



ELECTRICAL POWER: SOLUTIONS FOR POWER MANAGEMENT

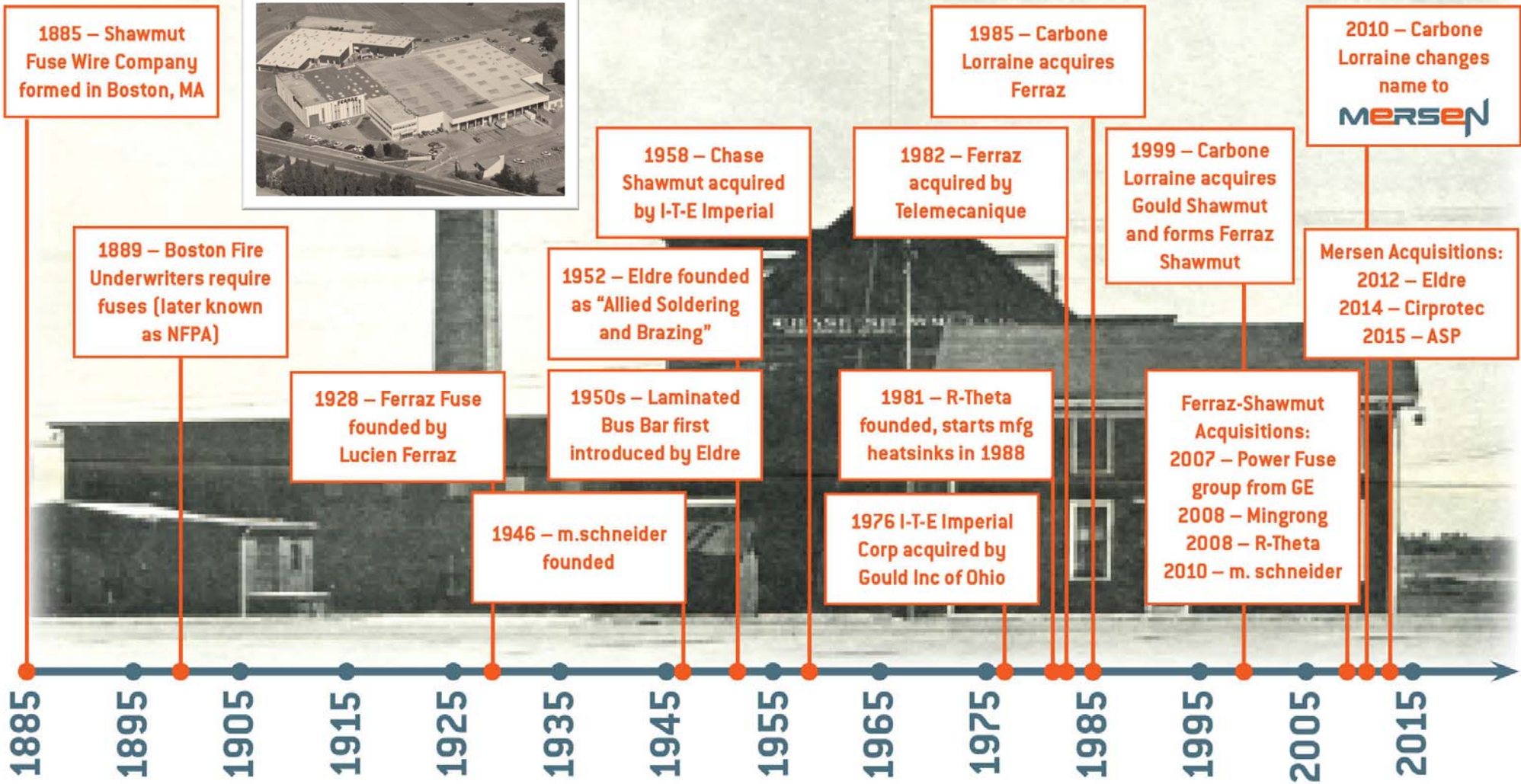


ELECTRICAL POWER

- **WE ARE A LEADER IN ELECTRICAL POWER MANAGEMENT**
- **WE ARE A GLOBAL PARTNER OFFERING OUR CUSTOMERS THE BEST SOLUTIONS THANKS TO OUR EXPERTISE AND IN-DEPTH KNOWLEDGE OF THEIR APPLICATIONS**



