Press release

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**Precise defect detection on bodyshells**

**surfaceCONTROL Automotive from Micro-Epsilon is a robot-based measuring system for the fully automated surface inspection of bodyshells. The system utilizes the principle of fringe projection and uses a learning process to detect dents or bulges, among other things.**

surfaceCONTROL Automotive is a robot-based measuring system for fully automated defect detection on bodyshells in the automotive industry. The diffusely reflective surfaces are detected by 3D sensors that utilize the principle of fringe projection. Local shape defects – for example dents, bulges or notches – can be detected with high precision and repeatability using a learning process.

**Standardized test processes for series production**

The surfaceCONTROL Automotive measuring system impresses with a very high detection rate and a surface coverage of ≥ 97% – including edge regions, design edges, and heavily cambered areas such as door handle recesses. Defects on sanded or pre-treated surfaces of the body-in-white are also reliably detected. Thanks to this extremely high coverage, bodyshells that have been found to have no defects can be transferred directly to the paint shop without a manual visual inspection. A CAD-based simulation for quickly defining measuring positions and movement sequences and integrated 6D offset correction to compensate for position deviations ensure reliable processes. Quick adaptation options in the parameterization also facilitate transfer to other plants and new body models.

**Powerful software**

Besides the metrology hardware, surfaceCONTROL Automotive also offers a powerful software platform. In addition to generating a Digital Master from the data sets of defect-free reference parts, the components can also be analyzed using a Digital Stone and a Digital Light Tunnel. The assessment is based on real 3D data, which means that 3D features such as diameter, area, and height can be assigned to each defect. These defects are classified taking into account permissible deviations according to the user’s individual specifications. All results are saved in an XML file and can be integrated into existing quality assurance systems. In combination with reflectCONTROL Automotive in the paint shop, the measuring system offers a consistent inspection concept for the entire body manufacturing process.

*approx. 2,300 characters*

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