



YOUR GLOBAL PARTNER IN  
**ELECTRICAL POWER**



# MERSEN : A GLOBAL EXPERT IN ELECTRICAL POWER

## KEY FIGURES

 Sales  
**€1,2B**

 R&D CENTERS  
**18**

 COUNTRIES  
**33**

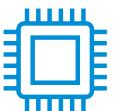
 EMPLOYEES  
**7,500**



**SUPPORTING**  
the transition to  
renewable energies



**CONTRIBUTING**  
to power conversion  
& transmission



**IMPROVING**  
power conversion  
efficiency with  
silicon carbide  
semi-conductors



**PARTICIPATING**  
in the development  
of electric vehicles

# SPM: SOLUTION FOR POWER MANAGEMENT

A COMPLETE RANGE OF PASSIVES & SOLUTIONS TO CONVERT, MANAGE AND STORE ELECTRICAL ENERGY

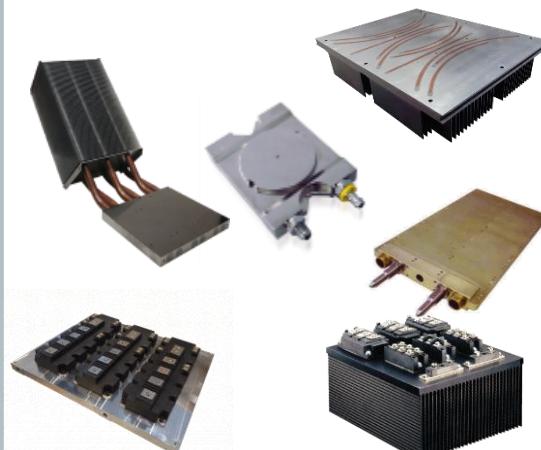
## HIGH-SPEED FUSE

- UL Round and Square Body
- British Standard AC Protection
- IEC Cylindrical and Square Body (French / DIN)
- AC Low and Medium Voltage
- DC Rated For Traction
- DC protection for EV and EES



## COOLING SOLUTIONS

- Air and Liquid Cooled Heatsinks
- Embedded Heat-Pipe Heatsinks
- Heat-pipe Assemblies



## BUS BAR

- Laminated / Multi-layer
- Flexible / High T° / Low L
- Battery cell connection
- Powder Coated



