



# Global Expert in Electrical Power and Advanced Materials

DECEMBER, 2022

# A GLOBAL PLAYER AT THE HEART OF TECHNOLOGIES WHO DRIVES THE INDUSTRY FORWARD AND SHAPES A MORE SUSTAINABLE SOCIETY

## KEY FIGURES 2021



SALES  
**€923m**



EBITDA  
**16.1%** OF SALES



R&D CENTERS  
**18**



EMPLOYEES  
**7,000**



COUNTRIES  
**35**

## RECOGNIZED **CSR** COMMITMENT AND STRATEGY

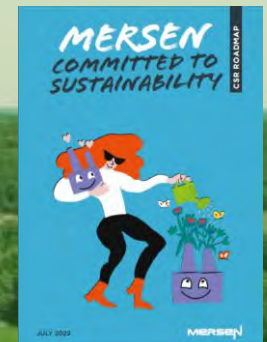
MSCI  
ESG RATINGS



CCC B BB BBB A **AA** AAA



WE SUPPORT



# ADVANCED MATERIALS: HIGH VALUE-ADDED CUSTOMIZED SOLUTIONS RELYING ON A UNIQUE MATERIALS EXPERTISE

## GRAPHITE SPECIALITIES

#1  
WORLDWIDE



Crucible in graphite



Electrode in graphite for edm



Wafers carrier in graphite for Semicon



Carbon insulation for high temperature furnaces



Laser galvo scanning mirrors in Sintered SiC

### MAIN COMPETITORS

SGL Carbon (Ger), Tokai Carbon (Jp), Toyo Tanso (Jp), Schunk (Ger)

## POWER TRANSFER TECHNOLOGIES

#1-2  
WORLDWIDE

Brushes and brush holders



Pantograph strips



Slip-rings



### MAIN COMPETITORS

Morgan Advanced Materials (UK), Schunk (Ger)

## ANTICORROSION EQUIPMENT

#1-2  
WORLDWIDE



Engineering systems

Heat exchangers



### MAIN COMPETITORS

SGL Carbon (Ger)

WITH 20% - 30% MARKET SHARE

# ELECTRICAL POWER: A UNIQUE PORTFOLIO SERVING TWO KEY APPLICATIONS

## ELECTRICAL PROTECTION

#2 WORLDWIDE IN INDUSTRIAL FUSES

Coverage of all standards worldwide: UL, IEC, DIN, etc.



MAIN COMPETITORS

Eaton(US), Littelfuse (US)

