

AVL

AVL VSM 4™

Efficient driving pleasure

THE CHALLENGE

Vehicle manufacturers aim for vehicles with strongly branded characteristics. This attribute branding ensures a consistent driving pleasure with low CO₂ to satisfy driveability requirements of the end-consumer and strengthen the market position. To achieve these goals, accurate and efficient vehicle simulation in all development phases is essential.

THE AVL SOLUTION

AVL VSM 4™ is a comprehensive vehicle dynamics simulation package that precisely predicts the vehicle behavior and enables the improvement of vehicle attributes from the initial concept to the testing phase. AVL VSM 4™ supports an efficient vehicle development process through powerful execution add-ons (e.g. multicore calculation) and convenient parameterization features.

THE ADDED VALUE

- Enhance vehicle driving pleasure owing to ready-to-use examples for a broad range of applications
- Fulfill CO₂ legislation limits in different markets due to scalable model complexity
- Reduce development time and cost and surpass competition in driving performance

THE APPLICATIONS

- Driveability calibration, testing and validation
- Vehicle dynamics simulation
- Vehicle concept definition
- Virtual vehicle attribute development
- Driver-in-the-Loop testing
- Tractor & truck simulation
- Performance & Lap Time prediction
- RDE Testing

EFFICIENT DEVELOPMENT WITH AVL VSM 4™	
Concept Development: Vehicle Concept Simulation <ul style="list-style-type: none"> • Vehicle attribute analysis & optimization • Balancing vehicle efficiency & driving attributes • Virtual driveability prediction 	Calibration, Testing & Validation: Hardware-in-the-Loop (HiL) <ul style="list-style-type: none"> • Active chassis control calibration • HiL/XiL function calibration and testing • Automated calibration by DOE methods
Vehicle Dynamics Simulation <ul style="list-style-type: none"> • Chassis & suspension analysis for best handling & ride • Active chassis control development & analysis • Lap time & performance 	Engine-in-the-Loop <ul style="list-style-type: none"> • ECU calibration & validation (e.g. driveability) • Real-world testing (e.g. RDE) • Performance evaluation
Driver-in-the-Loop <ul style="list-style-type: none"> • Vehicle concept testing without prototypes • Experience vehicle & powertrain decisions • Evaluation of cross-attribute influences 	Vehicle/PT Calibration and Testing <ul style="list-style-type: none"> • Driveability calibration & validation • Vehicle dynamics calibration & testing • Functional testing

AVL VSM 4™ supports an early solution to the conflicting goals of consistent driving pleasure and CO₂ reduction. It accelerates and simplifies the calibration and validation tasks and significantly reduces the number of vehicle prototypes.

Accurate, reliable and comparable results based on comprehensive vehicle models and consistent maneuvers throughout the development process enable sound decisions without last minute design changes.



FOR FURTHER INFORMATION PLEASE CONTACT:

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