OVER 130 YEARS OF EXPERIENCE



MARKETS

INDUSTRY

Drives
Motors & Generators
Process Industries
HVAC
Welding
Machine Tools
Oil & Gas



TRANSPORTATION

Railway
Marine
EV/HEV
▪ Heavy Duty
▪ Passenger
Aeronautics



ELECTRICITY

PRODUCTION,
TRANSMISSION &
DISTRIBUTION

Solar
Wind
Conventional
EES
Power Back-up / UPS
Power Quality
HVDC
Transmission
Distribution
Lighting



DEFENSE

Missile
Aircraft
EV/HEV
Communication
Radar















































DATA/TELECOM

Datacenter
Video Surveillance
Wireless 3G/4G
Radar
Broadcasting



COMPETITIVE STRENGTHS

Generation	Transmission	Distribution	Use
             	     	         	             
<h2>MERSEN'S ADVANTAGES</h2>			

- Global Presence
- Brands
- Product Portfolio

- Technical Services
- Specification

- Customer Care
- Digital

APPLICATION-ORIENTED BUSINESS MODEL

ELECTRICAL POWER IS COMPRISED OF TWO BUSINESS UNITS EACH ADDRESSING SPECIFIC APPLICATIONS WITH A BROAD BUT COHERENT PRODUCT PORTFOLIO:

- **Solutions for Power Management (SPM)**
 - SPM designs innovative and application engineered solutions for OEMs in the Power Electronics and Power Distribution markets, integrating high performance cooling, signal & power bus bars, and semiconductor protection fuses
- **Electrical Protection and Control (EPC)**
 - EPC provides a reliable and differentiating global platform of electrical protection and controls components and services serving OEMs, panel builders, utilities, contractors, and end-users in LV and MV power distribution markets