## POWER CONVERSION

#2 WORLDWIDE COMPONENTS

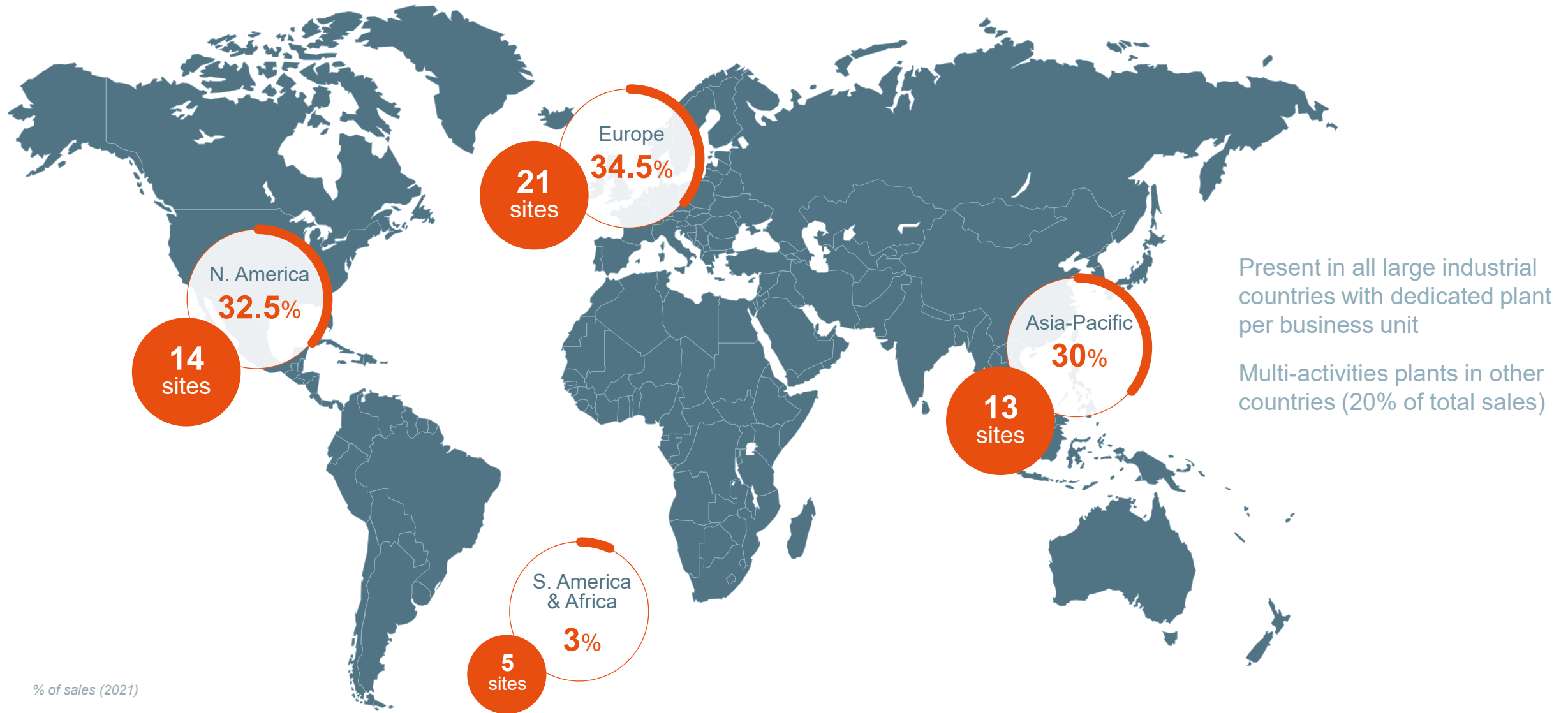


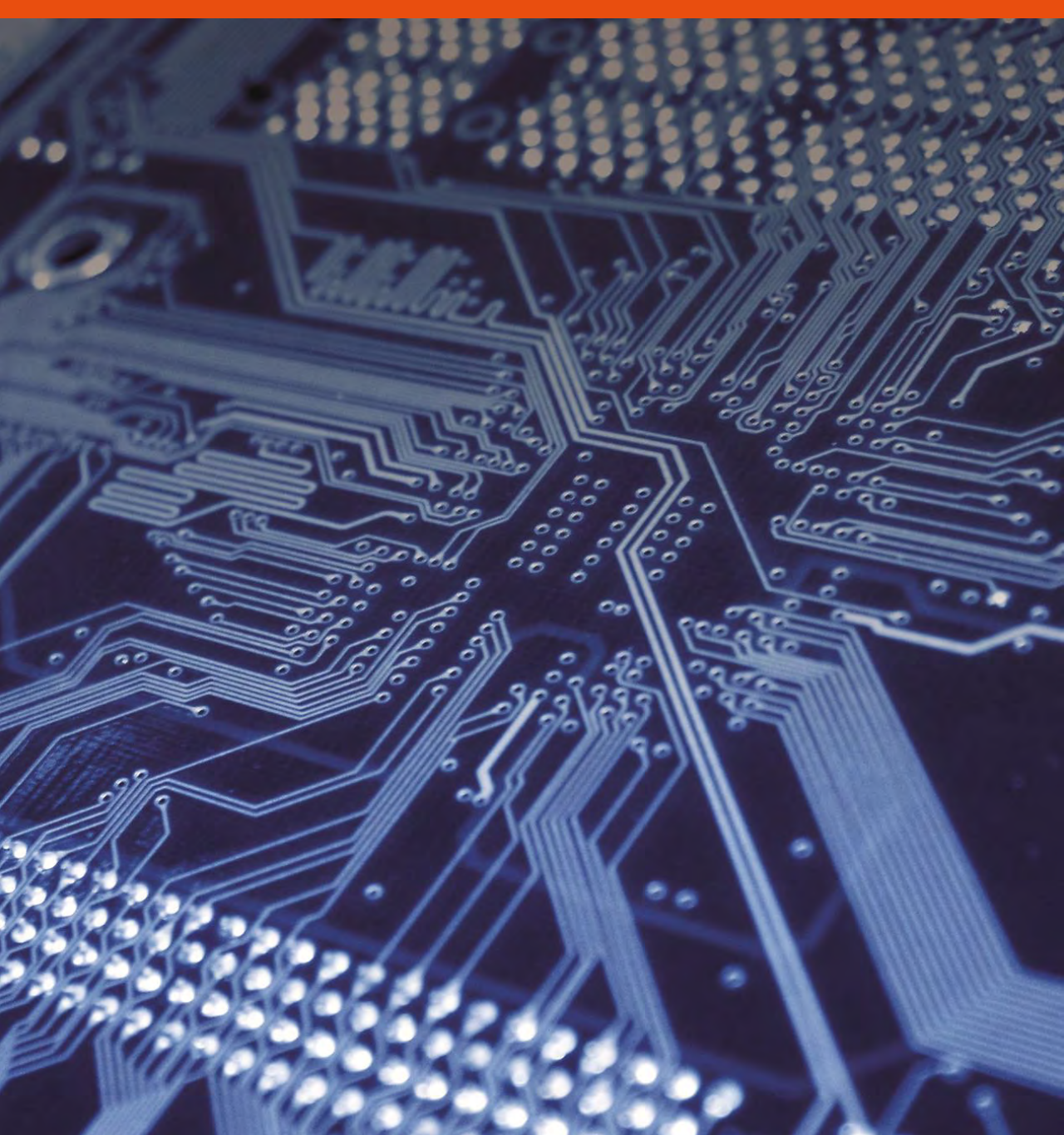
MAIN COMPETITORS

Eaton (US), Rogers (US), Methode (US), Lytron (US), Cornell Dubilier (US), Panasonic (Jp)

