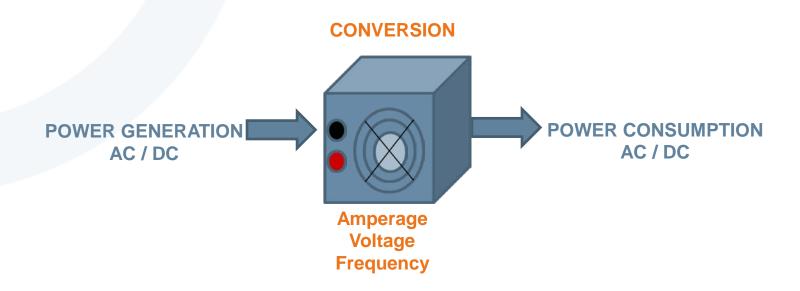


# DRIVING ENERGY EFFICIENCY

with power electronics



### POWER ELECTRONICS REFERS TO THE "CONVERTING OF ELECTRICAL POWER"

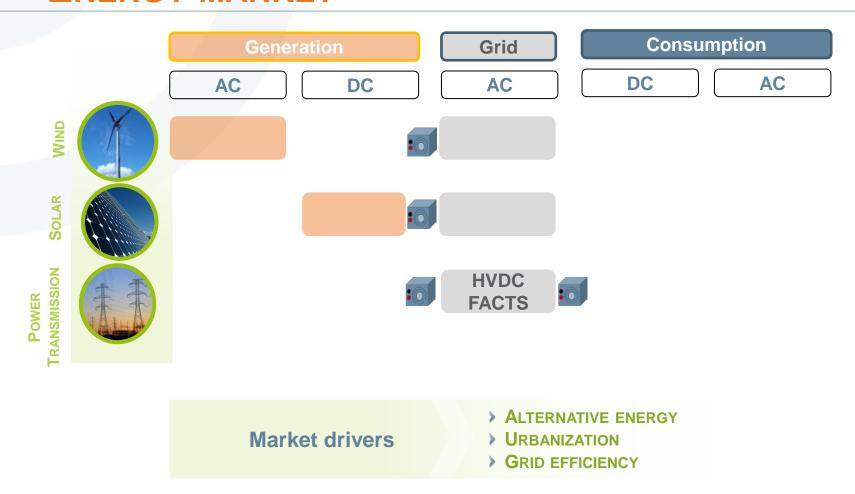


- > Basic function: to convert electric energy as efficiently as possible
- > CONVERSION: in a form that the most divergent applications and users require

Mersen focus: high-end applications (power) not on consumer electronics & low power suppliers

