EV-SYS Test Room

Development & Integration of e-powertrain

product catalogue

08/10/2025

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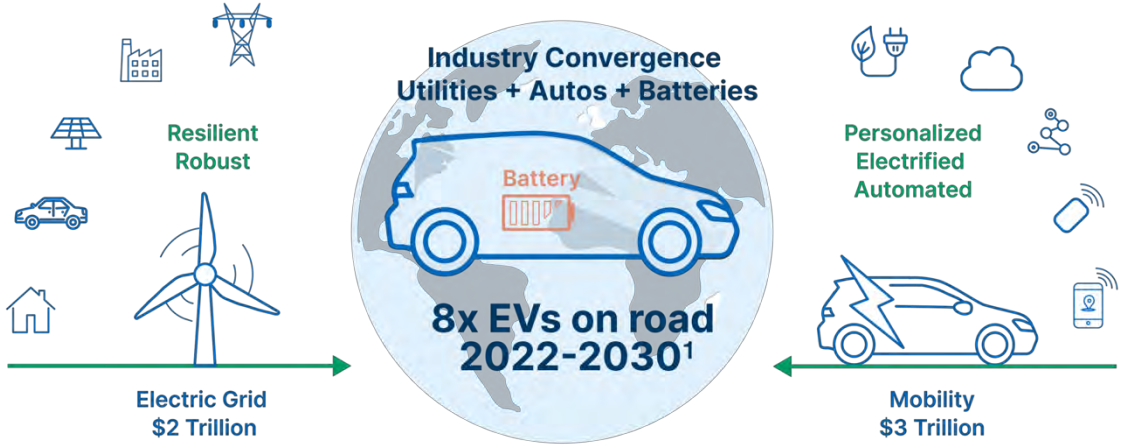
Market Context

The transition to electric vehicles in the transportation market is now underway



$5 Trillion Convergence Creates Unique Opportunities at the Intelligent Edge

- Many historical producers are facing the challenge to adapt their products to the new needs of the transportation market and of the world itself.
- Many other new companies, start-up and engineering consultants are trying to give a boost to the new technologies and become players in this new technological era.

Who are you?

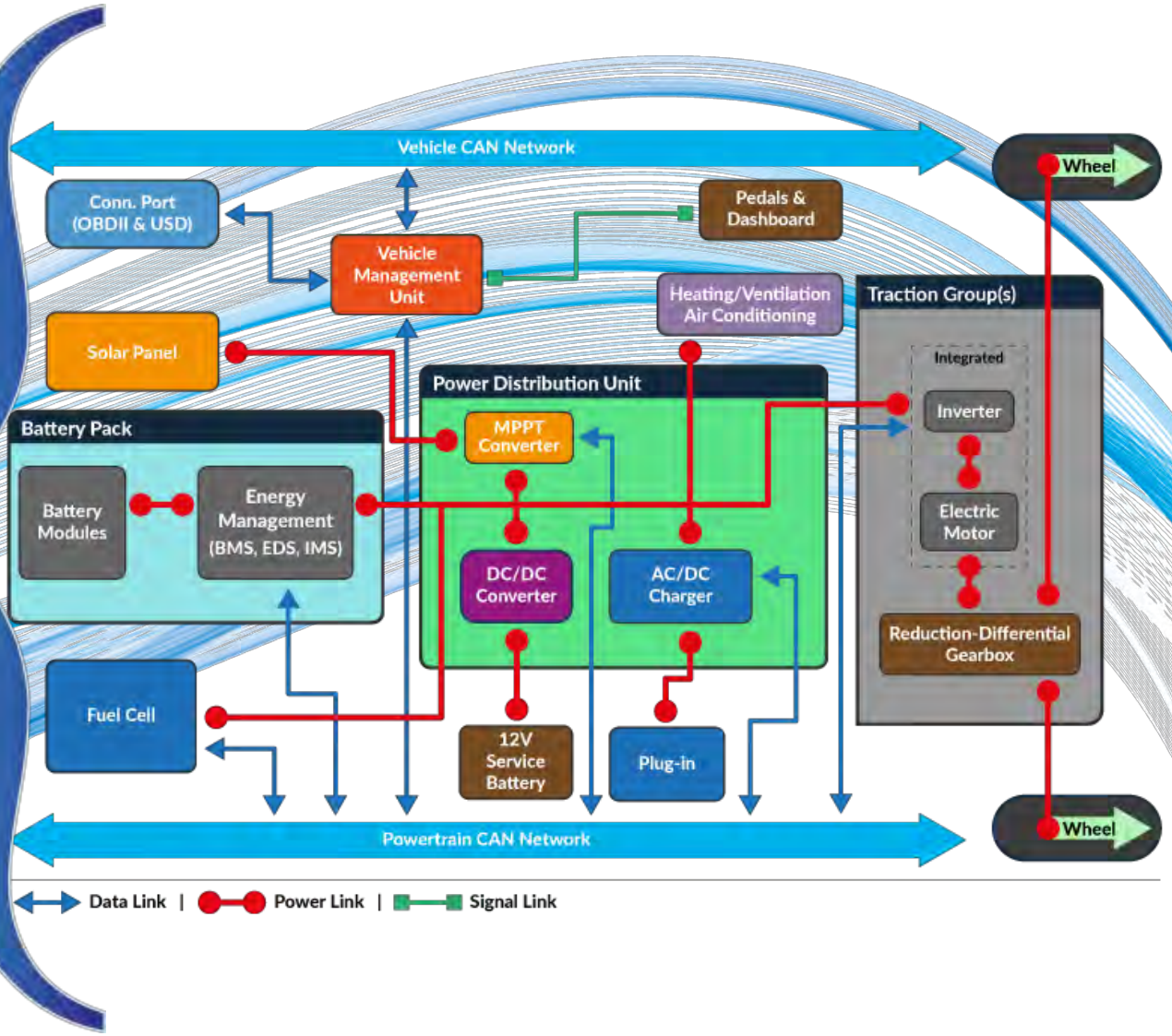
- EV Components Producers
- Electric Vehicles Producers
- R&D Companies or Departments
- Car Makers