## CAPACITORS

- Film
- Electrolytic
- Sub-assembly



## POWER STACKS

- Engineered Solutions
- Evaluation Kit



## SUB-ASSEMBLIES

- Integrated fuse-bus bar

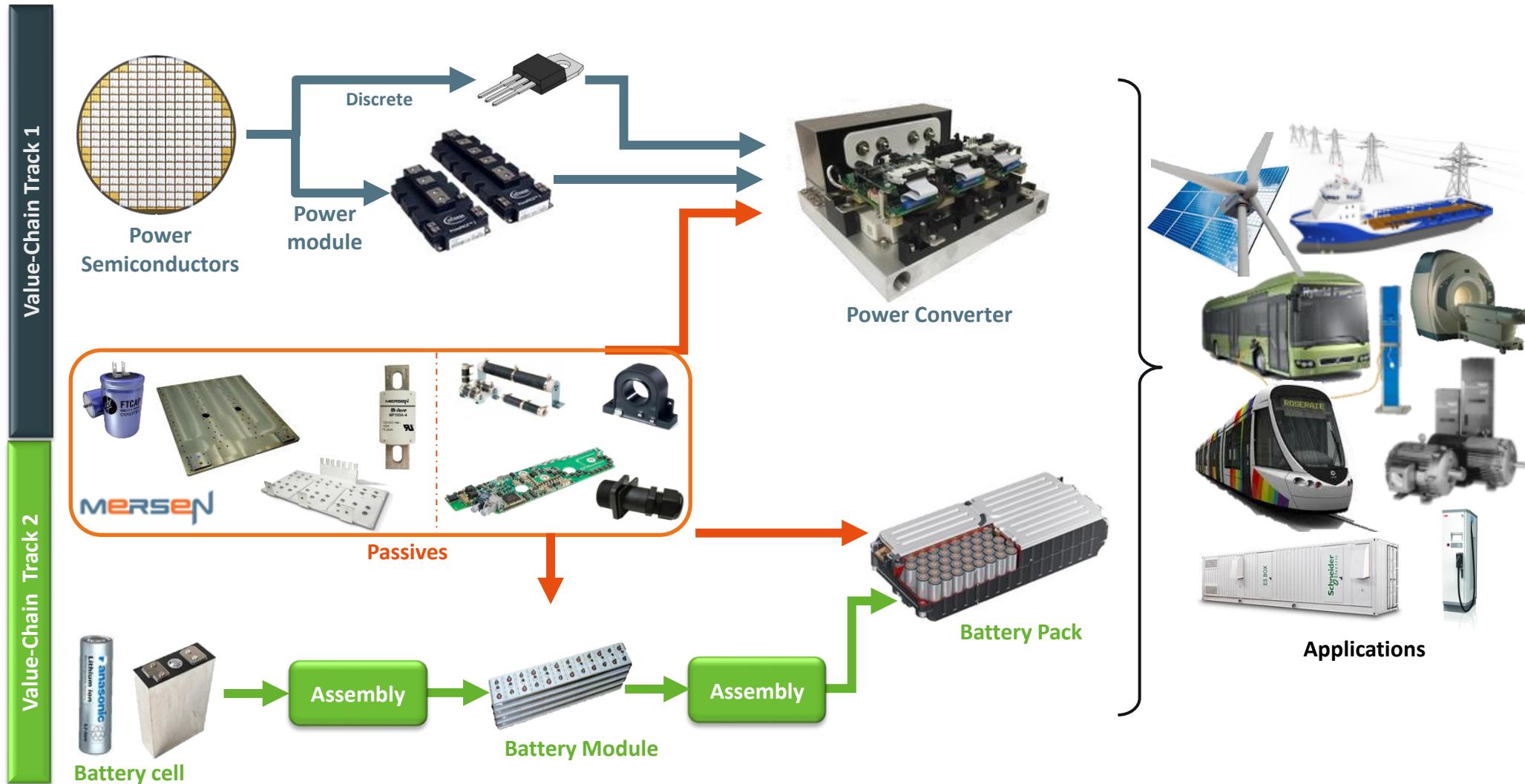


- Integrated DC Link capacitors & bus bar-Cap