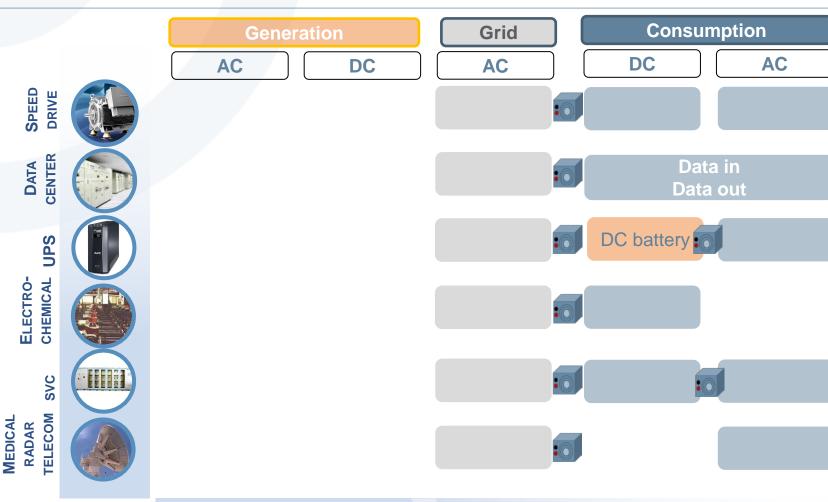


# WHERE POWER NEEDS TO BE CONVERTED? ENERGY MARKET





# Where power needs to be converted? Industries/Commercial/IT

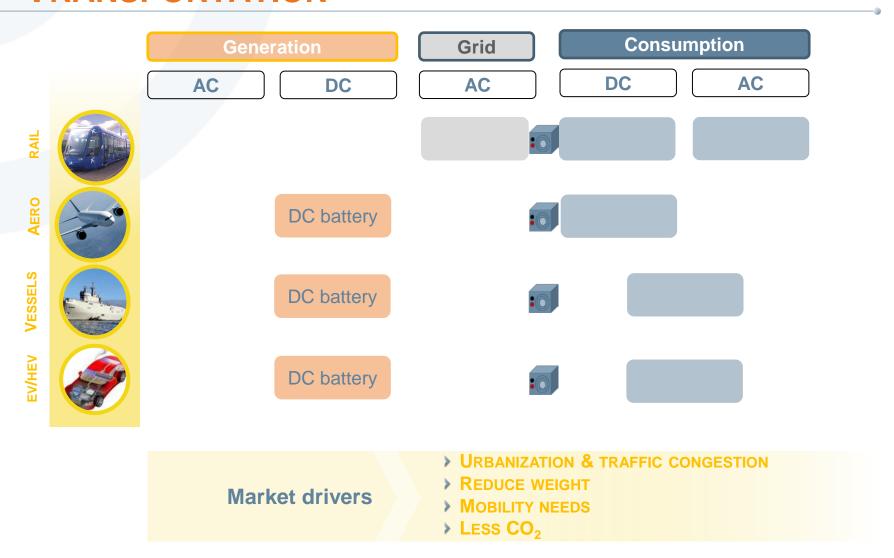


**Market drivers** 

- REDUCE TOTAL COST OF OWNERSHIP
- > ENERGY EFFICIENCY
- > DATA STORAGE, CLOUD COMPUTING

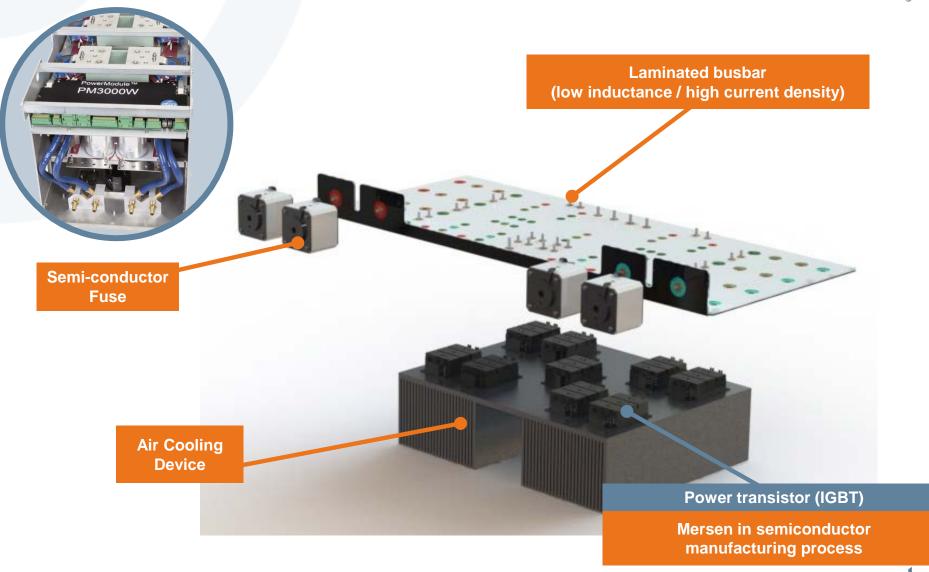


# WHERE POWER NEEDS TO BE CONVERTED? TRANSPORTATION





### MERSEN, IN THE HEART OF THE INVERTER





# GROWTH SUSTAINED BY TECHNOLOGY GAINS & DRIVERS

**Higher efficiencies** by systems energy savings (thermal management)

**Higher power density** at systems levels (new material developments)

**Customized packaging** of systems (integration of more components and functions)

**Systems embedding:** modular integration, higher reliability

Requires power components manufacturer and system integrators to provide new innovative solutions



