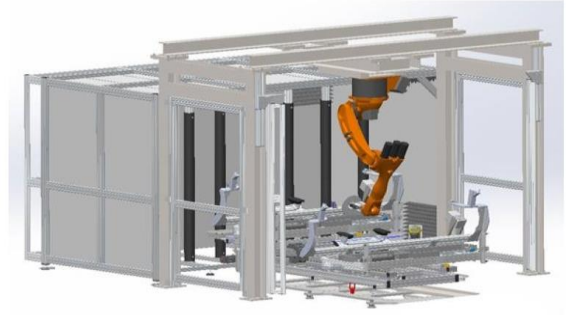


# Bumper EOLT (End of Line Tester)

## Key challenges in the project:

- Function check of radar and ultrasonic sensors
- Visual inspection of proper installation of pedestrian protection hose
- Visual check for the presence of mechanical components such as attachments, clips, chrome parts
- Independent of personnel



## How did we solve them?

- Identification of the DUT via RFID
- Direct interface for customer-provided control via PROFINET (EtherCAT or I/O signal)
- Impact obstacle for ultrasonic sensors
- Test system with visual inspection robot (2D/3D scanner), moving the pedestrian protection hose along the entire length
- Presence check via industrial camera on robot arm
- Power supply to the sensors to be tested with Berghof MERLIN
- Current and resistance measurements with Berghof MERLIN

## Purpose of the project

Bumper tester was developed for testing the bumpers. Depending on the requirements, a complete test system comprising metrology, mechanics and inspection robot with image processing, or the metrology is integrated into an already existing assembly line. The present project is a test system that is designed for testing front and rear bumpers.

## Technical requirements for the test system

Test methods: resistance, current and, voltage measurement, LIN and CAN communication, visual inspection

Scope of testing: identification, completeness and surface of the DUT; testing the sensors, lighting and safety components

Operating modes: automatic, manual

Measurement program with user interface, software used: NI LabVIEW

### Test keywords:

Bumper, impact absorber, MERLIN measuring module (automotive tester), NI cRIO (embedded controller), RFID (radio frequency identification), DUT (Device Under Test)



### Your contact partners

Thomas Brüggemeier | Account Manager | T +49.7121.894-123 | [thomas.brueggemeier@berghof.com](mailto:thomas.brueggemeier@berghof.com)  
Klaus Maichle | Presales Engineer | T +49.7121.894-132 | [klaus.maichle@berghof.com](mailto:klaus.maichle@berghof.com)

Berghof Automation GmbH | Harretstrasse 1 | 72800 Eningen | [www.berghof-testing.com](http://www.berghof-testing.com)  
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