SPM PRODUCT PORTFOLIO

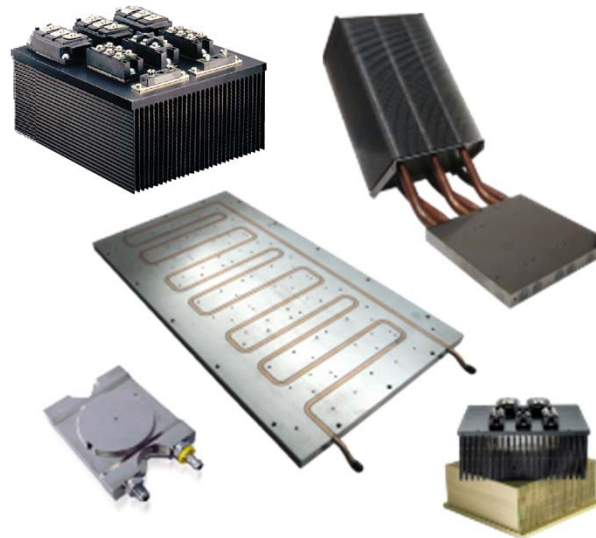
SPECIAL PURPOSE & SEMICONDUCTOR PROTECTION FUSES

- 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



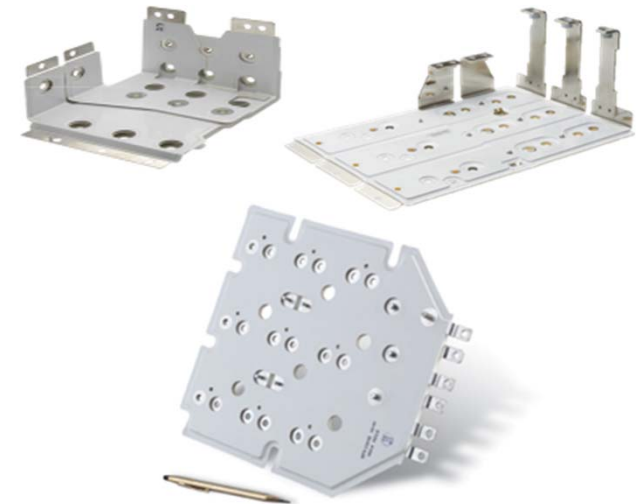
COOLING

- Air and Liquid Cooled Heatsinks
- Heat-pipe Assemblies
- Heat Exchangers
- Enclosed Cooling Systems