EV-SYS Test Room is the perfect solution!

- **Easy to move**
- **Easy set-up**
- **Easy commissioning**

How can we support you?

Whether you're developing or testing the integration of one or more components in a real or emulated e-powertrain, the EV-SYS Test Room supports you to do it quickly and efficiently.



Our “Digital Triplet” approach

VIRTUAL
prototype

REAL
prototype

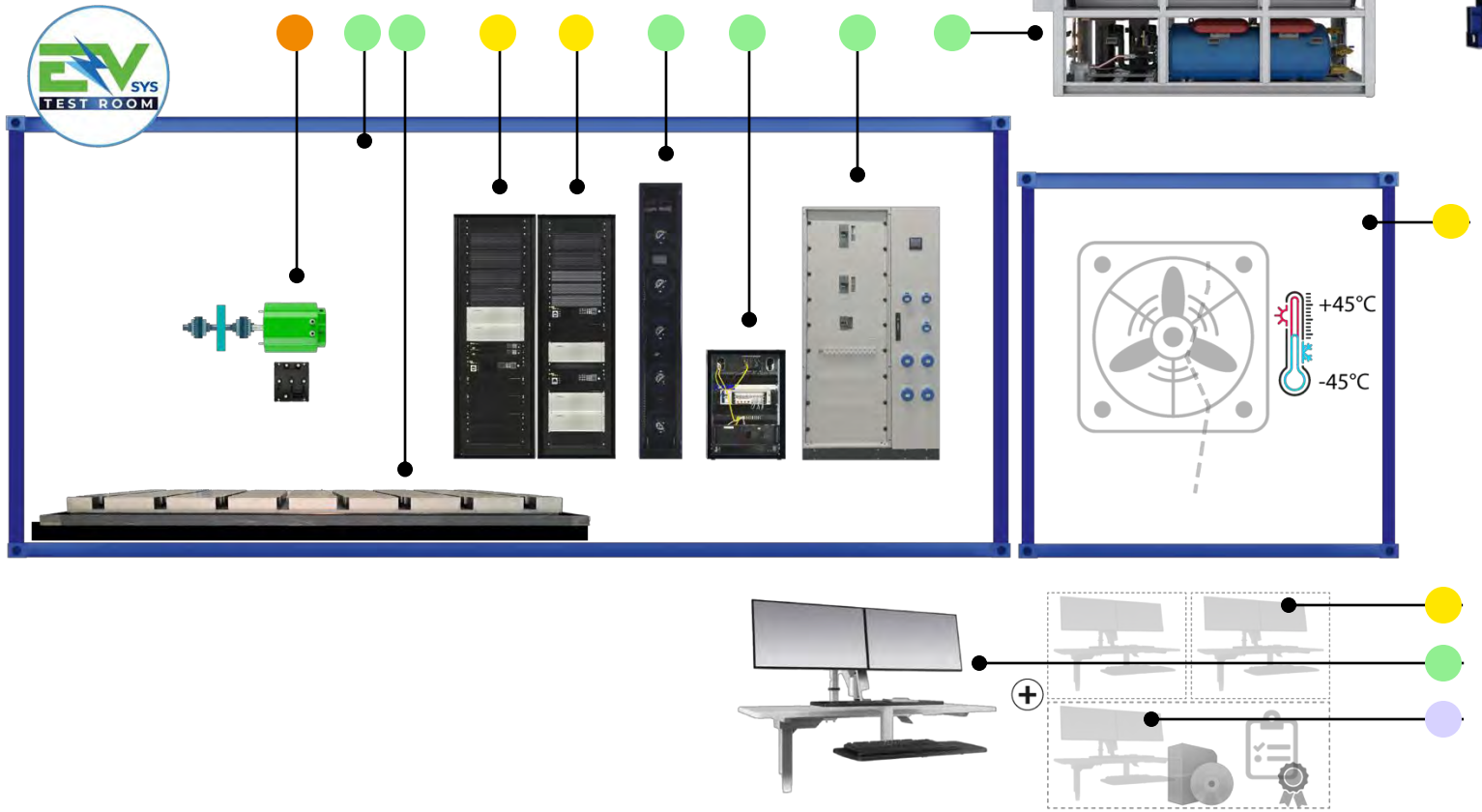
EV SYS TEST ROOM
SEMI-REAL
prototype

Typically, development begins with a virtual prototype and follows the V-Cycle to a real prototype implementation.
The EV-SYS Test Room adopted an extended V-Cycle methodology which has been specifically developed to combine ISO26262 functional safety issues with R10, R100, R101, R85 regulations.
EV-SYS Test Room harnesses VIRTUAL, SEMI-REAL, and REAL prototypes to drive automated code generation through a model-based design process.
From digital twins to digital triplets — it's innovations like these that set us apart.

EV-SYS Test Room - Layout

EV-SYS Test Room – Base Configuration

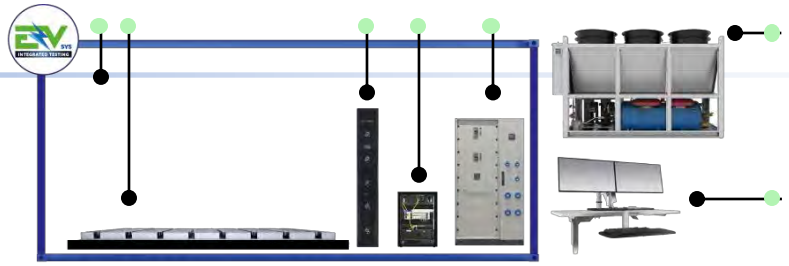
EV-SYS Test Room is the perfect solution for developing and testing your e-powertrain.
The EV-SYS basic setup includes 4 main modules which are configured following the customer functional requirements.



