

2/24/2025



# **BEPA Matchmaking event – 26th February 2025**

EL FUTURO ES NUESTRO PRESENTE

HORIZON-CL5-2025-04-D2-05: Accelerated multi-physical and virtual testing for battery aging, reliability, and safety evaluation

CTAG's main skills :

- Experience of development and trouble shooting of complete vehicle and subsystems, in laboratory and also in the field.
- Knowledge in development of test specifications for real life conditions simulations (thermal, vibration, electrical, mechanical , etc.)
- Development of multiphysical test benches for specific validations
- Performance of virtual tests on complete vehicle and subsystems.
- Close collaboration with industry (OEM and suppliers)
- Participation in knowledge transfer projects to industry (TRL 5-7)
- Experience in coordination and participation of Horizon EU projects.

CTAG's contribution:

- Coordinator.
- State of art laboratories for multiphysical testing of electric vehicle components and subsystems
- Highly skilled researchers and engineers.
- Multi-scale and multi-domain activities (from virtual simulation up to final test).

# HORIZON-CL5-2025-04-D2-05: Accelerated multi-physical and virtual testing for battery aging, reliability, and safety evaluation



— TESTING AND VALIDATION

## ELECTRIC VEHICLE LAB

COMPLETE E-FACILITIES INCLUDING:

Hardware and software integration  
HV testing equipment  
EV prototype workshop  
Safety



CTAG has experience in designing and developing its own testing solutions for performing complete validation plans.



### TESTING & VALIDATION OF E-COMPONENTS:

- Communication and control of DUT's synchronized with testing equipment
- Power Electronics
- Active Battery Packs
- E-Motors
- OBCs
- ISO 17025 Labs

### ADVANCED SIGNAL PROCESSING AND MODELING:

- E-Vehicle thermal comfort
- Multiaxial vibration
- Can / LIN / (...) control
- E-Storage technologies
- E-Powertrain testing, characterization and optimization

### HV POWER TEST BENCH

- 5 x Power test bench (High Voltage up to 1000 V)
- 2 units combined with eMAST (500 kW)
- 2 x unit combined with 2 high thermal ramp climatic chamber (250 kW)
- 1 unit combined with eAxle (275 kW)

### eCLIMA

- Integrated test control
- High thermal ramp climatic chamber combined with VES4-c and coolant units
- CAN/LIN communications

### eMAST

- Shaker MTS MAST 353.20 HP
- Large climatic chamber
- Coolant conditioning Unit
- Battery tester (500 kW)
- Auxiliary equipment (voltmeter, oscilloscope, CAN communication, etc.)

### eAXLE

- 2 Dyno wheels
- Battery tester (275 kW)
- Range of Cooling Units
- High Frequency e-power analyzer



A dark blue silhouette of a world map is centered in the background of the slide.

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**¡GRACIAS!**

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