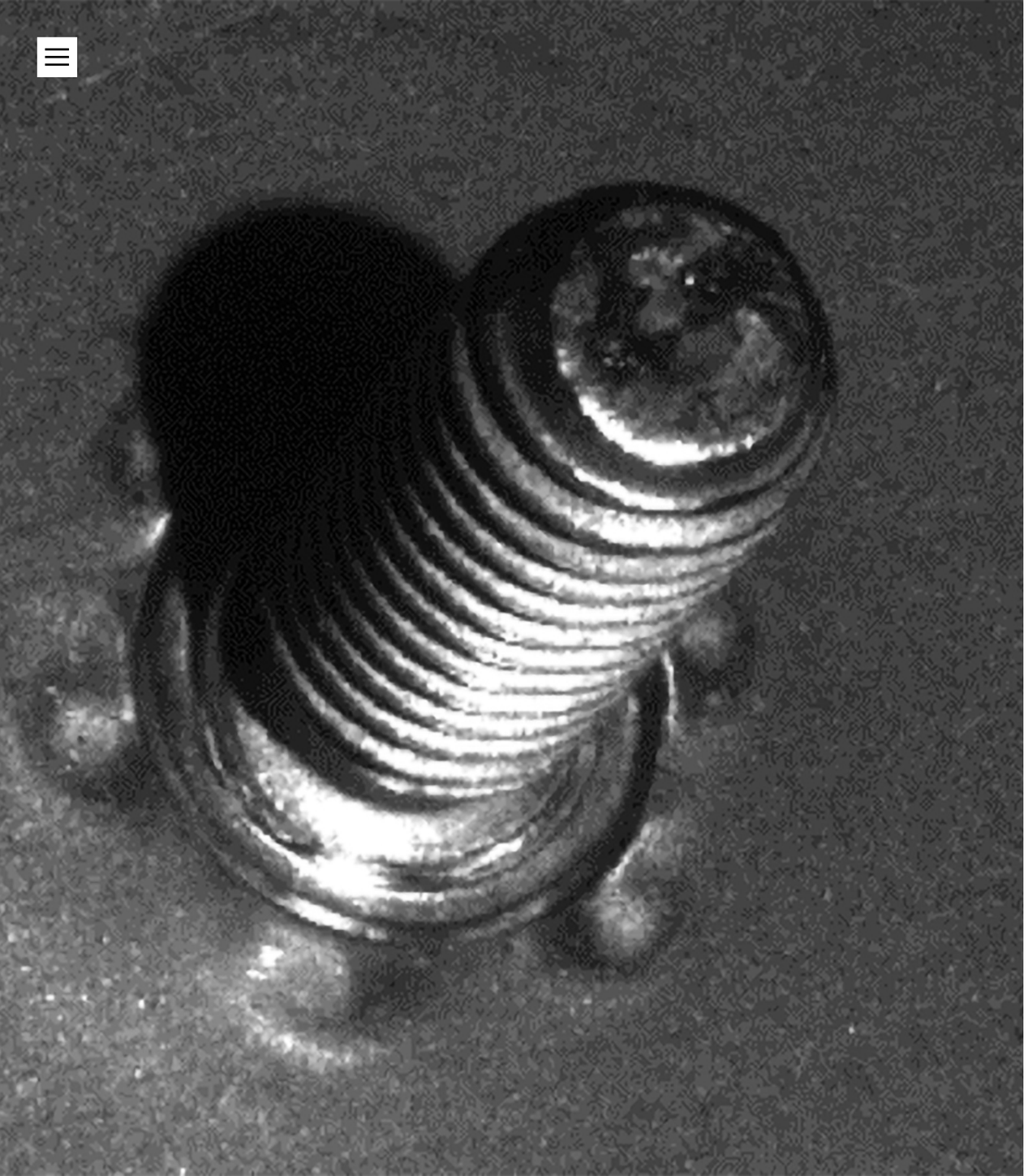
# Feature measurement

- Dimensional accuracy of the car body geometry
- Position of a welding nut behind sheet metal
- Rivets
- Ball pins
- Position of ISOFIX anchors
- Correct bolt position
- Hole pattern position
- Bending edges



# The advantages at a glance

- Quick creation of dense point clouds using structured illumination
- DLP® technology optimized for inline use
- Intuitive and fast setup of feature extraction
- Enhanced robustness compared to standard image processing through feature extraction in the point cloud
- Ability to measure and test even the most minor features thanks to high 3D resolution
- Simultaneous analysis of multiple features in one sensor position
- Measurement of individual parts up to complete car bodies



# Visualization of the measurement results in ZEISS INDI

The measurement results are visualized directly after the measurement in the connected ZEISS INDI software. Feature extraction in the point cloud can be set up quickly and is user-friendly. The software can also be used to perform statistical evaluations and configure the measurement plan.

Furthermore, the images of the affected measuring points can be accessed and analyzed for a targeted and fast root cause analysis.

The software features of ZEISS INDI ensure efficiency gains, cost minimization, and increased productivity:

- Near-fault identification, incl. Q-Stop functionality
- Downstream evaluation of image files for targeted root cause analysis
- Evaluation of measurement curves and trends per measuring point
- Visualization of the generated point cloud
- Display/visualization of all measurement results on a part

# Technical data

| | |
|---|---|
| Camera | digital (USB3) |
| Camera technology | monochrome |
| Camera resolution | 2500 px x 2264 px |
| Illumination | DLP® projector in the range of 460 nm |
| Measuring distance | 163 mm |
| Measuring volume | 75 mm x 86 mm x 48 mm |
| Dimensions | 96 mm x 168 mm x 145 mm |
| Weight without tool | 3 kg |
| Temperature (compensated) | 10°C to 40°C |
| Image acquisition time | ~ 0,25 seconds / measuring position for typical features |

# Are you interested in ZEISS AIMax cloud II ?

Contact us for a free demonstration – on-site or online.

Contact us

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