Modules

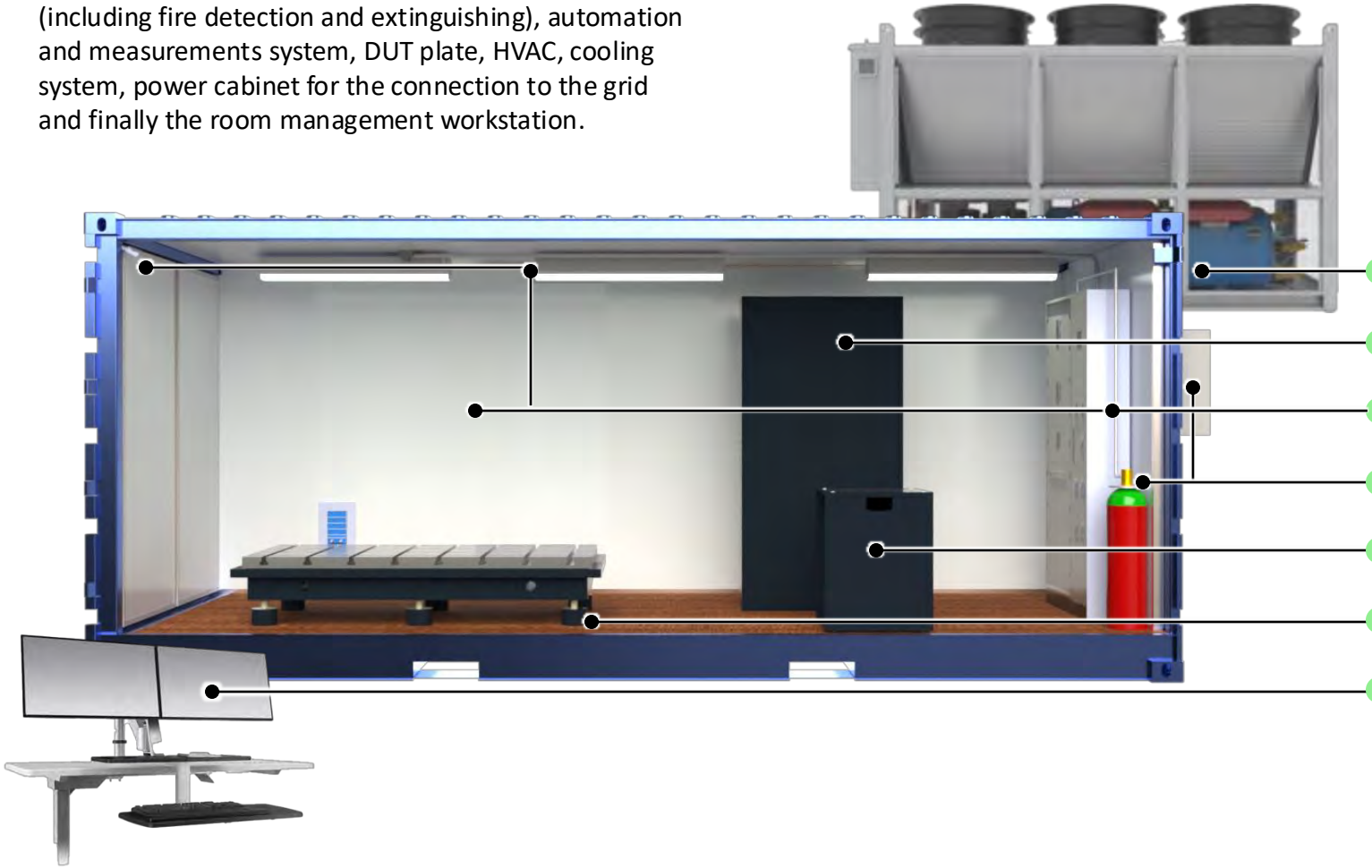
1. TESTING ROOM
2. ENERGY SUPPLY/STORAGE
3. POWER DYNO
4. ADVANCED FUNCTIONALITIES

Testing Room



CustoM 2.0 proposes a flexible and cost-effective testing room built inside a containerized structure.

The main "standard" components are: safety system (including fire detection and extinguishing), automation and measurements system, DUT plate, HVAC, cooling system, power cabinet for the connection to the grid and finally the room management workstation.



Module 1

TESTING ROOM COMPONENTS

- COOLING SYSTEM