# SOLUTION FOR POWER MANAGEMENT - DESCRIPTOR:

PASSIVE, HYBRID AND ACTIVE DEVICES & SOLUTIONS FOR POWER CONVERSION AND BATTERY MANAGEMENT

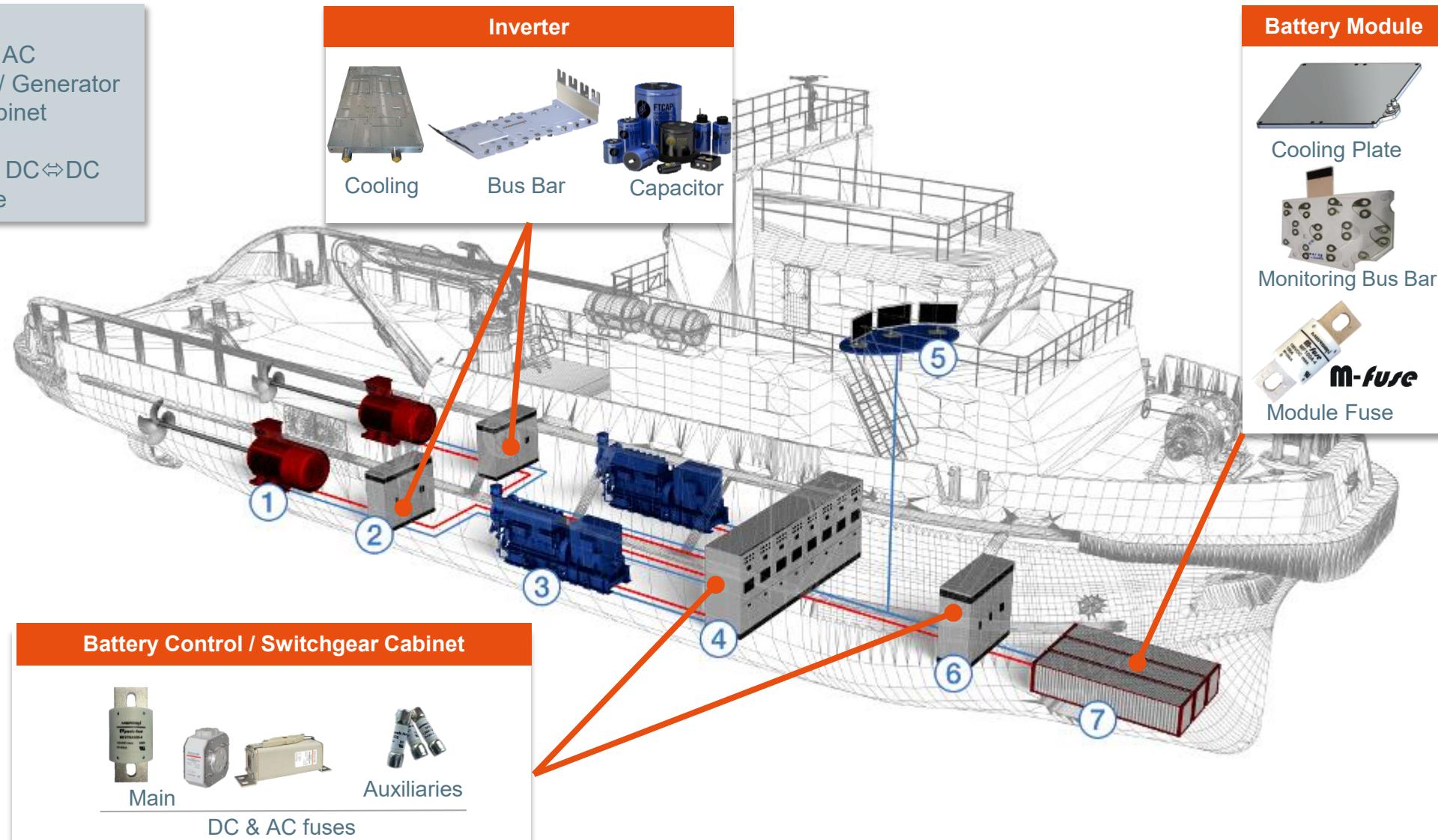




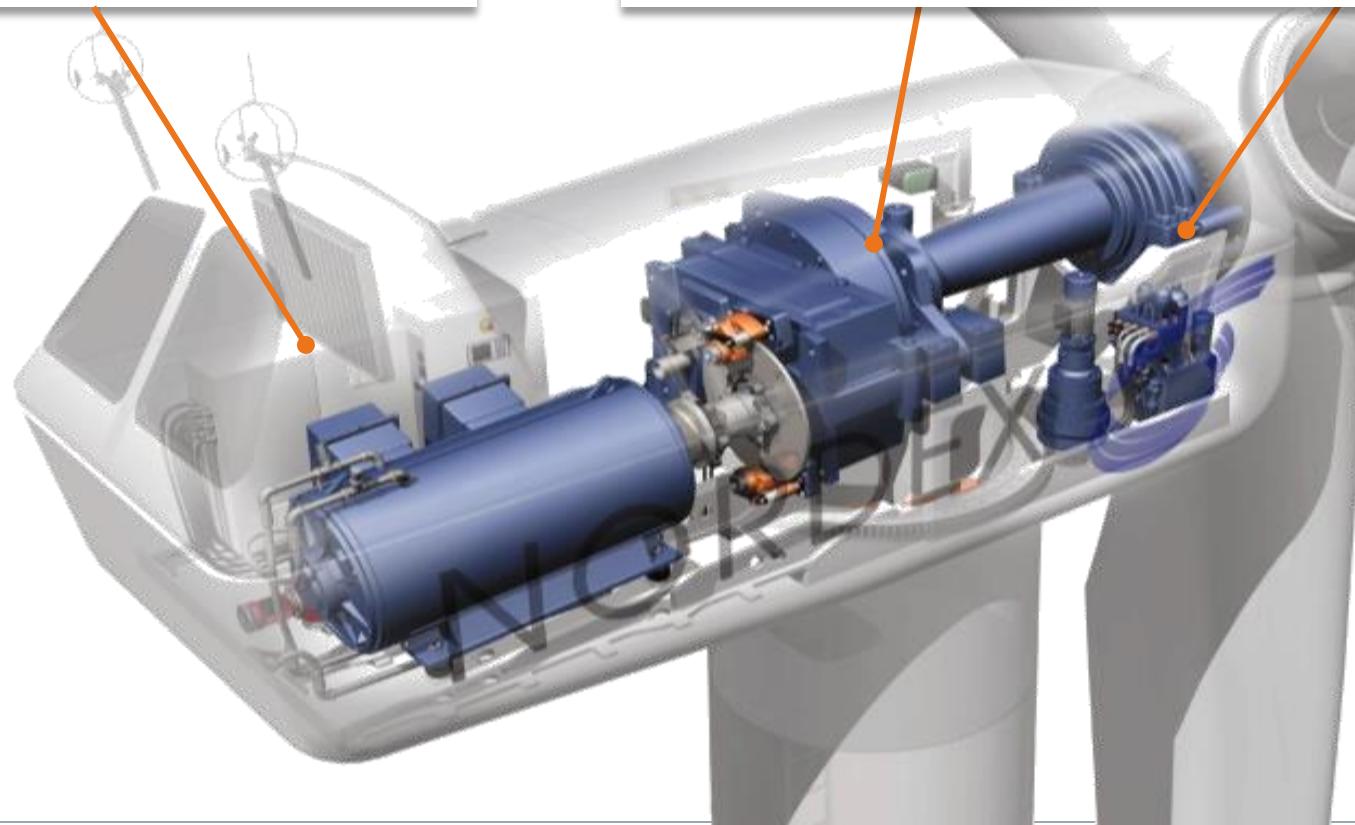
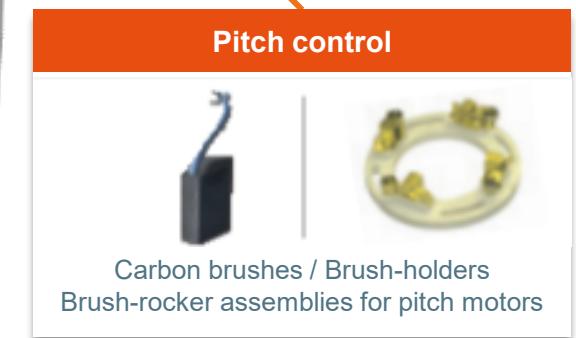
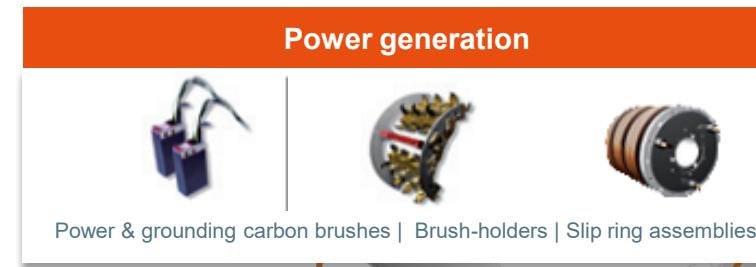
# **MARKETS AND APPLICATIONS OF MERSEN'S SOLUTIONS**

# MERSEN SOLUTIONS IN MARINE APPLICATIONS

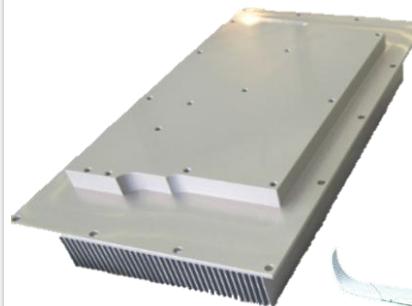
1. Electric Motor
2. Inverter DC → AC
3. Diesel Engine / Generator
4. Switchgear cabinet
5. Control Desk
6. Battery control DC↔DC
7. Battery storage



