Model.CONNECT™

Enrich your reality

AVL's open model integration and co-simulation platform
Connecting virtual and real components into one functional prototype

THE CHALLENGE

Vehicle development is a team effort. The key to mastering new development tasks is understanding the whole system early on in the process and using advanced simulation techniques in both the development and the testing phase.

- How do you efficiently manage development tasks such as RDE, Thermal Management, Electrification or ADAS/AD?
- How do you link component models into one virtual prototype?
- How do you integrate hardware components with simulation models?
- How do you synchronize distributed development teams, while ensuring model sharing and IP protection?

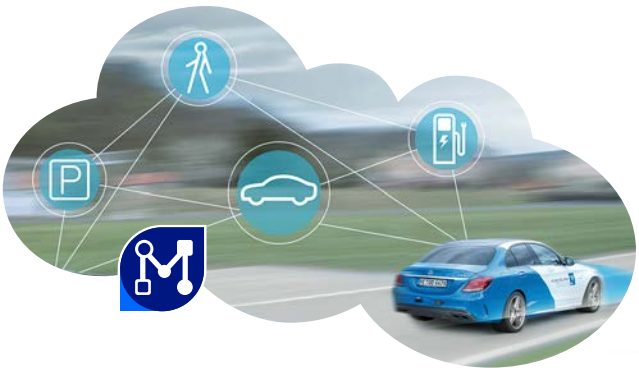
THE AVL SOLUTION

Model.CONNECT™ improves development efficiency by interlinking simulation models from different tools into one consistent virtual prototype, featuring:

- Efficient integration of existing models (Simulink, AMESim, VTD, GT, IPG, MSC ADAMS, AVL…), industry standards (FMI, XCP…) and user code (python, C/C++, Java…)
- Exchangeability of models from different domains, across department and application boundaries
- Accurate and fast results with unique coupling algorithms
- Connecting co-simulation with real-time systems by using patented RT-synchronization technology

THE ADDED VALUE

- Ready-to-use platform for building a digital twin in a heterogeneous model landscape
- Better understanding of component interactions even during early development phases
- Sustainable and secure collaboration between different departments and development partners
- Shorter development iteration loops and improved testing efficiency thanks to extensive usage of simulation methods in the testing environment



SCENARIO-BASED OPTIMIZATION OF PREDICTIVE AND ACTIVE ADAS FEATURES

With built-in scenario management and cloud computing interfaces, ADAS engineers can use Model.CONNECT as a platform for rapid prototyping, system integration, large-scale function optimization and safety validation.

ECU CALIBRATION FOR REAL DRIVING EMISSIONS AND DRIVING PERFORMANCE

Model.CONNECT integrates state-of-the-art RDE models and provides the bridge to the real ECU and HiL systems. It supports calibration protocol standards, giving a head start to the calibration engineers in their own working space.

THERMAL MANAGEMENT VALIDATION FOR ELECTRIC AND HYBRID VEHICLES

Efficient thermal management must address all system dependencies. Model.CONNECT brings sub-system models together into one sustainable functional prototype, which can be used both for the concept develoment and for Hardware-in-the-Loop tests.

FIND OUT MORE:

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