- HVAC
- FULLY EQUIPPED CONTAINER
- SAFETY
- AUTOMATION & MEASUREMENTS
- TESTING PLATE
- ROOM MANAGEMENT WORKSTATION

Energy Supply/Storage

Depending on the **Power (kW**) of the DUT and on the type of tests which the Customer needs to run, CustoM 2.0 defines the composition of the power supply delivering robust performances with capabilities of up to 300 kW.

Module

ENERGY SUPPLY/STORAGE COMPONENTS 2

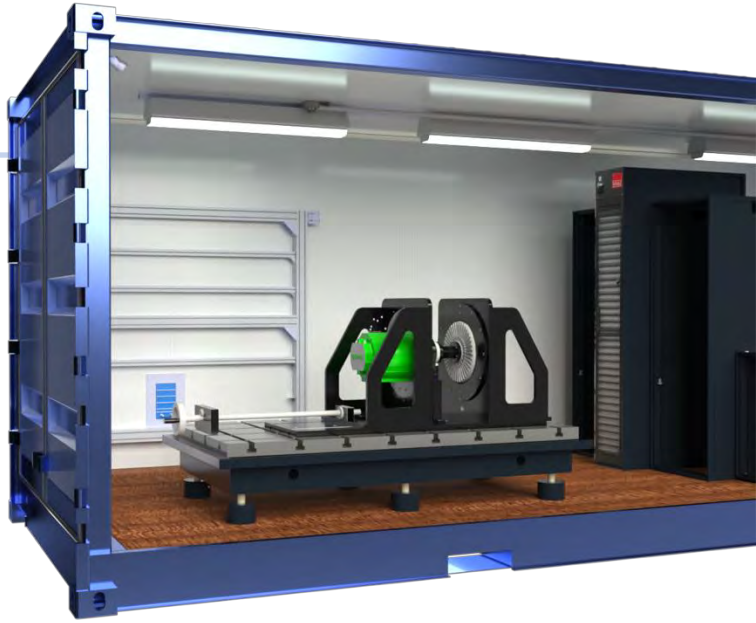
- POWER SUPPLIES
- ELECTRICAL AND DISTRIBUTION SUB-RACK
- BATTERY/FC CONTAINER
- BMS WORKSTATION
- EMULATION