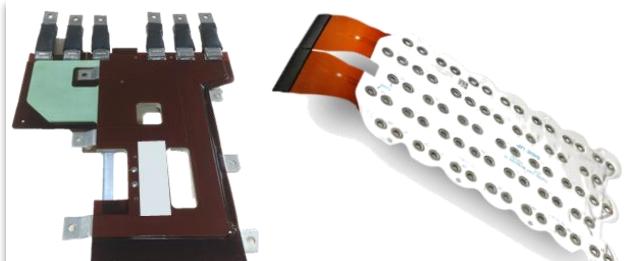
# MERSEN SOLUTIONS IN WIND APPLICATIONS



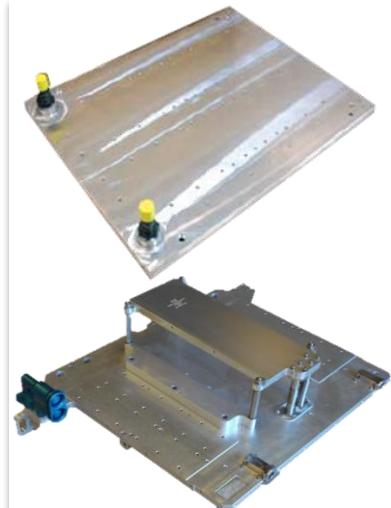
# MERSEN SOLUTIONS IN AERONAUTICS



Air cooled heat sink



Laminated Bus Bar for inverter and battery



Liquid cold plate and chassis



Power Capacitors

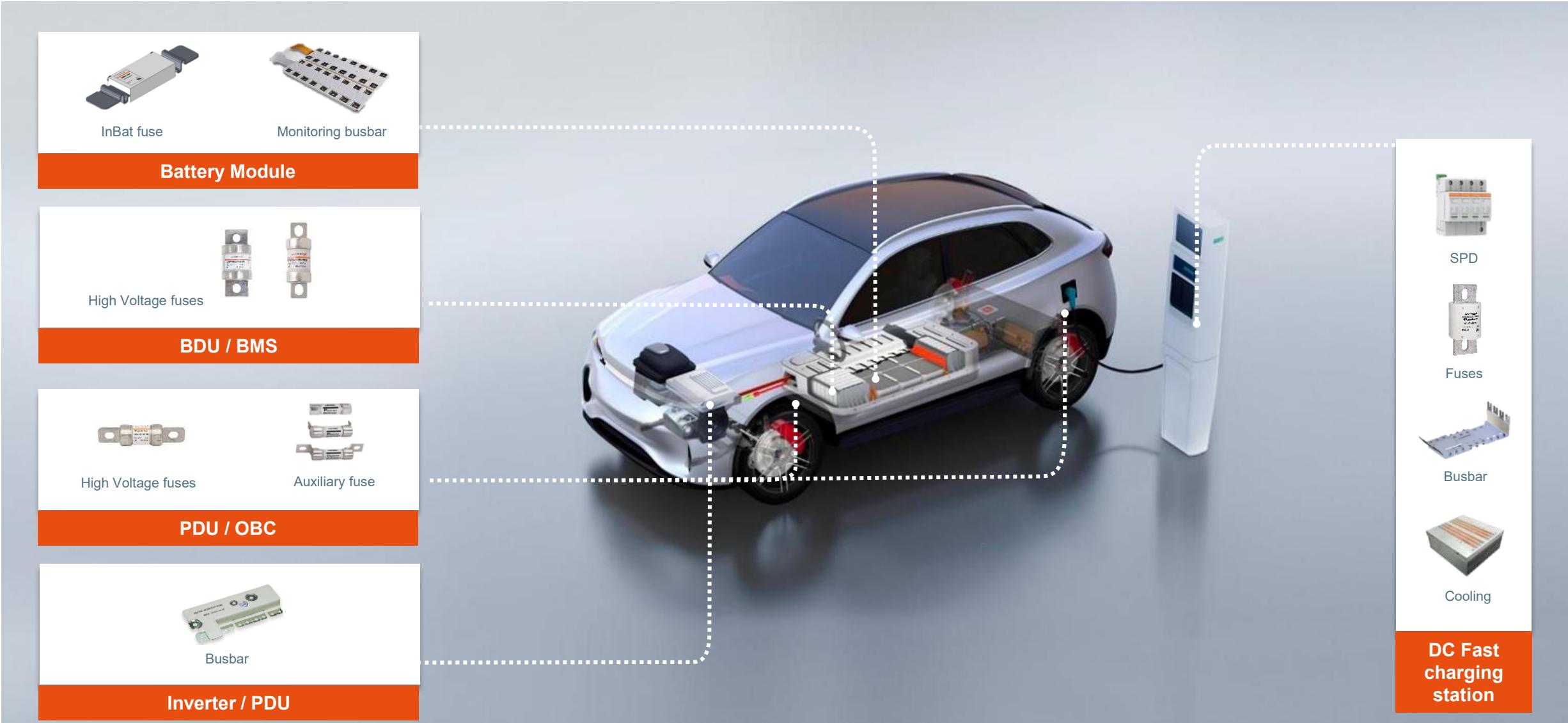
# MERSEN SOLUTIONS IN EV/HEV APPLICATIONS

BDU: Battery Disconnect Unit

