Vehicle Development

ADVANCED VEHICLE DEVELOPMENT AND VALIDATION

www.fev.com
ENGINEERING EXPERTISE BY FEV

VEHICLE
YOUR EXPERIENCED PARTNER IN FULL VEHICLE DEVELOPMENT PROGRAMS

In today’s fast moving markets, vehicle development tasks must be completed quickly, efficiently and reliably. FEV vehicle development and integration specialists deliver superior quality development services for any customer vehicle development program worldwide. Our engineering portfolio addresses performance attributes, vehicle subsystems and compliments most of our customer’s vehicle development and validation tasks.

COMPLETE VEHICLE DEVELOPMENT & VALIDATION FROM ONE HAND

Based upon our worldwide leadership in engine design and development, we consistently expanded our range of expertise in vehicle engineering and development. The full chain of our services includes Benchmark and Target Setting, the Styling and Engineering Development as well as Virtual Validation, Prototyping, Tests and Experimental Validation. FEV additionally supports Homologation and Certification as well as the production ramp-up planning.

FEV’s development capabilities is covering the complete vehicle development considering:

- Vehicle Architecture and Packaging
- Design / Styling
- Exterior / Interior Trims
- Body in White and Closures
- Chassis
- Electric / Electronics
- Powertrain
- Attribute Development (Safety, Energy, NVH, ...)

BENCHMARKING - OUR EXPERTISE IS YOUR ADVANTAGE

Getting an overview of the products from competing companies and comparing them with your own is very important today. FEV helps automotive manufacturers with benchmarking activities. FEV’s Vehicle Benchmarking database includes more than 160 investigated vehicles and powertrains with gasoline, diesel, hybrid or electric engines.

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Vehicle Run-in and Coast Down
Engine Friction Testing
Engine Thermodynamic Testing
Installation of Test Equipment
On-Road and Dyno Testing
Engine Acoustic Testing
THE FUTURE IS NOW

Based on its research & innovation background and technology trend studies, FEV has developed a holistic development approach for connected vehicles with future proof powertrain concepts – the „FEV Smart Vehicle Development“ approach.

ELECTRIC VEHICLE (EV) DEVELOPMENT
FEV is your right development partner for light and smart electric vehicles. Our impressive track record includes e-powertrain and EV developments from concept to SOP and any step in between.

- More than 60 electrification projects including 22 for electric vehicles
- Premium electrification development partner for BMW i8
- Turn-Key development of Lamborghini Asterion PHEV
- Development of dedicated car sharing EV (extremely compact and light)
- Development and fleet evaluation of EVs since 2008
- Development partner for e-powertrain control unit of StreetScooter EV
- New light weight innovations

CONNECTIVITY AND INFOTAINMENT
Decades of experience make FEV a unique turnkey partner for the development of connected vehicles. Our added value engineering is based on FEV’s knowhow of the entire end-to-end eco-system. We offer:

- System Architecture Design
- Requirements Development
- Functional Safety / Cyber Security
- Development of Cyber Security Gateways
- Controls Development for Hardware, Software and Function
- Software and Function Validation (MiL, SiL, HiL)
- Component and System Integration / Calibration
- End-to-end Validation (Vehicle, Network, Backend, Service-Provider)
- Testing and Validation
- Automated Test Systems for Connectivity Systems
- Benchmarking

AUTOMATED DRIVING
Thanks to extensive experience, powerful tools, and access to fully equipped testing environments, FEV offers premium services for end-to-end system design, integration and validation of advanced driver assistance systems and autonomous driving. Our services include:

- Proof-of-Concept
- Production Applications
- System Simulation and Development
- Algorithm and Controls Software Development
- Testing & Validation
- Development of Predictive Operation Strategies
- Controls Development for Hardware, Software and Function
- Benchmarking
FEV WORLDWIDE

Globally a reliable partner to support multi-nation developments

WIDE RANGE OF SERVICES

Profit from our longstanding expertise

ACCESS TO ALDENHOVEN TESTING CENTER

Testing under real-life conditions

Turning innovative ideas into reality

Founded in 1978, FEV with headquarters in Aachen, Germany, is working for major car and engine manufacturers worldwide. With more than 4,000 employees the company belongs to the leading development service providers in automotive technology. Our developments are always orientated towards worldwide standards and all future technology needs.

Capabilities & Services

Thanks to our longstanding expertise, we are the best partner in development of full conventional/electric powertrains (gasoline, diesel, EV, HEV) and relevant integration into the vehicle. Full vehicle development and validation is now growing significantly with specific investments and strategic actions CAD/CAE, laboratories, tools and capabilities for full vehicle testing and validation also belongs to our range of services.

ATC Testing Center

The test track has the structure of a real street with various circumstances. It offers a hill section, high speed oval, handling track, rough road, braking test track as well as a dynamics area. Thus we are able to test our developments and their reliability.