WITH ~30% MARKET SHARE

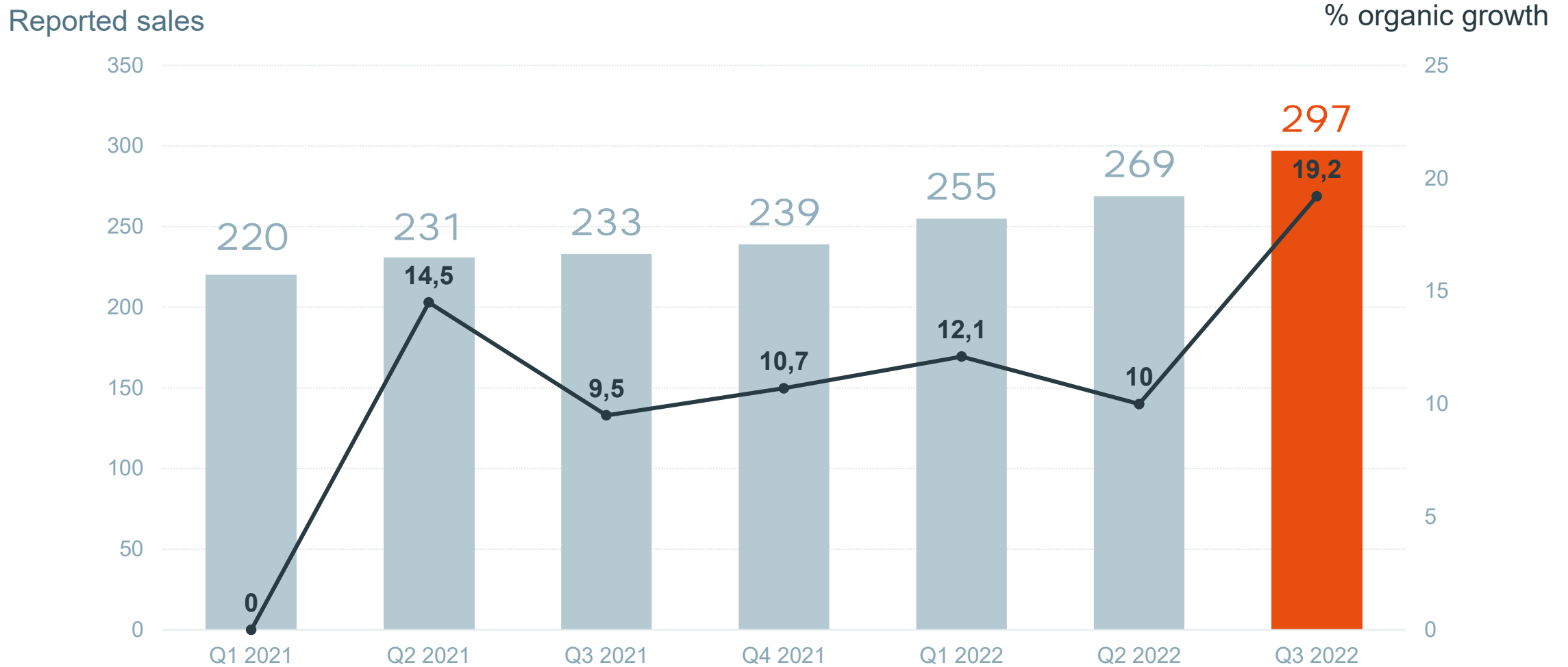
# A GLOBAL FOOTPRINT TO MAXIMIZE CUSTOMER INTIMACY, LIMIT INTER-CONTINENTAL TRANSFERS AND EXCHANGE RATE EXPOSURE



