BATTERY TESTING & CHARACTERIZATION SERVICES

cidetec
energy storage

We Offer

Advanced battery testing supporting research and development activities

Flexible: open to both B2B customer-driven schemes, as well as public funded research projects.

We can do any general battery performance test on virtually any kind of battery sample, under the highest safety standards.

Performance under application-specific conditions.

We include post-mortem analysis in our offer, for a better insight in battery degradation and failure modes.

Additional support and advice available from our battery materials & electrochemistry expert team to better understand your results.

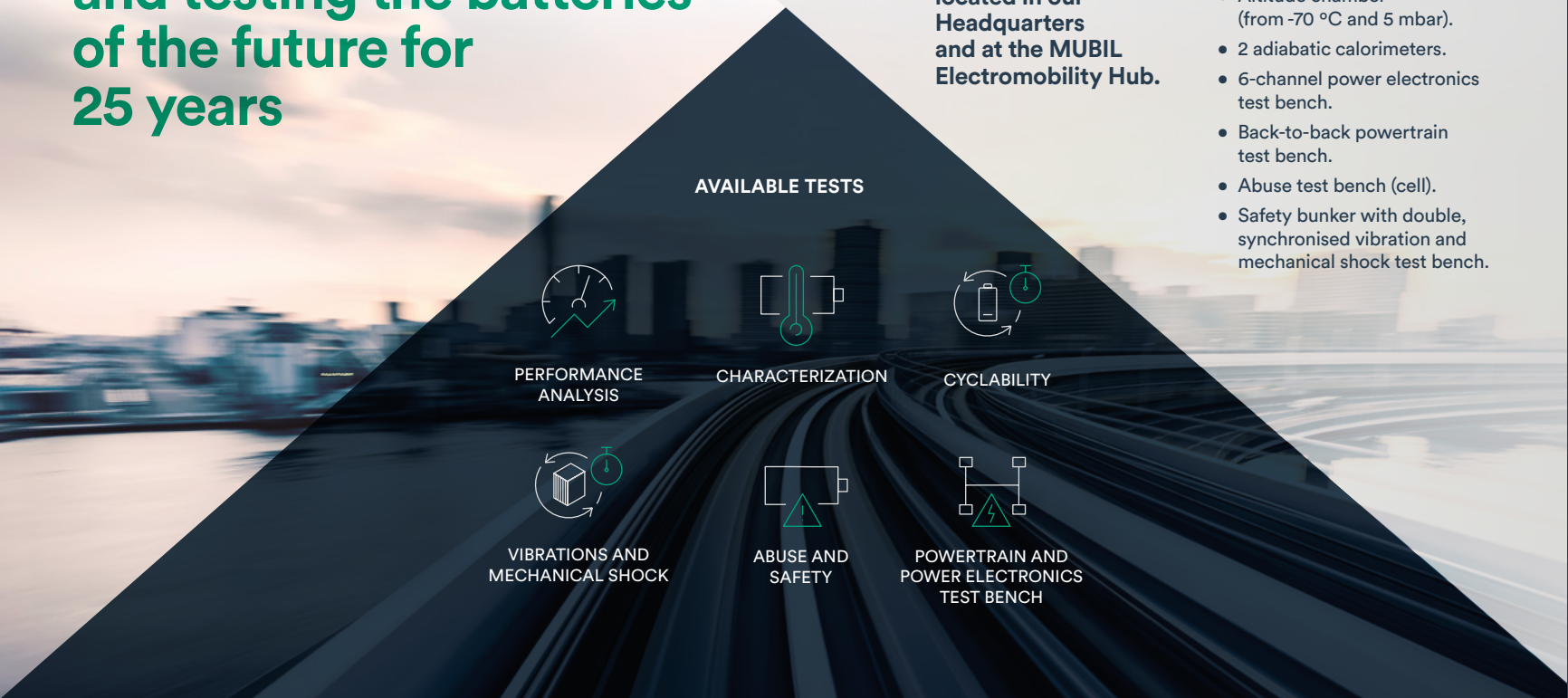
WE SUPPORT YOUR TESTING NEEDS ACCORDING TO DIFFERENT STANDARDS

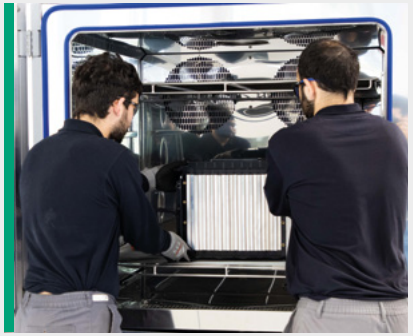
We are a research and development organization specializing in advanced battery technologies, designing, developing and testing the batteries of the future for 25 years

We have unique capabilities for testing and characterizing batteries, modelling and predicting life under specific use profiles, as well as for sizing systems.