BMS: Battery Management System

PDU: Power Distribution Unit

OBC: On-Board Charger

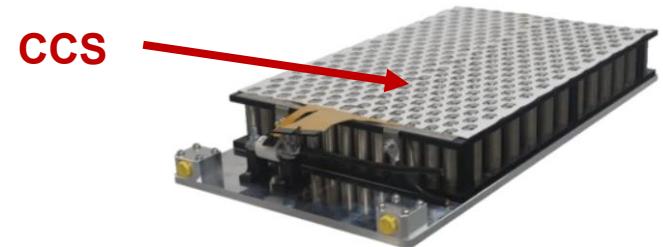




## MERSEN'S KEY OBJECTIVES

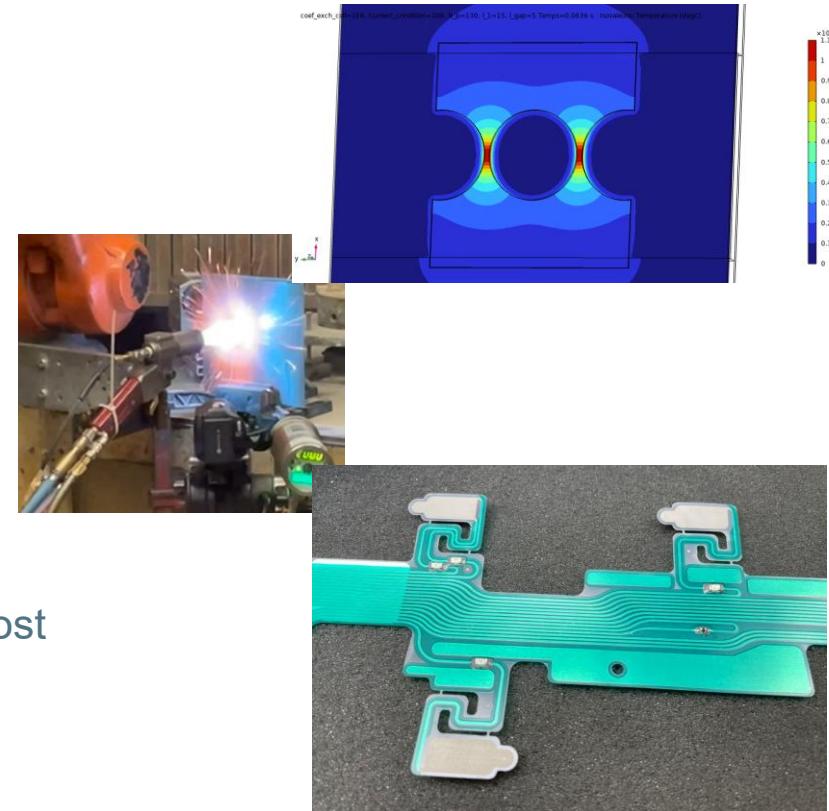
# IMPROVE SAFETY INTO BATTERIES

Building on previous experience with Horizon Europe in the field of batteries and power conversion, Mersen is looking for a consortium to address **cell interconnexion new challenges**



