



**Industry: Automotive Suppliers**  
**SICK solution for flexible plastic parts inspection  
for automotive suppliers**

**Prag/Waldkirch, Tour Stop No. 1 2010 - In an automatic testing unit, a 3D smart camera combined with an encoder enables flexible quality checking of a wide range of different plastic parts.**

**Challenge: Flexible Production**

The Czech company Provys specializes in the construction of specialist machines for the automobile and electro-technical industries. The customer AKT requested the development of an inspection system which could check a variety of plastic parts, such as lock covers for cars, for a wide range of different characteristics. Due to the complex nature and variety of inspection tasks – eight part types, each with more than 20 inspection characteristics – the solution needed to be flexible and adaptable. The contrast conditions – black parts against a black background – provided a further challenge for the inspection process. The final aim was to create a solution which could write the measurement values and records of the parts inspections in LOG files so that the production and inspection data for individual parts could be accessed at any time.

**Solution: In an automatic testing unit, a 3D smart camera combined with an encoder enables flexible quality checking of a wide range of different plastic parts.**

For this task, Provys developed an inspection system in which a 3D smart camera (IVC-3D) is moved over the test objects by a linear motor. The smart camera scans the test objects with its integrated laser-optic system and generates a profile section. Connected to the camera is an encoder (DRS60) which adds the exact position for each profile section, so that the



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camera can generate a complete, high-precision 3D image of the test object. The 3D camera uses the recorded data to determine – unaffected by surface colors and contrast – which of the part-specific inspection characteristics programmed into the system are present and which are absent. Both the smart camera and the encoder can be parameterized, meaning that Provys can adapt this entire highly-flexible system to new inspection characteristics at any time.

**Customer Benefit:**

**Quality checking a variety of inspection characteristics with one solution**

**React quickly to new inspection requirements**

**Documentable quality**

The 3D smart camera solution inspects parts with high precision and availability. It is ideal for Provys, as it requires only one camera and no extra lighting, due to the built-in laser sensor. The user-friendly camera is also efficient and flexible, and can be independently adapted to new parts or characteristics. Provys procured the 3D smart camera and programmable encoder from a single source, so they are perfectly tuned to each other. The inspection measurements and records are documented, so production and inspection data can be retrieved for the end customer at any time.