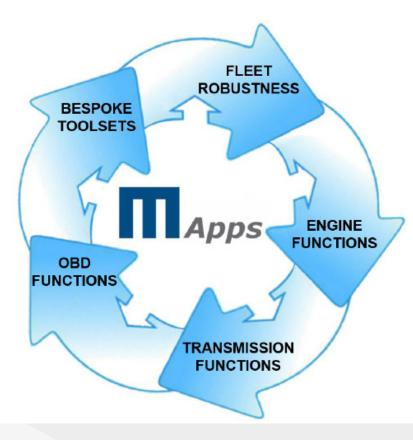


Powertrain

MAHLE Powertrain Applications

Powerful toolset for data processing
 Bespoke software developed in-house
 Adaptable for multiple activities





>> Complex data generated from multiple vehicle systems

What are the data challenges facing engineers?

- Mechanical Simulation
 - > Increasing volumes of test data
 - > Data from multiple sources and multiple formats
- Resource constraints
 - > Reducing project timescales and limited resource availability
- Lack of standardisation between teams
 - > Individuals using 'local' uncontrolled tools



>> Automated data processing from multiple sources

MAHLE Applications

- Fully configurable toolsets, developed by calibration specialists to support key work packages:
 - > Engine functions
 - > Transmission functions
 - Diagnostics
 - > Vehicle functions
- Standardised and automated data processing and reporting

MAHLE Powertrain Ltd Costin House St James Mill Road Northampton NN5 5TZ

NN5 5TZ Tel: +44 (0)1604 738 000 MAHLE Powertrain LLC 14900 Galleon Court Plymouth Michigan 48170 USA

Tel: 001 734 738-52 01

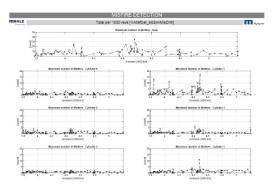
MAHLE Powertrain GmbH Wamslerstrasse 5 81829 Munich Germany

Tel: +49 89 96 29 15-0 www.mahle-powertrain.com

MAHLE Powertrain Applications

Benefits

- Tailored data processing & reporting tools for key calibration tasks
 - > Results are easily understood by all team members
- Efficient resource utilisation
 - Automation of data processing frees engineering resources
- Integrates into all phases of a calibration program
 - Early identification of concerns improves product quality
 - Evidence presented in a consistent & standardised format to support gateway reviews



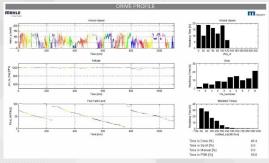
>> Fuel cell and vehicle simulation

Battery Simulation

- Robustness project
 - Manage data processing, analysis & reporting from any fleet data
 - Give regular feedback on calibration robustness throughout a products development
 - > Support concern resolution
- Report evidence to support AES / BES / AECD documentation
 - Help support decisions for new requirements / features
- Develop bespoke toolsets to support development / calibration activities



>> Example report page - OBD Summary



>> Example report page - Drive Profile

Capabilities

MAHLE Powertrain's MApps is a powerful toolset for data processing that is adaptable for multiple activities. This in-house developed, bespoke software provides reliable method for processing and interrogating large amounts of data. Tailored reports are generated to allow easy identification of issues and concerns to aid the development process.

MAHLE ZG Transmissions Georg-Kollmannsberger-Str. 3 85386 Eching Germany

Tel. +49 89 18 94 169-0

MAHLE Automotive Technologies
No. 1299 Huan Cheng Bei Road
Fengpu Industrial Park 201 401
Shanghai, Fengxian District
China

Tel. +86 21 5136-0595

MAHLE product information 05/2022