

Advanced Test Methodology

Optimising test efficiency and facility performance

As validation complexity increases and timelines tighten, OEMs must manage underutilised facilities, evolving toolchains, and limited specialist resources. Advanced Test Methodology provides expert support across test methodology, automation, and facility operations, enabling optimised test execution and robust, high-quality validation processes.

AVL SOLUTION

- Specialist support to improve test efficiency, reduce downtime, and increase utilisation of installed systems.
- Strengthening automation capability and improving data quality across test and validation activities.
- Hands-on delivery combined with deep methodology expertise for practical, results-driven improvements.
- Support for electrification validation through accelerated and optimised testing processes.
- Comprehensive assistance across test and validation workflows, including facility operation and performance optimisation.
- Test as a Service (TaaS) inverter testbed offering to accelerate development cycles by reducing hardware lead times and enabling efficient software validation and integration, including 3-phase inverter validation up to 320 kW peak power.

THE ADDED VALUE

AVL's highly skilled UK based Advanced Testing Methodology team support customers with their test and validation needs. Offering a bespoke service that combines methodology, automation, user support, troubleshooting and facility operation to maximise productive facility output.

THREE CORE SUPPORT PILLARS

Inverter Testing

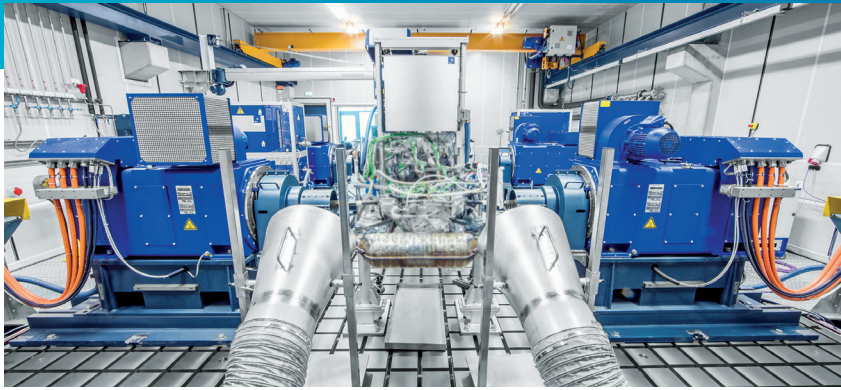
320kW E-machine emulation capability

Test Execution and Automation

Standard-based testing support

AVL and 3rd Party Application Support

Toolchain support expertise



AVL SERVICES IN DETAIL

Resident Engineering Capability

- Test methodology and automation support, including PUMA 2™ and broader test field automation activities.
- Operational support for technicians, engineers, and operators to strengthen day-to-day test execution.
- DVM preparation and execution, process optimisation, and best practice consultation.
- Application support for AVL and third-party environments including VSM™, PUMA, ETAS, and Vector.
- Power analyser set-up and commissioning using X-ion, plus combustion analysis support using Indicom.
- Report generation and data processing using Concerto, MDA, and Matlab.
- Testing support to standards such as LV124 / LV123, including report generation.






Facility Ramp Up Support

- Support from installation to productive use through commissioning and operational support.
- Optimisation of test facility utilisation by providing first-line support for automation and test equipment issues.
- Upskilling of customer capability through training, knowledge transfer, and methodology development.
- Provides a practical bridge between installed AVL systems, operators, and programme teams.

Inverter Hardware Testing

- Inverter testing conducted in-house at Tech Centre Coventry using the PowerHiL inverter testbed.
- E-machine emulation capability up to 320 kW.
- Support for performance, reliability, failure insertion, and calibration optimisation.

PROJECT REFERENCES

	Motorcycle OEM	Engine strip/build support, testbed operation, and instrumentation/calibration support.
	Top Tier Motorsport Support	Automation engineering support, test preparation, validation, training, and first-line breakdown support.
	Test Factory	Automation and methodology support for PTTB testbeds, issue resolution, and best-practice transfer.
	Off Highway PTTB	FRED vehicle driver tuning, operational training, and testbed acceptance/sign-off support.
	Facility Ramp Up	Remote and onsite methodology development and PUMA 2™ technical support.

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