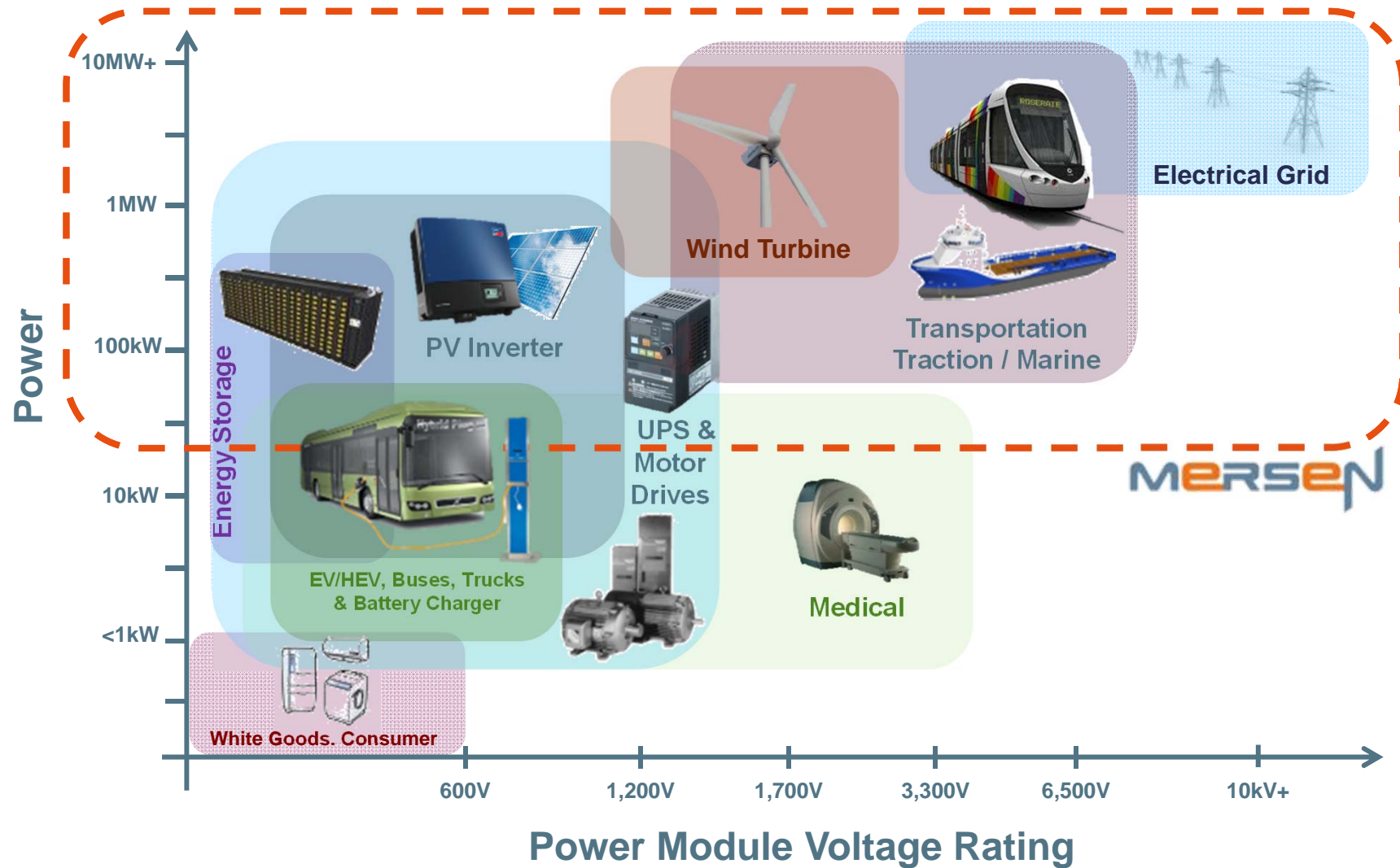


BUS BAR

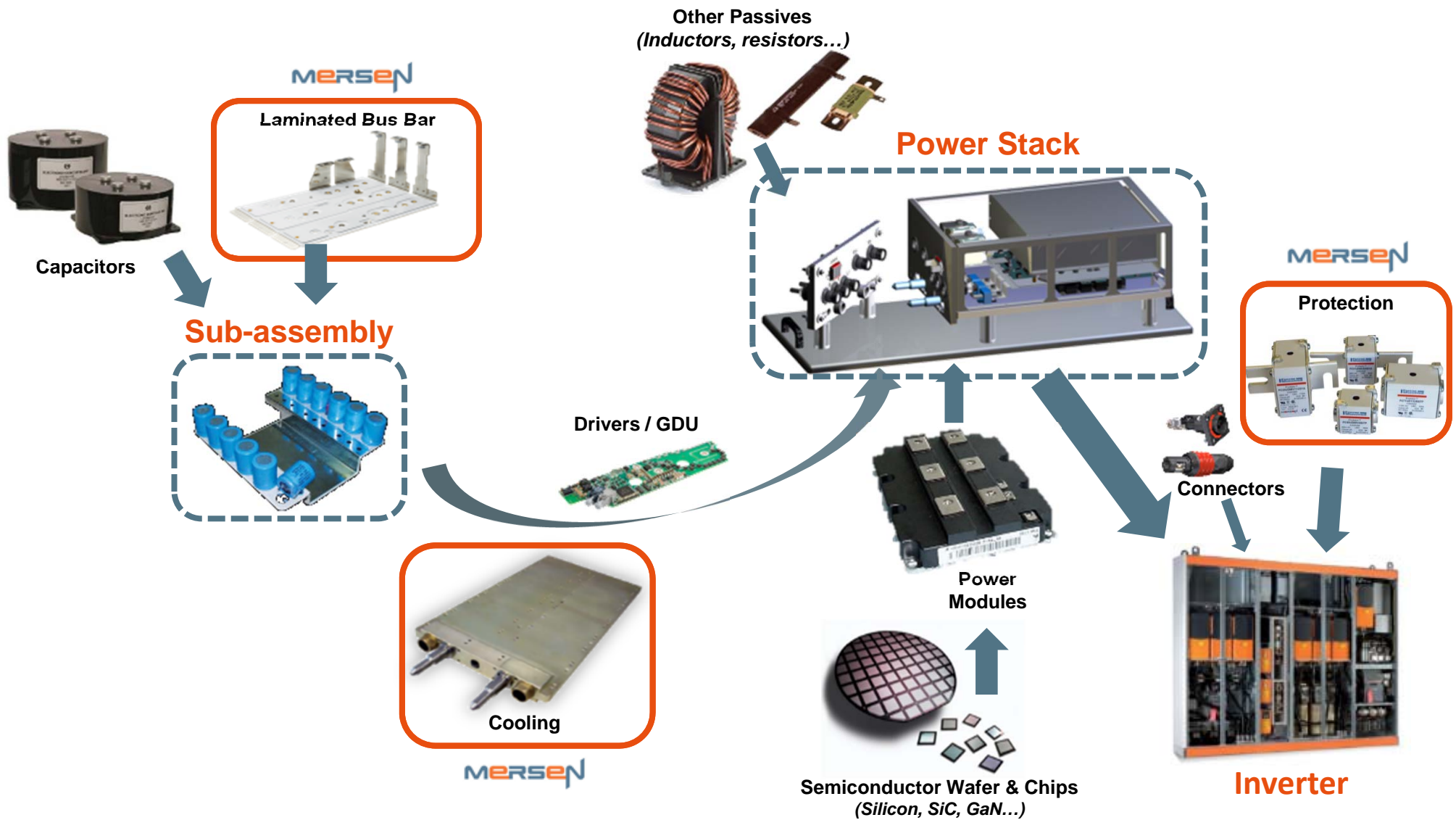
- Laminated / Multi-layer
- Flexible / High Temperature
- Powder Coated



