



HYBRID DEVELOPMENT PLATFORM

MANEUVER BASED TESTING WITH AVL INMOTION™

System description

The AVL Hybrid Development Platform based on AVL InMotion™ offers test bed solutions for testing and calibrating hybrid powertrains and their associated system components. Based on proven test bed technology including the addition of hybrid extension instrumentation, the AVL Hybrid Development Platform based on AVL InMotion™ is a unique platform that has been designed to meet customer-specific application requirements.

AVL provides a range of innovative high-quality products developed specifically for customers either wishing to introduce a completely new testing solution along with new test beds or for those that require a hybrid upgrade of existing test beds.

The core innovation of the AVL Hybrid Development Platform based on AVL InMotion™ is the Hardware-in-the-Loop (HiL) technology. This technology allows incorporating the tasks of integration, optimization and validation into earlier phases of vehicle development processes, thereby, improving quality and efficiency, whilst reducing development time. The platform supports the optimization of performance, consumption and emission as well as the driveability of hybrid vehicles.

Applications

- Maneuver based testing of virtual vehicles in real-time (RT) on AVL test beds
- Development and test of control strategies (HiL) and vehicle components
- Optimization of start/stop performance
- Drivability optimization of the hybrid powertrain
- Optimization of performance, consumption, emission



Benefits

- Simulation of the whole hybrid vehicle on the test bed including Hardware-in-the-Loop (HiL) systems to integrate control units
- Integration of customer-specific models and subsystems (model centric development and testing)
- One platform for an integrated HEV powertrain development process: from concept to product
- Professional solution for maneuver based testing (model based and route based testing) with a powerful, stable and proven technology for new test beds or upgrades of existing test beds
- Interactive and easy to use

System components

The AVL Hybrid Development Platform based on AVL InMotion™ provides the basic hardware and software with real-time models for vehicle, driver, tire, road, brake, powertrain, transmission and differential. Furthermore the interface to different test bed types (engine, powertrain) is integrated optional for maneuver based testing.