

Engine

Innovation

Expertise

R&D



Testig

NVH

Development

Flexibility

ELECTRICAL TESTING SPECIALISTS



ABOUT US

CRITT M2A is an independent research centre set on over 7.000 sqm, considered as a major player in testing and R&D services.

Organized into 4 technical activities: engine, NVH, turbocharger and electric, CRITT M2A offers its expertise and provides high-technology test means to automotive, rail and aeronautic industries.

With its R&D activity, CRITT M2A has developed strong skills recognized in France and Worldwide as well as several public and academic partnerships of excellence.



OUR SERVICES



The electrical testing centre at CRITT M2A will enable to consider and characterize the behaviour of energy storage systems used in automotive, railway and aeronautic industries.

In addition to high performances in terms of dynamic and precision, our test systems incorporate features such as Ripple simulation, Battery Management System (BMS) or impedance spectroscopy. Performant testing facilities and rigorous traceability enable CRITT M2A to provide high value-added services.

By the end of 2018, the centre will be equipped with battery pack test benches up to 750 kW and a Full 4WD Vehicle with test bed to meet the customers' needs and stay at the cutting edge of technology.

OUR EQUIPMENTS

80 BATTERY CELL TEST CHANNELS

- Power: ± 2 kW
- Voltage: 0-8 V
- Current: ± 250 A
- Current rise time: <1 ms
- Ripple simulation low and high frequency

10 CLIMATE CHAMBERS

- -40°C up to $+80^{\circ}\text{C}$
- Volume: 600 L



10 CLIMATE CHAMBERS

- -40°C up to $+90^{\circ}\text{C}$
- Volume: 600 L

16 BATTERY CELL TEST CHANNELS

- Power: ± 4 kW
- Voltage: 0-8 V
- Current: ± 500 A
- Current rise time: <1 ms
- Ripple simulation low and high frequency

4 CLIMATE CHAMBERS

- -45°C up to $+90^{\circ}\text{C}$
- Volume: 600 L



• Additional measurements (voltage, current, temperature)

- Auxiliary systems:
 - Air cooling system
 - Water cooling system
- BMS Management

5 BATTERY MODULES TEST CHANNELS

- Power: ± 50 kW
- Voltage: 0-100 V
- Current: ± 500 A
- Current rise time: <1 ms
- Ripple simulation low and high frequency

5 CLIMATE CHAMBERS

- -40°C up to $+90^{\circ}\text{C}$
- Volume: 4 with 600 L
1 with 1000 L



1 BATTERY TEST STATION WITH EIS CAPABILITY

- Voltage: de -2 V à 9 V
- Current: de $10 \mu\text{A}$ à 10 A
- Acquisition time: 200 μs
- EIS measurements from 10 μHz up to 20 kHz



DIELECTRIC OIL BATH

- Temperature control from -20°C to $+200^{\circ}\text{C}$

CONTACTS

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