SPM EXPERTISE: MEDIUM & HIGH-POWER APPLICATIONS

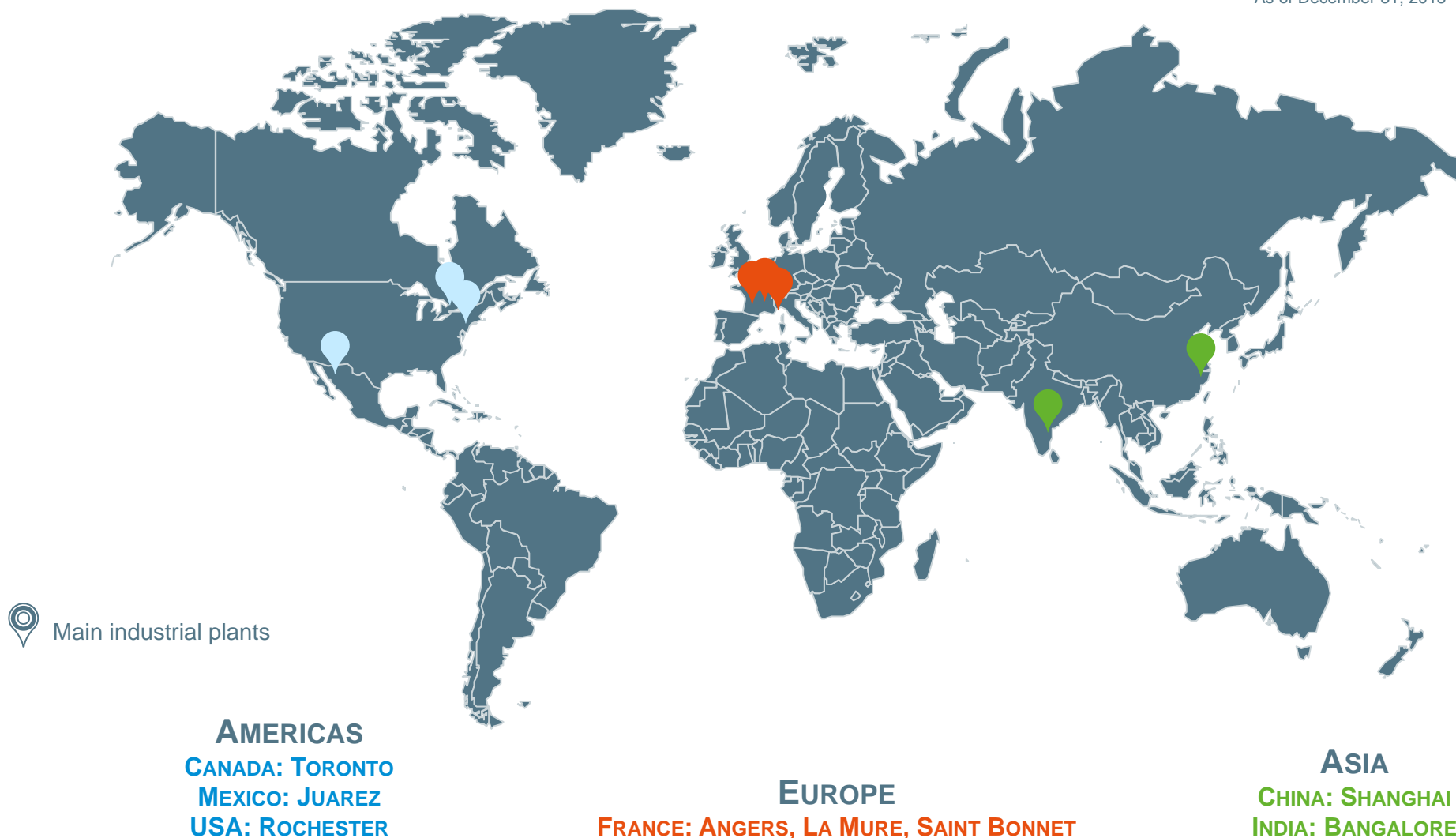


SPM VALUE-CHAIN POSITIONING TOWARD INTEGRATED ARCHITECTURE



SPM INDUSTRIAL FOOTPRINT

As of December 31, 2015



MERSEN EXPERTISE

WE BRING EXPERTISE TO OUR CUSTOMERS WITH PRODUCTS AND SOLUTIONS DESIGNED TO MEET OR EXCEED THEIR EXPECTATIONS

WE DIFFERENTIATE BY HELPING OUR CUSTOMERS:

- Protect electrical systems and people who use them
- Improve electrical safety, performance, and reliability
- Reduce system downtime
- Develop technical solutions that increase competitiveness
- Reduce investment costs, total cost of ownership, and working capital
- Increase global capacity
- Seize opportunities in emerging markets





MERSEN
Expertise, our source of energy

GROUP HISTORY

- Advanced Materials
- Electrical Power
- Mersen Group

1885	1891	The Fabius Henrion plant is built (electric motors, dynamos, and lamps).	1892	Le Carbone is founded in Paris and specializes in the manufacture of brushes for motors.		
1895	1893	Graphitization process is discovered by a Group engineer.	1897	First International subsidiary is set up in Germany.		
1905			1906	First team is deployed in the United States.		
1915						
1925	1927	Fabius Henrion became Compagnie Lorraine de Charbons pour l'Électricité				
1935			1937	"Le Carbone" and "Compagnie Lorraine de Charbons pour l'Électricité" merge to become Groupe Carbone Lorraine.		
1945						
1955	1953	The chemical engineering business is started up in Pagny sur Moselle			1950	Le Carbone Lorraine takes over the worldwide distribution of products for Ferraz
1965	1961	The Amiens plant is built to manufacture carbon brushes for electric motors.				
1975						
1985	1988	Pechiney moves above the 50% ownership mark. The industrial seal business is transferred to Carbone Lorraine.			1985	Ferraz is acquired.
1995	1991	Stackpole's (United States) electrical and high temperature applications assets are acquired.	2007	Chongqing plant, the Group's first manufacturing facility in China, is inaugurated.	1998	Unit specialized in cooling systems is set up.
					1999	Gould-Shawmut group's EP division is acquired.
					2006	PE positions strengthened with R-Theta acquisition.
2005	2008	Calcarb, the world n°2 in rigid carbon felt, is bought.	2010	Positions are strengthened in solar energy through the purchase of a majority shareholding in Yantai	2008	Xianda and Mingrong Electrical Protection (MEP), Group's first acquisitions in China, are purchased.
					2011	Eldre acquired: largest worldwide pure player in LBB
2015	2010	A majority shareholding in Boostec, a silicon carbide specialist, is acquired.	2010	CARBONE LORRAINE CHANGES ITS NAME TO MERSEN	2014	Majority stake in Cirprotec, spec. in lightning/SPD
					2015	ASP, Chinese leader overvoltage protection, acquired