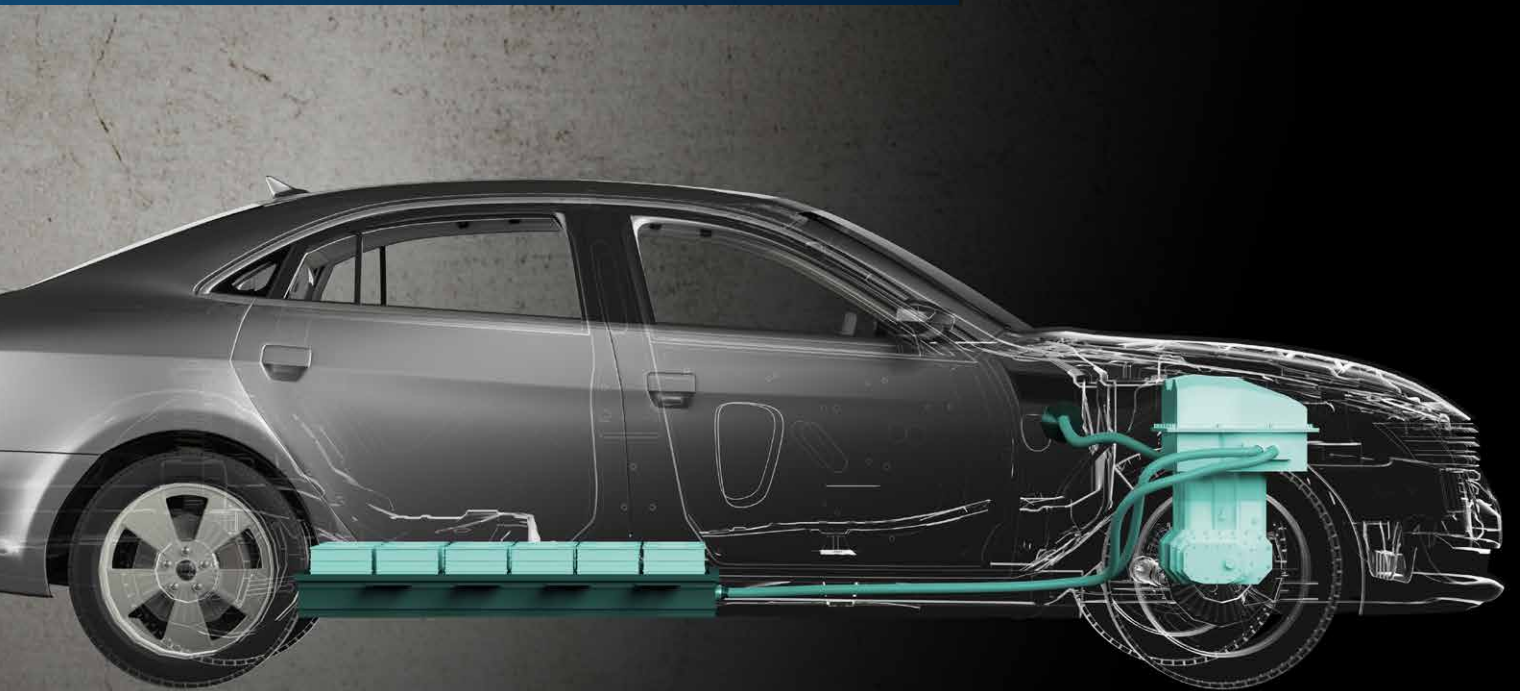
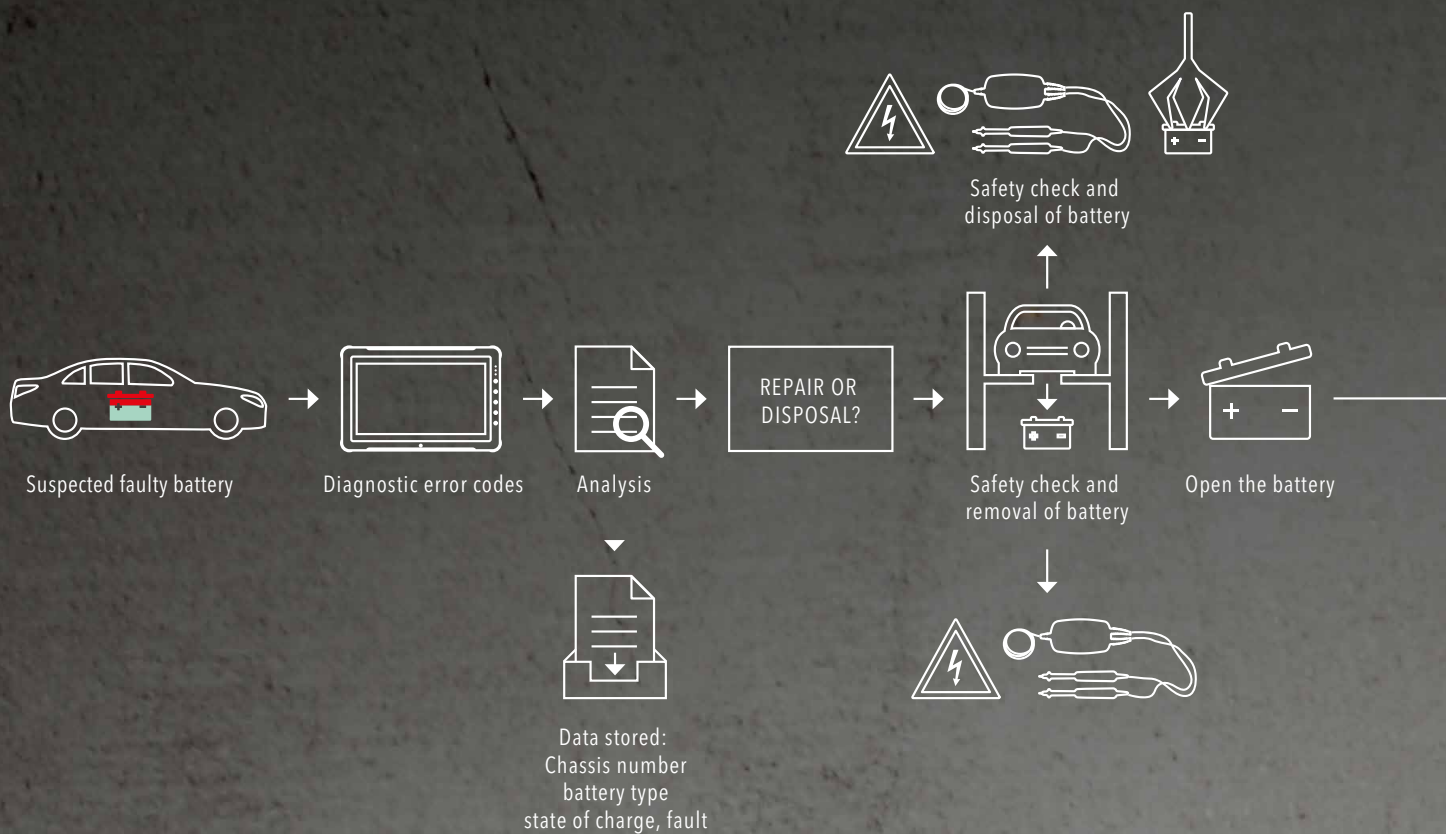


