



## AVL LIST GMBH

### A partner that speaks your language

CO<sub>2</sub> reduction, increasing complexity of vehicle and powertrain systems as well as the need to keep development costs under control – those are the challenges for the global automotive industry.

### Your partner for the electrified powertrain

AVL is the world's largest independent company for development, simulation and testing technology of powertrains (hybrid, combustion engines, transmission, electric drive, batteries and software) for passenger cars, trucks and large engines.



AVL e-Storage System

### Powertrain Engineering:

AVL develops all kinds of powertrain systems and is a competent partner to the engine and automotive industry since over 65 years.

### Instrumentation and Test Systems:

The products of this business area comprise all the instruments, systems and software required for powertrain and vehicle development and test.

### Advanced Simulation Technologies:

The simulation software portfolio is focusing on design and optimization of powertrain systems and covers all powertrain components up to vehicle level as well as all phases of the development process. Whether you are interested in a single measuring instrument or need an entire turnkey test facility – more than 6200 of our employees in over 40 countries are dedicated to exceeding your expectations.

### Expertise in Electrification

AVL offers development services, simulation and testing tools for all components of the electrified powertrain like electric motors, high-voltage batteries, controllers and inverters. By choosing the AVL platform, customers can seamlessly develop, simulate and test components in a common environment from first steps "in-the-loop" to final assurance in a "real" environment/vehicle.

### An Example:

#### AVL Electric Motor Testbed

Electric motors play a central role in the development of new drive systems. They act as a primary drive unit and have to be optimized in power and efficiency, reliability and durability.

AVL Electric Motor Testbeds function as complete development, testing, verification and validation environments for different electric motor types (ISG, BSG and Axle Drives). They are used for



AVL e-Motor Test Bed

determining and analyzing electrical, mechanical and thermal characteristics.

### Highlights of the AVL Electric Motor Testbed

- Proven concept of the testsystem
- Modular system based on harmonized and approved components
- Flexible pallet system for most productive use of the test bed
- Continuous data recording, even for durability tests
- Full integration in testfield management systems or enterprise test data management systems
- Standardized or customized solutions in test rig or pallet system design



AVL Battery Test Bed