



**PERFORMANCE<sup>+</sup>**  
**BY MERSEN**

**Global expert**  
in electrical power  
and advanced materials,  
Mersen partners companies  
around the world that drive  
today's industry and shape  
tomorrow's society.  
A committed partner and core  
technology provider.



 **€950m**  
in consolidated  
revenues in 2019

 **6,800**  
employees

 Present in  
**35** countries

# “At Mersen, our goal is to help you meet the technological challenges

that drive you forward and that shape our world. Whatever the sector and whatever the stakes, we draw on a broad range of products and services to help you define and design custom-fit solutions and processes.

Day after day, we deliver world-renowned expertise in electrical power and advanced materials to industry groups looking to develop their activity and meet tomorrow's technological challenges.”



**Expertise  
Innovation  
Proximity** —

# + Expertise

## ADVANCED MATERIALS

**No.1**  
worldwide  
in brushes  
and brush-holders  
for industrial  
electric motors

**No.2**  
worldwide  
in high-temperature  
isostatic graphite  
applications

**No.2**  
worldwide  
in graphite-based  
anti-corrosion  
equipment

## ELECTRICAL POWER

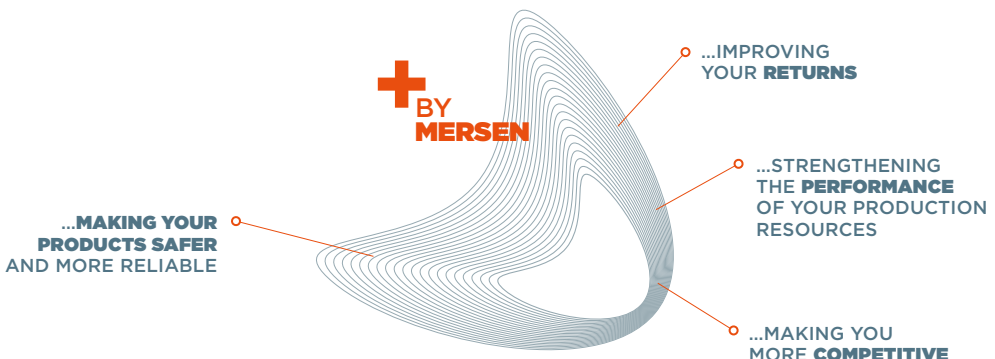
**No.1**  
worldwide  
in the supply  
of passive and  
hybrid devices  
for power  
electronics  
and battery  
systems

**No.2**  
worldwide  
in industrial  
fuses

**No.2**  
worldwide in  
current collector  
devices for rail

# — Creating collective value

Mersen's two specialist business segments deliver expert solutions with the same exacting standards and focus for a range of different sectors including wind and solar power, electronics and fiber optics, rail, aerospace and aeronautics transportation, corrosive chemicals, process industries and more. We work hand-in-hand with industry manufacturers and operators to make tomorrow's solutions **more efficient and more reliable**. Wherever technologies are advancing and innovating, you'll find a little bit of Mersen.