**High-performance technology.
Highly reliable testing.**



AVL DiTEST E-MOBILITY TOOL CHAIN

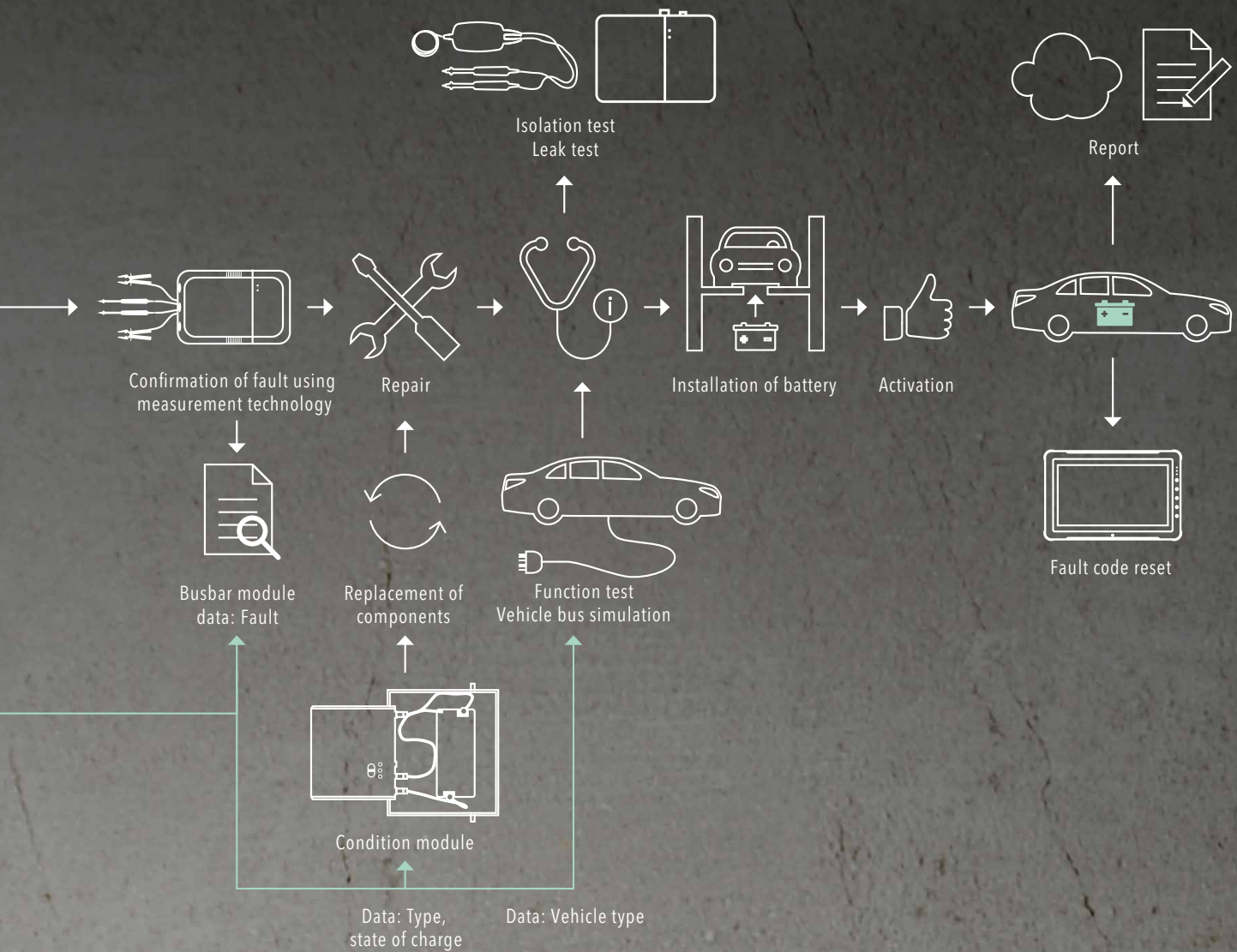
Comprehensive after sales diagnostics and
repair solutions for HV drivetrains



