



## Vehicle Build & Test



Vehicle Development Centre (VDC) chamber One



Vehicle workshop

### State-of-the-art facilities

MAHLE Powertrain's Vehicle Engineering Centre is fully equipped to undertake a wide variety of vehicle build activities to support external customers, research programs or internal projects.

Vehicle workshop facility benefits:

- Experienced & skilled technical staff members
- Vehicle scanning for package studies with FARO FaroArm™
- Body-in-White / chassis modifications
- Electrical harness design & manufacture
- Electrical system installation
- Independent control systems using MAHLE Flexible ECU (MFE)
- ICE, Hybrid & BEV vehicles
- Vehicle instrumentation & data logging
- Preparation for emissions testing / catalyst swaps
- Benchmarking studies
- Private & confidential with secure compound for customer vehicles
- Fabrication capability

### Vehicle PEMS Testing

- PEMS (Powertrain's Portable Emissions Measurement System) complies with latest EU requirements
  - › Provides in-depth analysis of resulting data
  - › Helps to meet customer vehicle development requirements now & into the future
- First company in UK to obtain VCA approved routes
- Routes start / stop from Northampton site
- 2 x Horiba OBS-ONE PEMS (Inc. PN) systems
- In vehicle equipment packaging
- Installations in over 60 vehicle types
- Testing on gasoline, diesel & hybrid vehicles
- Range of vehicles from 40kW to 400kW tested



Fully certified by the VCA  
Leaders in RDE development

## Vehicle Emissions Testing

- Improved vehicle testing capability
  - › Fully climatic & altitude capable
  - › 4WD chassis dyno which contributes to development & validation on RDE compliant vehicles
- Horiba analysers for gaseous emissions, Pn/Pm
- FTIR for specification work
- VCA certified to EURO 6
- Multiple soak areas at varying temperatures for test vehicles



PEMS equipment set-up in trunk of Audi A1



PEMS equipment on Audi A1

## Summary

MAHLE Powertrain offers state of the art facilities with a wide range of testing capabilities. We are the leaders in vehicle RDE testing and development. We test drive vehicles on fully certified VCA approved routes to ensure compliance with legislation standards.

### Three Vehicle Test Chambers:

Chamber	EDC #1	EDC #2	RDE #1
Configuration	2WD	2WD	4WD
Environmental Simulation	25°C	-40°C to +50°C	-40°C to +60°C -100m to +5000m barometric chamber
Emissions	Euro 6b	Euro 5	Euro 6c, US SULEV
Speed, Km/h	190	190	250
Force, N	8000	8000	6400 (12500) <sup>1</sup>
Power, kW	200	200	230/230 (450/450) <sup>1</sup>