# + Innovation

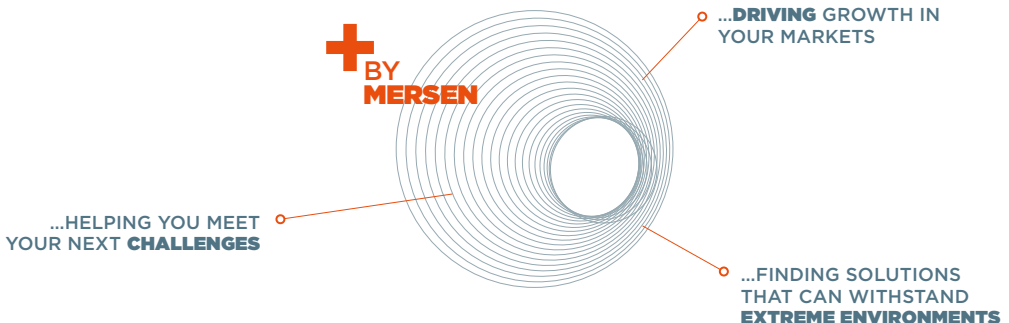
**200+**  
experts

**16**  
R&D centers around  
the world

**>50%**  
of activity dedicated  
to sustainable  
development  
markets

# Solutions that make a difference

Pushing boundaries is second nature at Mersen. For more than a century, we have provided industry players the world over with innovation to **improve their product performance and services**. Innovation that meets the constraints of technological change as companies move further and faster. Whether you need to cut costs, streamline your efficiency and the useful lives of your consumables, or even respond to changing consumer habits and preferences and the boom in the green economy, Mersen has a full spectrum of innovation in the service of industrial performance.



Present in  
**35** countries

**>50**  
industrial  
sites

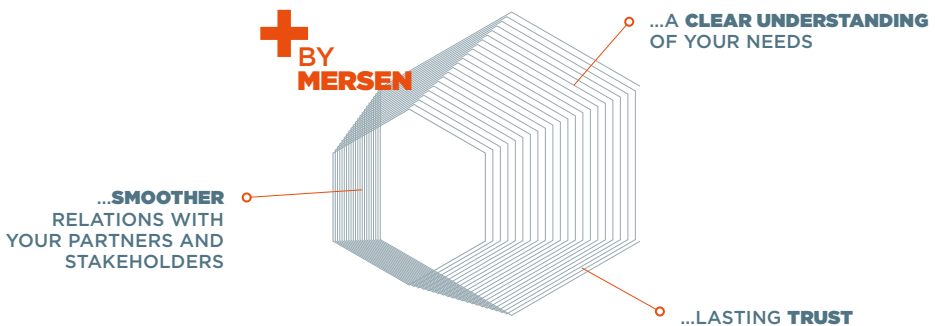
**+ proximity**





# A core provider

Creating value for our clients means understanding their needs, their challenges and their constraints. It also means understanding their environments, both geographical and competitive. With more than 50 industrial sites in 35 countries, Mersen works **side-by-side with its clients at the heart of its markets**, developing strong ties to offer made-to-measure, high value-added solutions at every level. A relationship of trust in transforming challenge to opportunity.





**PERFORMANCE**   
**BY MERSEN**

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**Efficiency**  
**Competitiveness**  
**Long life**  
**Reliability**  
**Protection**



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**GRAPHITE  
SPECIALTIES**

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**ANTI-CORROSION  
EQUIPMENT**

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**POWER  
TRANSFER  
TECHNOLOGIES**

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**ELECTRICAL  
PROTECTION  
& CONTROL**

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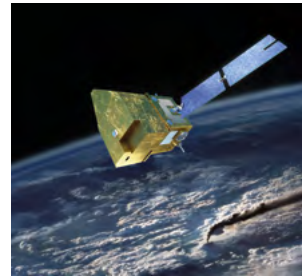
**SOLUTIONS  
FOR POWER  
MANAGEMENT**

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— A comprehensive offer

# GRAPHITE SPECIALTIES

- Unique expertise in high-performance materials and solutions for high-temperature and extreme environment production or operation
- Graphite, carbon/carbon composite, carbon insulation, flexible graphite and silicon carbide (SiC) solutions for process industries, aerospace, solar PV and electronics.



