AVL Vehicle Development
Three locations – One Goal

AVL’s vehicle team has expanded to the Mast Vehicle Development Center in Plymouth, joining the Ann Arbor Technical Center and California Technical Center. With more than 100 AVL experts working on vehicle development-related topics within the US, this collaboration strengthens our team and allows us to serve our customers throughout the country.

MAST VEHICLE DEVELOPMENT CENTER
Plymouth, Michigan
› Expanded vehicle space for development work
› In-depth vehicle benchmarking
› Demo builds

ANN ARBOR TECHNICAL CENTER
Ann Arbor, Michigan
› High-voltage testing
› Powertrain test cells
› New Energy Lab for battery development

CALIFORNIA TECHNICAL CENTER
Lake Forest, California
› 4WD Powertrain testbed
› Electrified vehicle integration projects
› E-Motor test stand
## VEHICLE BENCHMARKING

- Compare vehicle attributes including:
  - Performance
  - Vehicle dynamics
  - Fuel economy
  - Emissions
  - Energy management
  - NVH
  - Ride comfort
- AVL benchmarked 93 vehicles globally in 2017 (25 done in US)
- 28% of vehicles benchmarked were electrified vehicles

### TESLA MODEL 3

AVL tore down and tested the vehicle to understand the Model 3’s performance and design to compare against other vehicles in the future.

### JAGUAR XE

AVL developed a Level 3 vehicle (controlled automatically but still needs a driver) to learn more about integrating autonomous driving functions.

## ADAS DEVELOPMENT

- Using AVL-DRIVE™ for ADAS to evaluate and compare:
  - Quality of ADAS and autonomous driving features
  - Function development
- OEM and Tier 1 support for development, integration, verification and validation of ADAS and Autonomous Driving functions

## VEHICLE CALIBRATION + SYSTEM CONCEPTS

- Optimized tuning of control units to achieve best-in-class performance, dynamics, fuel consumption, emissions and acoustics
- Using advanced AVL methods/tools to deliver results at a faster pace
- Supporting customers with requirements expertise for the complete development of vehicle system concepts

### FCA GRAND CHEROKEE

AVL calibrated the Grand Cherokee to meet new emission regulations in China without sacrificing driving experience or performance.

## AVL-DRIVE™

- Industry standard driveability assessment and development tool
- Defines elements that create a brand’s DNA, including ADAS, ride comfort and handling
- Helps customers balance trade-offs in the best possible way (meeting regulations, maintaining performance, keeping brand consistency, etc.)

Used by AVL for the following services:
- Vehicle Benchmarking
- ADAS development
- Vehicle Calibration + System Controls

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