Faulty batteries – Repair or replace?

DIAGNOSTICS AND REPAIR OF VEHICLE COMPONENTS IN THE WORKSHOP

After sales is facing new challenges owing to the large number of hybrid and electric vehicles on the roads. It's not always economically viable to replace the entire traction battery, but now AVL DiTEST can provide you with the perfect testing tools for electrically driven vehicles. You can use them to carry out supervised diagnosis and maintenance in workshops, all according to country-specific standards. The graphic shows the repair process carried out over the entire tool chain, which helps to ensure not only a correct and safe diagnosis and inspection of the vehicle. It's also possible to document the entire process. Every work step can be stored locally or on cloud-based systems and it can be used as verification of proof if needed.



An **MDS diagnostic system** is used at the beginning of the repair process to detect and isolate faults, after which the battery is removed. After the HV system has been deactivated, all poles in the vehicle are checked that they are free from voltage using the **HV Safety**. This ensures that work can be carried out on the vehicle safely. The decision must be made whether the battery will be repaired in the workshop or HV repair centre or whether it should be disposed of. If it is to be repaired, the faults must first be isolated by using AVL DiTEST tools; the **IRP**, among other things, is suitable for measuring resistance. Faulty components are then replaced. If one or

more battery modules are replaced, use the **MCS** to prepare new modules for installation. Afterwards, check that the repair was successful using the AVL DiTEST e-mobility tools. After closing the housing, conduct a final check using the universal **HV Sat** tool and check for leaks use the **noLEAK** device. Safety relevant measurements should be taken before restarting. Finally, delete the fault codes using the diagnosis system to complete the repair.

With the correct equipment, every workshop can safely carry out HV repairs.



AVL DiTEST HV SAFETY 2000

For safety testing of HV-related parts:

- Voltage measurement up to 1000 V DC
- Insulation testing up to 1000 V DC
- Simulation of insulation faults
- Potential compensator testing
- Measuring capacity and resistance
- Insulation resistance in accordance with ECE R100



AVL DiTEST noLEAK

Leak test for batteries:

- Checks for leaks in battery casing +/-140 mbar
- Checks for leaks in cooling circuits of up to 3 bar
- Measuring based on losing pressure
- Automated measuring process with integrated pump



AVL DiTEST IRP 120

Checks the contact and module internal resistances:

- Contact resistance on the module connection
- Module internal resistance
- Resolution better than $1\mu\Omega$
- Working voltage up to 85 V
- Voltage measurement up to 1000 V DC
- Current measurement up to 40 A
- Safe for live working

Publisher:

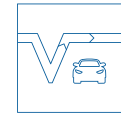
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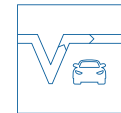


OEM

AVL DiTEST MCS 120

For charging and discharging battery modules:

- Adjusting the state of charge of new modules
- Module condition testing
- Individual cell monitoring and balancing
- High level of safety
- Voltage class B1, 75 V
- Charging up to 80 A
- Programming of digital cell controllers



OEM

AVL DiTEST HV SAT

Universal tool for testing batteries:

- End-of-service test after battery repair
- Comprehensive safety test after battery storage
- Safety test before further processing/disposal
- Restbus simulation for activating battery
- Checks if there is voltage present
- Checks for leaks in the battery casing
- Measurement of insulation resistance



AVL DiTEST MDS DRIVE 188

Automotive multi-brand diagnostics system:

- Comprehensive diagnosis function
- Very easy to use
- Select your vehicle in three clicks
- Quick vehicle scan