## NO. 2 WORLDWIDE IN HIGH-TEMPERATURE ISOSTATIC GRAPHITE APPLICATIONS

### ISOSTATIC AND EXTRUDED GRAPHITE

Complementary brands  
**Ellor<sup>®</sup>, Cerberite<sup>®</sup>**



Graphite electrode  
for electrical  
discharge machining



Die for continuous  
casting of copper  
alloy, precious  
metals and cast iron



Support  
for hot-glass  
handling



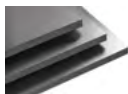
Wafer holder  
for substrates in  
semiconductor  
manufacturing



Polysilicon  
manufacturing  
electrodes

### RIGID AND FLEXIBLE CARBON INSULATION

Complementary brand  
**Calcarb<sup>®</sup>**



Long Fibre  
and Short Fibre  
insulation boards  
for industrial  
furnaces



Soft-felt insulation  
for polysilicon  
furnaces



Hybrid rigid/  
soft-felt cylinder-  
form insulation  
for heightened  
performance



PAN soft-felt  
permeable  
electrodes for  
energy storage



Rigid CBCF  
insulation for  
high-temperature  
sintering furnaces

### CARBON/ CARBON COMPOSITE

Complementary brand  
**Aerolor<sup>®</sup>**



Brake disk  
for aircraft



Component support for  
high-temperature  
furnaces



Accessories

### SSIC SINTERED SIC

Complementary brands  
**Boostec<sup>®</sup>, optosic<sup>®</sup>**



Structural component  
for space  
and ground telescopes



Mirror for space  
and ground telescopes



Plate  
for continuous  
flow chemical reactors



Mirror and laser  
scanner for industrial  
applications

### FLEXIBLE GRAPHITE

Complementary brand  
**Papyex<sup>®</sup>**



High-performance static  
graphite seals



Thermal protection  
and insulation



Dynamic  
graphite seals

# ANTI-CORROSION EQUIPMENT

- Design and manufacture process equipment in materials resistant to corrosion: graphite, silicon carbide, reactive metals (tantalum, silicon carbide, reactive metals (tantalum, zirconium, titanium, nickel alloys) and fluoropolymers, for the chemicals industries
- Provide services and maintenance



**NO. 2 WORLDWIDE  
IN GRAPHITE-BASED  
ANTI-CORROSION  
EQUIPMENT**

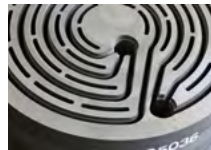
## ENGINEERING SYSTEMS



- HCl production
- HBr production
- Dilution and concentration of acids
- Other systems

## HEAT EXCHANGERS Graphite and silicon carbide

Complementary brands  
GAB Neumann, Graphilor®, Polybloc®



- Shell and tubes
- Annular groove
- Polybloc®
- Cubic
- Plate and frame

## HEAT EXCHANGERS Reactive metals



- Tantalum
- Zirconium
- Titanium
- Nickel alloys

## COLUMNS, REACTORS AND PRESSURE VESSELS

Complementary brand  
CL-Clad®



- Tantalum
- Zirconium
- Titanium
- Nickel alloys
- PTFE lined
- Graphite

## PIPING, BELLOWS AND BURSTING DISCS

Complementary brands  
Armylor®, Graphilor®



- PTFE
- PFA
- TFM
- Graphite bursting discs

# POWER TRANSFER TECHNOLOGIES

- Technical solutions for motor applications and generators
- Customized solutions and dedicated enhancement and reengineering services
- On-site expert assessments
- Motor maintenance services
- R&D expertise



## NO. 1 WORLDWIDE IN BRUSHES AND BRUSH-HOLDERS FOR INDUSTRIAL ELECTRIC MOTORS

### BRUSHES AND BRUSH-HOLDERS



For wind turbines



For motors and generators



For civil & military aircrafts



For traction motors



Plug sets for thermal power plants

### BRUSH ROCKERS & SLIP RING ASSEMBLIES



For motors and generators



For asynchronous motors



For hydro power generators



For hoisting

### CURRENT COLLECTORS



Contact strips



3<sup>rd</sup> rail Current collector device shoes



Sliding contacts

### COMPLETE SOLUTIONS



Pitch slip rings for wind application



MERSEN DustCollector



MERSEN Total Monitoring



Lubricating sticks & applicators for wheel/rail contact

### MAINTENANCE



On site motor inspection



In situ refurbishment

- Training
- Tools & devices for maintenance

# ELECTRICAL PROTECTION & CONTROL

- A full range of fuses and fusegear systems and devices
- Surge protection systems and devices



