



Intelligent quality assurance with APAS

End-of-line inspection

At the Bosch Feuerbach plant, the APAS production assistant ensures the highest quality. The end-of-line inspection is performed by an APAS inspector mobile in conjunction with two APAS assistant mobile units. The collaborative robots fit seamlessly into the industry 4.0 environment at the Feuerbach plant, where, among other things, high-pressure pumps are produced. One important subcomponent is the so-called metering unit. It is electrically connected to the control unit and ensures that fuel is supplied as required.

In order to meet the high quality requirements, the metering units are subjected to a very strict visual inspection at the end of the production line. In order to relieve employees of the tedious manual process and ensure consistently high quality, the Bosch plant relies on the APAS system here: Four inspection islands, each with two APAS assistant mobile units and one APAS inspector mobile, work hand in hand with the employees. It performs the visual inspection and sorts the inspected parts fully automatically. Employees supply the system with the test samples and can move freely between the collaborative robots to transport the parts in and out.

How exactly does this work?

The parts to be tested are delivered in blisters on dollies. Once the batch bar code has been scanned, the first APAS assistant grabs the first metering unit and places it in a transfer position where a protective cap is removed from the part. The second APAS picks up the part from there and places it in the APAS inspector. Here it is checked from all sides by a complex camera system capturing various single shot images. The protective cap is then put on again. The first APAS assistant deposits parts that pass the inspection on a case lifter. Reject parts are sorted out by the second APAS. Blister handling is also made possible by the APAS assistant using a suction gripper. As a result, the inspection of the entire batch is completed reliably in the shortest possible time.

The challenge

To relieve the employees' workload and guarantee consistently high quality.

The solution

Combination of APAS assistant mobile and APAS inspector for fully automatic quality inspection.

The result

"The APAS production assistants are doing an excellent job at our plant. We are also planning to use APAS systems in other production lines."

Soeren Heidekorn, Head of Department Metering Unit Production



Solved with

- ▶ APAS assistant mobile for equipping and sorting
- ▶ APAS inspector mobile for 360° inspection
- ▶ Safe and efficient interaction between humans and machine