



“In the subassemblies, as you can see in Underbody 2 behind me, it is important to measure complex features such as bolts, nuts behind sheet metal. For such cases, we have used ZEISS AICell trace system including an AImax cloud sensor which is able to measure these complex features.”

Kai Petratschek
QA-Metrology Series, Volkswagen AG

Volkswagen AG

Process Monitoring and Metrologically Traced Inline Metrology

With the piloting and successful implementation of the “Measurement Concept 2025”, car manufacturer Volkswagen has relocated its series metrology to the production line. The digital transformation of inline metrology reduces the workload on measuring rooms. Volkswagen launched the project in 2020 with the aim of integrating the complete inspection characteristics plan into the line. The use of the ZEISS AICell trace and ZEISS AICell scan inline measuring systems enables the measurement of higher samples. In addition, transportation routes into the measuring room and the time offset between product and measurement are saved.

Industry

Automotive

Systems

ZEISS AICell trace, ZEISS AICell scan

Software

ZEISS INSPECT, ZEISS INDI

Challenges

- Relocation of the measurement room to the production line
- Inspection of complex features and the entire surface
- Resilient measuring results from the first part produced

Solution

- Integration of metrologically traced inline measurements along the process chain
- Full-field deviation representations in CAD-actual comparisons
- Combination of process monitoring and absolutely accurate measurement

Benefits

- All relevant measuring points and functional dimensions are measured in cycle time
- Near-fault identification incl. Q-Stop functionality
- No transfer of individual parts and entire car bodies