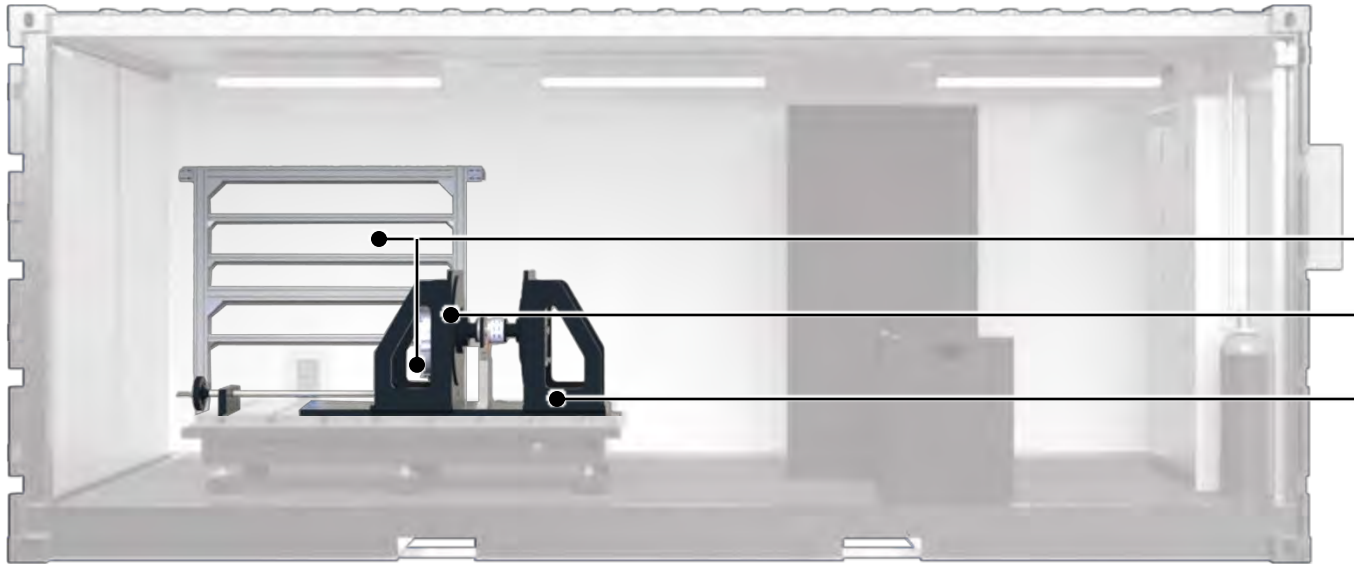
Power DYNO

EVSYS / **Power Dyno**

Designed to power a wide array of testing, delivering high performance with capabilities of up to 300 kW. Depending on the data of the application such as **Power (kW), Speed (RPM), Torque (Nm)** and on the functional requirements, CustoM 2.0 proposes 3 standard EV-SYS sizes:

- 30 kW
- 150 kW
- 300 kW





Module

POWER DYNO ELEMENTS 3

- TEST BENCH POWERTRAIN
- MEASUREMENT & SENSING
- MECHANICAL & SUPPORTS

Advanced Functionalities

Together with the Test Room you can have the PCU Workstation for the PCU rapid prototyping composed by:

