



**SHARED  
FACILITIES**

Located at the **Automotive Campus**  
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**AUTOMOTIVE  
CAMPUS**

## Test Center

The Test Center of Benteler Engineering Services provides a broad range of services required to conduct durability and functionality tests on complete systems, modules and components.

We offer these services in various market segments such as Automotive, Public Transport, Commercial Vehicles, Industry, Shipbuilding and Defense. Experienced experts, state-of-the-art testing equipment and expertise in engineering and prototyping all under one roof make it possible to find the best testing solutions that save customers time, costs and warranty problems.



### **COMPONENT TESTING - LOW-FREQUENCY TESTING**

The functionality and life expectancy of components and systems are evaluated and verified on various durability test rigs, simulating real-life conditions. From single components to complete systems, for example made of steel, cast iron or the latest lightweight materials.

#### **RANGE OF SERVICES:**

- Collecting and measuring road load data
- Durability testing of components with a predefined load or vibration
- Analysis of test results
- Translate road load data into test requirements
- Strain gauge application and calibration

#### **EQUIPMENT:**

- Wheel force transducers
- 12-channel road load simulator
- 38 hydraulic actuators with digital controllers
- Flexible, modular system for test rig building
- Fuel rail test facility
- Final inspection laboratory

## COMPONENT TESTING - HIGH-FREQUENCY TESTING

In the electro dynamic shaker lab components and products are tested on durability using high-frequency vibrations (DC - 4000 Hz). By generating fatigue, the durability of the component or product is simulated and tested. The results of the tests are analysed by the test engineers and presented to the customer in a test report.

### RANGE OF VIBRATION TESTING SERVICES:

- Resonance determination
- Endurance testing
- Analysis of test results

### EQUIPMENT VIBRATION TESTING

- 1x LDS V721 Electro dynamic shaker
- 1x LDS V830 Electro dynamic shaker
- 1x ETS M437A Electro dynamic shaker combined with ETS BT900 Slip table
- 3x M+P Vibpilot controller (2 x 4-channel, 1x 8-channel)

## SYSTEM TESTING

This part of the test laboratory specialises in testing configurations of several single products. Such a system can vary from a small number of parts that control the exhaust gas to a complete door module with all modern electronics.

We are equipped to make specialised test setups that can be developed to meet customer requirements. These, mostly pneumatic and customer-specific test rigs can be made or modified in-house with a short lead-time.

### EQUIPMENT:

- Internal exhaust corrosion test rig
- Customer-dependent functional test rigs
- Closure endurance test rig
- Climate facilities

## **BENTELER** Engineering Services

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Benteler Engineering Services is a development and service partner with more than 50 years of engineering experience spanning the entire product development and production process.

We offer our customers everything from one source: starting with the project definition process, from engineering to prototyping and testing, until transfer to series production. With our comprehensive know-how in quality and project management, we guarantee a smooth process.

We support customers from various industries such as automotive, public transport, commercial vehicles, shipbuilding, defense and industry - from small local companies to large global corporations - and help them develop products fit for the future. At one of our nearby engineering offices or as resident engineer directly at customer premises, also across national borders.

Benteler Engineering Services is a part of the Benteler Group and employs a total workforce of more than 700 people at 12 sites in Germany, Sweden, the Netherlands and China.