## Objective 1 : Increase reliability and safety through safety devices and monitoring

- Improve safety management in batteries, at pack, module and cells level:
  - Development of smart breakers
  - Integration of fuse function at cell level, inside the CCS
- Integrate fire-resistant materials inside CCS to reduce thermal runaway propagation
- Improve reliability and reduce cost of monitoring function
  - Investigate new and innovative way to do monitoring function at the lowest cost
  - Work on stronger/smarter integration of monitoring into CCS



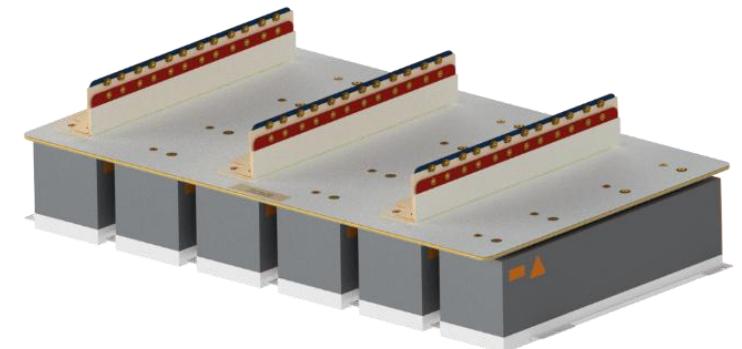
# BUSBARS : REDUCE COST AND ENVIRONMENTAL IMPACT

Mersen develops all solutions for power distribution and conversion, for all type of market (rail, aeronautic, EV, marine, renewable energies, ...).

**Objective 2 : Reduce weight, cost and environmental impact of power distribution and conversion**



- Develop new design strategies and technologies to optimize use of conductive materials and limit overheating
- Adopt new cost-effective materials (example: aluminium) :
- Reduce environmental impact by optimization of materials, design and processes



# CALLS OF INTEREST (CLUSTER 5)

Not exhaustive

<b>Destination 2</b>	<b>HORIZON-CL5-2026-10-D2-03</b>	Integrated Production and Product Development for Next-Generation Lithium-based Batteries for Mobility (BATT4EU and Made in Europe Partnerships)
	<b>HORIZON-CL5-2026-03-D3-01</b>	Targeting key value chain components for increasing the competitiveness of renewable energy technologies in Europe
<b>Destination 3</b>	<b>HORIZON-CL5-2026-03-D3-20</b>	Affordable and sustainable primary equipment for Future-Ready multi-terminal HVDC Systems
	<b>HORIZON-CL5-2027-07-D3-28</b>	Integrated Approaches for Retrofitting Infrastructures with Innovative Energy Storage Technologies
<b>Destination 5</b>	<b>HORIZON-CL5-2026-05-D5-01</b>	Large-scale demonstration of Heavy-Duty Battery Electric Vehicles (HD BEV) towards long-haul logistics operations (2ZERO Partnership)
	<b>HORIZON-CL5-2027-03-D5-05</b>	Higher Voltage, Megawatt Charging System compatible, modular powertrain for Heavy Duty Vehicles (HDV) (2ZERO Partnership)
	<b>HORIZON-CL5-2026-06-Two-Stage-D5-10</b>	Disruptive Technologies and Innovative Concepts for Energy Saving Onboard of long-distance ships (ZEWWT Partnership)
	<b>HORIZON-CL5-2027-03-D5-18</b>	Enhanced electric operation and battery durability (ZEWWT Partnership)