

MAHLE Powertrain Engineering Consultants



- > Experienced engineering consultants
- Engineering sustained high performance
- Supporting global customers

Engineering Consultants

- Electric propulsion systems development
- Advanced internal combustion engines
- Innovative powertrain solutions

MAHLE Powertrain is a global engineering consultancy that specialises in the design, development and integration of advanced internal combustion engines and electrified powertrain systems. As recognised experts in these fields, MAHLE Powertrain is engaged in the extensive research, development and application of new traditional and advanced drivelines into cost-effective, production feasible solutions for enhanced efficiency, improved fuel economy and lower emissions.

With six technical centres strategically located in the UK, Germany, USA and China, MAHLE Powertrain is well positioned to deliver innovative solutions around the globe. MAHLE Powertrain has around 200 employees based in the UK and 400 in total worldwide.



>> Car on 4WD dyno

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Engineering Consultants

The new Vehicle Development Centre (VDC) at our Northampton, UK headquarters offers 4WD vehicle emissions development testing with both altitude and climatic simulation capability, accredited to ISO 17025 for Euro6 emissions testing. The VDC is the only one of its type in the UK.

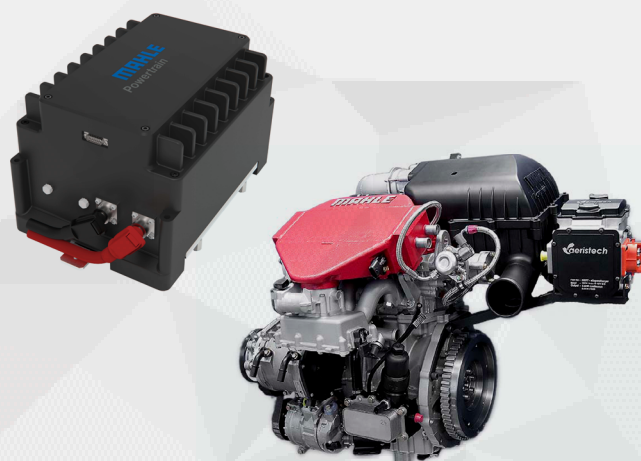
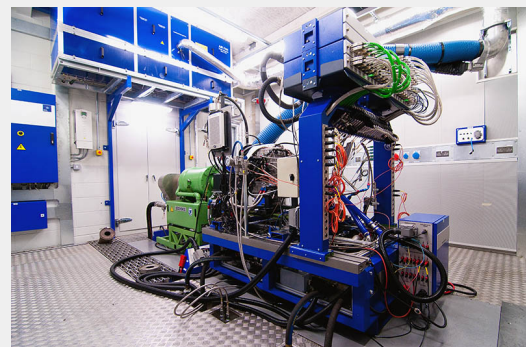
The engine and vehicle emission test facilities at our Plymouth, MI facility in the USA have recently received accreditation from the California Air Resources Board (CARB) - currently, the only independent test facility in North America to achieve this status.

Key Capabilities

- Powertrain concepts
- Feasibility studies
- Detailed design, analysis & simulation (1D & 3D)
- Driveline modelling
- Combustion research
- Performance & emissions development
- Driveability & OBD calibration
- Thermodynamic analysis
- Powertrain controls
- MAHLE Flexible ECU (MFE)
- Installation & integration
- Packaging studies
- Electrification & hybridisation
- Prototype engine build
- Demonstrator vehicle build
- Battery & eMotor design & testing
- Electrical systems development

Key Benefits

- Broad spectrum of skills & capabilities to global customers
- Expert knowledge & detailed understanding of new technologies
- Supporting automotive industry with optimised solutions
- Extensive experience in electrification & e-Mobility technologies



>> 48 V battery / DI-3 engine

Hybrid Electric Drive & Transmission

- Battery Development Centre (BDC)
- Vehicle Development Centre (VDC)
- Safety systems for hydrogen fuelled vehicle testing
- Engine & transmission test beds
 - › Transient & steady state
- Chassis dynos - 4WD altitude, climatic & ambient
- Transient test bed with battery emulator
- Fully equipped vehicle workshop
- Engine & transmission build & instrumentation shop
- Dedicated friction teardown cell
- Port flow & valve motion rigs
- Multi-fuel handling capability

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