

Electric and Hybrid Powertrain Systems



For the base development and mechanical testing of electric drives, KST operates a modern test field with dynamic E-powertrain test benches and test benches to simulate completely electrified powertrains:

- High voltage supply of various manufacturers and performance categories of up to 1000 V/1200 A (direct current) and 500 kW (electrical).
- Dynamic systems for 48 V on-board power supply (20kW / 65VDC / 385A)
- Electrical machine development test benches with up to 20,000 1/min, 430 Nm torque and 178 kW driving power.
- Powertrain test bench in vehicle size with wheel machines. Up to 3,200 Nm (per wheel). By means of a transfer gearbox and summation gearbox, the test benches can be adapted to differing use applications.
- Air-conditioning technology with dynamic setting to environmental conditions. Temperatures from -60 °C to +160 °C can be simulated, as well as different ways of conditioning the ambient air.
- Freely configurable battery simulations to simulate various battery models.
- Benchmark testing for operating test specimens without specific power electronics.

Beyond that, KST also has experience in developing electric drives for industrial use. In our electric motor test field we adapt the development and testing environment to later areas of use of the powertrain:

- Asynchronous machine: 3500 1/min, 5000 Nm, 800 kW
- Asynchronous machine with intermediate transmission: 800 kW, 7,600 Nm