- DSPACE Microautobox
- DSPACE Control Desk software
- Dedicated laptop PC

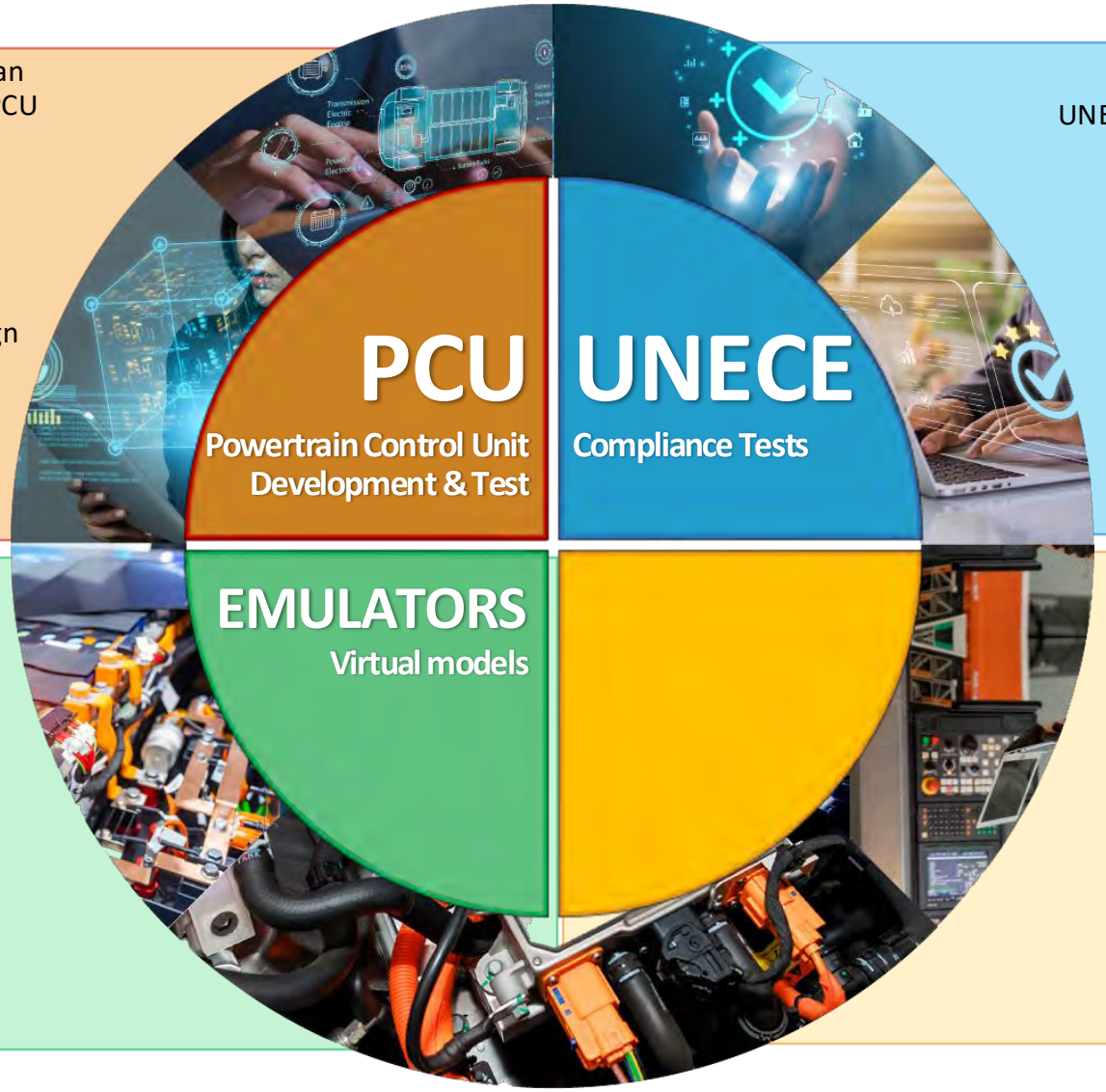
Additionally, if you want us to design and implement the PCU for your e-powertrain our partner Electrofit can support you!

ELECTROFIT SYSTEMS

With EV-SYS, if you choose the UNECE software module, you can run the certification tests like:

- R85
- R101

to be ready to obtain the homologation of your e-powertrain.



CustoM 2.0 proposes a wide set of Emulators. Below some examples:

- Vehicle emulator
- Driver emulator
- Road emulator

OPTIONAL Advanced functionalities

You can choose to buy the following optional:

- PCU Workstation
- UNECE compliance tests
- Vehicle emulator
- Driver emulator
- Road emulator
- More…

Would you like this?

To discover more and explore how we can meet your specific needs with a customized EV-SYS solution, feel free to contact us for a personalized quote

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or fix an appointment at our HQ to discover our internal testing facilities

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