






Testing of electrical machines and axles

YOUR PARTNER FOR

-  Engineering
-  Simulation
-  Testing



TESTING OF ELECTRICAL MACHINES AND AXLES

The very special properties of the electric drive train create complex testing challenges and require the engineers' specific know-how as well as powerful electric machine test rigs. PTS-Prüftechnik accompanies its partners with e-testing services from the first concept through to series production. Competence and technology - our basis for the continuous improvement of the electric drive train:

Competencies

Functional tests

- Application measurements (Thermal protection, derating maps)
- Use of universal frequency converters for engine characterisation
- NVH measurements (acoustic & with structure-borne sound sensors)
- Efficiency measurements using a power analyzer
- Drag torque studies

Endurance tests

- Wheelset testing with early damage detection
- Lifetime and reliability tests (L02, L03, etc.)
- Maturity level assurance

Technology and infrastructure

E-machine test stands

- Nominal power: 800 kW / axle
- max. torque: 9,000 Nm / axle
- Speed: up to 25,000 rpm

Battery simulation

- Performance range: max. 1,000 kW
- Voltage range: up to 1,000 V
- Current range: 0 - 2,400 A

Environmental simulation

- independent temperature control of the coolant and air circulation from **-50 °C** to **+ 120 °C**

TOGETHER INTO THE CO2-NEUTRAL FUTURE!