AVL-DRIVE 4™
Drive your brand DNA
THE CHALLENGE

Increasingly stringent emission legislation on a global level as well as cost pressures have strong effects on vehicle design and characteristics. The choice of CO₂ and efficiency measures from the powertrain to the vehicle is all about deciding on the right balance between cost and positive driving attributes like driveability, handling and ride comfort – forming the vehicle’s “DNA”.

These driving attributes describe the qualitative assessment of the vehicle’s response to the driver’s input. An outstanding level of these attributes greatly enhances the overall driving experience while an acceptable level is an essential prerequisite for driving pleasure and purchase decision. Furthermore, they are decisive factors in brand identification.

AVL supports its customers to:
- Provide a high driveability quality level for vehicles with conventional, hybrid and pure electric powertrain concepts
- Handle the trade-off between emissions, fuel economy, performance and driveability
- Guarantee an agreed vehicle character (Branding)
- Manage an increased vehicle complexity
- Increase efficiency (Target driven development)
- Reduce time to market
- Reduce development costs
Objective and transparent analysis of vehicle driving attributes

The AVL-DRIVE 4™ measurement system captures various sensor and CAN bus signals, such as longitudinal acceleration, engine speed, vehicle speed, pedal positions and vibrations. These input quantities are collected by the DMU (DRIVE Main Unit) and passed on to the AVL-DRIVE 4™ software for further processing and analysis.

About 100 different driving modes (e.g. part load acceleration, tip-in after closed pedal, downshift after kickdown) are detected automatically and more than 450 driveability related criteria are rated in real-time. A profound data analysis is accelerated by means of a graphical representation of the test results (e.g. 2D/3D plot, statistical trend analysis, frequency analysis, comparative report). The automatic generation of driveability reports in combination with an automatic creation of benchmark libraries is key to the fast communication of test results.

Based on a benchmark analysis, quality targets for driving attributes are defined and used as a reference to provide targets for the evaluation of these driving attributes at all stages within the development process (definition of quality gates, target driven development).

Frontloading of driving attributes development activities (from road, chassis dyno and engine testbed to pure math) leads to a reduction in vehicle testing which creates cost savings. Simultaneous development in early phases leads to improved quality and even in a shorter amount of time.

A new level of efficiency in driveability development on engine and/or powertrain testbeds is achieved by a closed loop optimization process incorporating AVL-DRIVE 4™, AVL VSM 4™, AVL PUMA Open 2™ and AVL CAMEO 3™.

At the AVL VSM Office, Lab, Rig, Road and Benchmark, AVL-DRIVE 4™ is shown.

Today’s requirements in powertrain development move forward every second. Complex systems, shorter times to market and a global world of opportunities challenge you to be better, more flexible and faster than your competitors.

Development tasks aren’t stand-alone. And it’s not just about how good single individuals or tools... …it’s about how well they work together.

AVL Team SUITE™
SUCCESS BASED ON INTERPLAY

www.avl.com/meet-the-team
THE AVL SOLUTION PACKAGE

AVL Services
- Objective vehicle benchmarking and target-setting
- Comprehensive vehicle analysis, presentation of modification and improvement potential
- Driveability development/calibration
- Integration of OEM-specific criteria and assessment algorithms
- System integration in customer test field
- AVL-DRIVE™ system support and maintenance
- AVL-DRIVE™ system introduction and user training

AVL Products for Objective assessment of driving attributes
- AVL-DRIVE 4™ – Driveability
- AVL-DRIVE 4™ – Handling
- AVL-DRIVE 4™ – Ride Comfort
- AVL-DRIVE 4™ – ADAS
- AVL Global Vehicle Benchmarking

AVL STRENGTHS
- Vehicle Benchmarking based on extensive database for comparison of driving attributes with market competitors
- Target specification for driving attributes
- Frontloading of driving attributes assessment with AVL-DRIVE™ and AVL VSM reduces the number of development loops and prototypes
- Automatic optimization for balanced driving attributes
- Reduction of after-market costs caused by driveability quality issues
- Objective verification of driving attributes supporting the release process
- Broad expertise and know-how in all main powertrain elements and deep understanding of driveability functions

THE ADDED VALUE

Fast
Objective real-time assessment provides instant feedback on driving attributes quality issues.

Efficient
Fast driving attributes assessment in combination with automatic report generation encourages target driven development.

Universal
Common language between development areas and within the supply chain.

Consistent
Reproducible assessment of driving attributes based on measured physical values.

Flexible
AVL-DRIVE 4™ for all phases of the development process, from pure math to on-road vehicle testing.

SUCCESS BASED ON INTERPLAY

COMBINE YOUR STRONG TEAM FLEXIBLY OUT OF COMPATIBLE, COMPLEMENTARY PLAYERS TO MEET YOUR NEEDS.