We have state-of-the-art battery testing laboratories located in our Headquarters and at the MUBIL Electromobility Hub.

- 1050 charge-discharge channels for coin cells.
- 550 channels at cell level (6 V, 100 A).
- 75 module channels (100 V, 50 A).
- 7 channels for battery packs (up to 1200V, 250 kW).
- 25 climatic chambers (up to 1 m³, from -40 °C).
- 2 walk-in climatic chambers (18 and 30 m³).
- Altitude chamber (from -70 °C and 5 mbar).
- 2 adiabatic calorimeters.
- 6-channel power electronics test bench.
- Back-to-back powertrain test bench.
- Abuse test bench (cell).
- Safety bunker with double, synchronised vibration and mechanical shock test bench.





COIN AND SMALL CELL TESTING

Temperature controlled room with more than 1050 channels for coin cell and small pouch cell electrochemical testing.

CELL TESTING

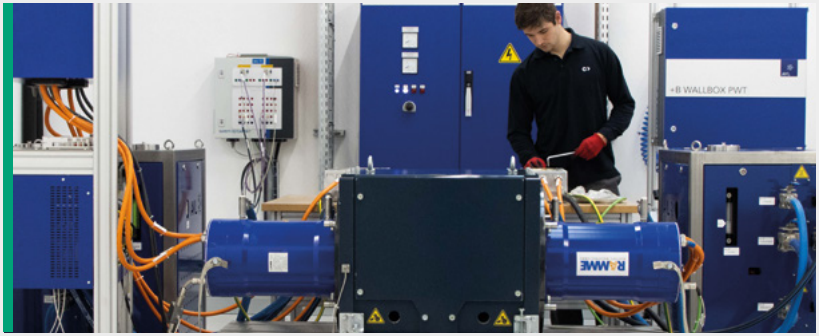
- Cyclers with 550 charge and discharge channels up to 100 A, 1.5 V-6 V, parallelizable.
- 20 Climatic chambers, ranging from -40 °C up to +180 °C temperature. Usable volume 700 to 1000 litres.

MODULE TESTING

- Cyclers with 75 charge and discharge channels up to 50 A 0 V-100 V.
- 5 Climatic Chambers up to -40 +180 °C, 1000 litres.
- Altitude Simulation Cabinet -70 +200 °C, 5-1000 mbar.

ABUSE TESTING AND CALORIMETRY

- Adiabatic, Accelerated Rate Calorimetry up to 40 cm x 44 cm L.
- Suitable for cells and small modules.
- Thermal runaway and thermal parametrization studies.
- Cell abuse testing with gas sampling.



PACK BATTERY TESTING

- 5 Cyclers up to 250 kW, 1200 V.
- Configurable to reach 1 MW of power.
- All channels are manageable from the device under test BMS.

Walk in Chambers

- 2 climatic chambers, 18 m³ and 30 m³.
- Hazard Level 6.
- Temperature range from -60 °C to +100 °C.
- Relative humidity range 10% to 95% (+10 °C to +70 °C).

Vibration - Mechanical shock

- Two-shaker electrodynamic system in dual configuration.
- 5 – 2500 Hz, 200 kN, max test weight 750 kg.
- Located in a dedicated safety bunker room.

BATTERY SYSTEM TESTING

Powertrain test bench

- Back to back electric motor architecture.
- Capable of handling up to 1200 V, 350 A, 230 kW, 1000 Nm.

Power electronics

- DC channels, 800 V/20 A/16 kW. (Source and Load)
- AC channels, 400 V/60 A/50 kW. (Source and Load)
- Battery emulator 1200V/800A/250kW.

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