### MERSEN: A UNIQUE POSITIONING

**OEM** Relationship

International presence

A UNIQUE POSITIONING

KEY DIFFERENTIATORS **Design** capabilities

**Bundle offer** 



### LARGE OEMS REQUIRE THE EXPERTISE OF HIGH PERFORMANCE POWER ELECTRONICS SUPPLIERS TO KEEP UP WITH THE MARKET



















THALES



































### **EFFICIENT DESIGN CAPABILITIES**

#### **Europe**

- High power and low power
- > IEC testing

#### 2 High Power test Labs

#### USA

- High power and low power
- Surge testing
- UL approved for third party testing

#### Simulation means

- Thermal, Electrical
- On-line access

- Worldwide Power Electronics specification and qualification capabilities
- Local technology-dedicated design center
- Power electronics specification team



# AN INTERNATIONAL PRESENCE ALIGNED WITH THE MARKET





### MERSEN BUNDLE OFFER, A KEY DIFFERENTIATOR IN THE MARKET

#### SUPERIOR ABILITY TO TARGET THE MARKET

#### At the right place:

International presence
Relationship with OEM
Search for "hidden champions"

At the right time



### With the right solution:

Power Electronics Specification team Dedicated local design offices



### LEVERAGING THE ELDRE ACQUISITION MARKET

New staged entry point

In development process at existing customers



New customers

Where Mersen's cooling devices & fuses not applicable or in tough competition

New field of technological development

T (°C) – V Battery management failure modes New geographical development

**Asia** 



### LEVERAGING THE ELDRE ACQUISITION FACTS

A **fair acquisition price** resulting from Mersen capability and culture to provide a strategic future to family-owned businesses

#### A smooth integration with:

- Progressive change from a family driven culture to a multinational culture
- Local management reinforced and supported
- Reinforcement of a Power Electronics Specification Team with Eldre key skills
- Balanced industrial & marketing plan in China

A relutive contribution in H1 2012 despite economic slowdown

An exciting pipeline of **new opportunities** and qualified projects with a potential for 2014 & beyond of accelerated growth



### SUSTAINED STRATEGIC FOCUS



Reinforce leading position and remain in front position with current OEM customers



Capitalize synergies on Eldre's acquisition



Broaden our bundle offer beyond semiconductor fuses, cooling and busbars



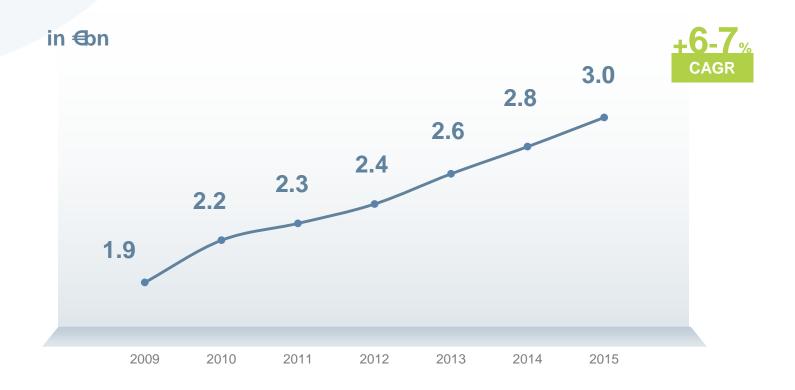
Maintain business leadership to support OEM customers' global footprint, including China



# MERSEN'S OBJECTIVE: OUTPERFORM THIS SIGNIFICANT, GROWING MARKET

#### **Key Components for power inverters**

(fuses, cooling devices and laminated busbars)



<sup>\*</sup> Source: Mersen and Yole (2011) - Excluding EV/HEV projections