**NO. 2 WORLDWIDE  
IN INDUSTRIAL  
FUSES**

UL FUSES  
AND FUSEGEAR

Complementary brand  
Ferraz Shawmut®



Bladed fuses



HSJ high-speed fuses



Medium voltage fuses



Medium voltage controllable fuses

IEC FUSES  
AND FUSEGEAR

Complementary brand  
Ferraz Shawmut®



Helioprotection® gPV fuses



Low voltage fuse systems



Low voltage AC and DC switches



DIN and French standard high voltage fuses

SURGE PROTECTION  
DEVICES

Complementary brand  
Cirprotec®



Power Line SPDs - NEMA UL/CSA



Power Line SPDs - DIN Rail IEC/UL/CSA, PV



LED Lighting SPDs



Surge Protection Components

POWER TRANSFER  
FOR RAIL VEHICLES



Earth return current unit



3<sup>rd</sup> rail current collector device



Fuse box



On-board switch

# SOLUTIONS FOR POWER MANAGEMENT

- Passive and hybrid components for high-performance power conversion and batteries systems' improved safety and reliability



**NO. 1 WORLDWIDE**  
**IN THE SUPPLY OF PASSIVE AND HYBRID**  
**DEVICES FOR POWER ELECTRONICS**  
**AND BATTERY SYSTEMS**

OVERCURRENT PROTECTION FOR SEMICONDUCTORS AND BATTERIES: HIGH-SPEED FUSES & HYBRID SYSTEMS

Complementary brand  
**Ferraz Shawmut®**



Standard and high performance power converter protection



Traction and railway converter protection



E-mobility protection



Hybrid DC protective devices

COOLING SOLUTIONS FOR POWER ELECTRONICS



Air heat-sink



Embedded heat-pipe air heat-sink



Liquid cold plate



Heat-pipe cold wall

BUSBARS



Laminated busbar for high-voltage inverters



Laminated busbar for high-frequency drives



Smart monitoring busbar for battery packs



Backplane power distribution laminated busbar

CAPACITORS

Complementary brand  
**FTCAP®**



Electrolytic capacitors



Film capacitors



Customized capacitors, for ex. capacitor bank on laminated busbar



A person in a red jacket is sitting on the edge of a tall, craggy rock cliff. The cliff face is vertical and textured. Below the cliff, a vast valley is filled with soft, white clouds. The sky is a pale blue. The overall scene is dramatic and scenic.

# + A responsible company around the world

Mersen has chosen to make its activity part of an ambitious responsible development approach, shared by all employees. This culture is based on its values and fundamentals in terms of **human resources, health and safety and ethics.**



**6,800** employees  
in **35** countries



**For more than 120 years,**  
the Group has gradually transformed itself  
into a world expert in two major fields:  
advanced materials and electrical power.



This transformation was achieved through  
mergers and acquisitions that enabled  
Mersen to strengthen its expertise  
and geographic positioning.



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## **GROUP HEAD OFFICE**

### **MERSEN**

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Shanghai 200040  
Tel: +86 (21) 6135 6886

### **UNITED STATES**

#### ***ELECTRICAL POWER***

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Newburyport, MA 01950  
Tel: +1 978 462 6662

#### ***ADVANCED MATERIALS***

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Boonton, NJ 07005  
Tel: +1 973 334 0700

### **INDIA**

No. 5 Bommasandra Industrial  
Area - Annekal Taluk  
Bangalore, Karnataka - 560099  
Tel: +91 80 3094 6121



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GLOBAL EXPERT  
IN ELECTRICAL POWER  
AND ADVANCED MATERIALS



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