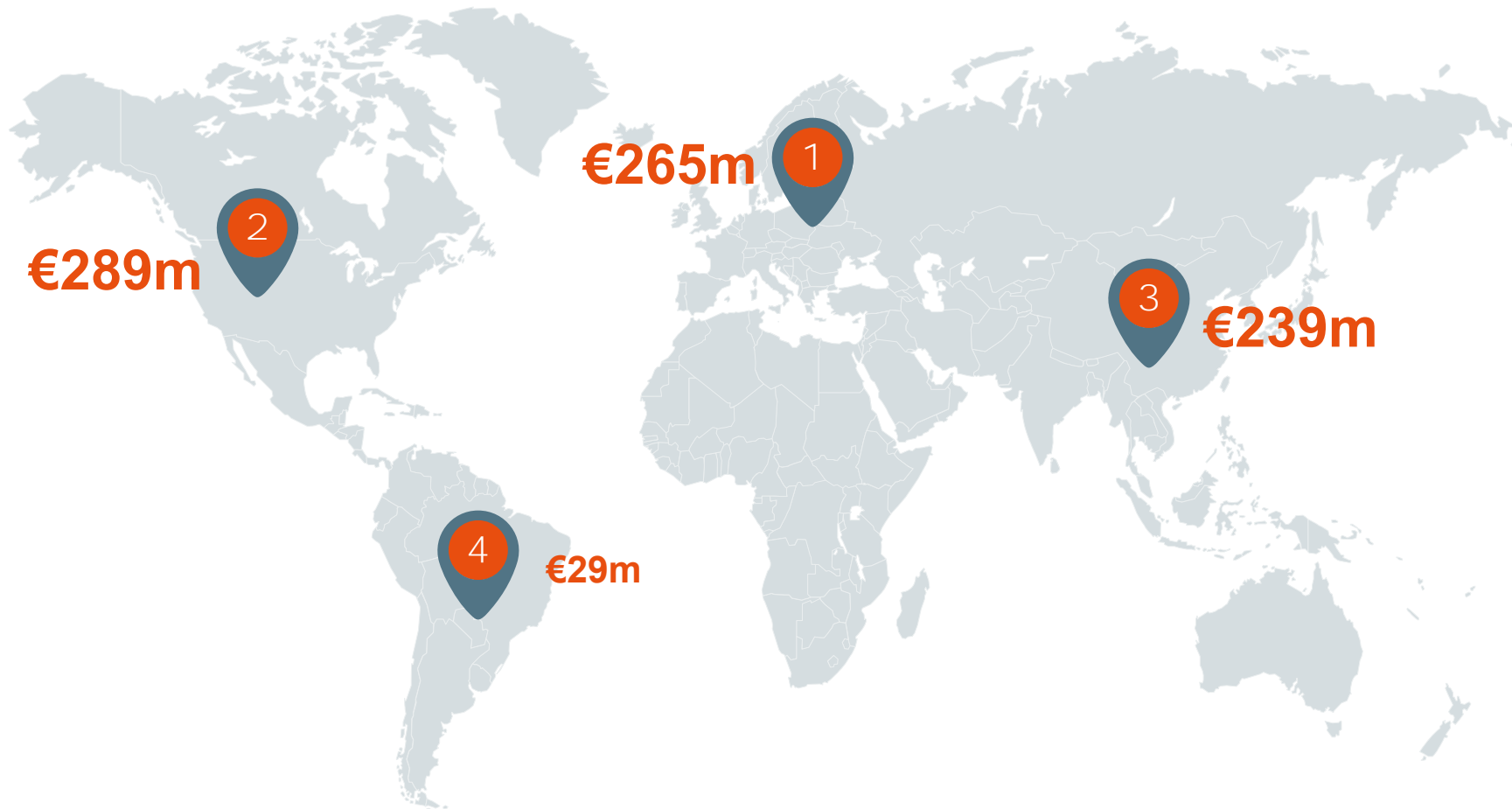


# Dynamic Markets in 2022

# 6 CONSECUTIVE QUARTERS OF STRONG GROWTH



# RECORD SALES IN THE FIRST 9-MONTH 2022: SHARP GROWTH IN ALL GEOGRAPHIES



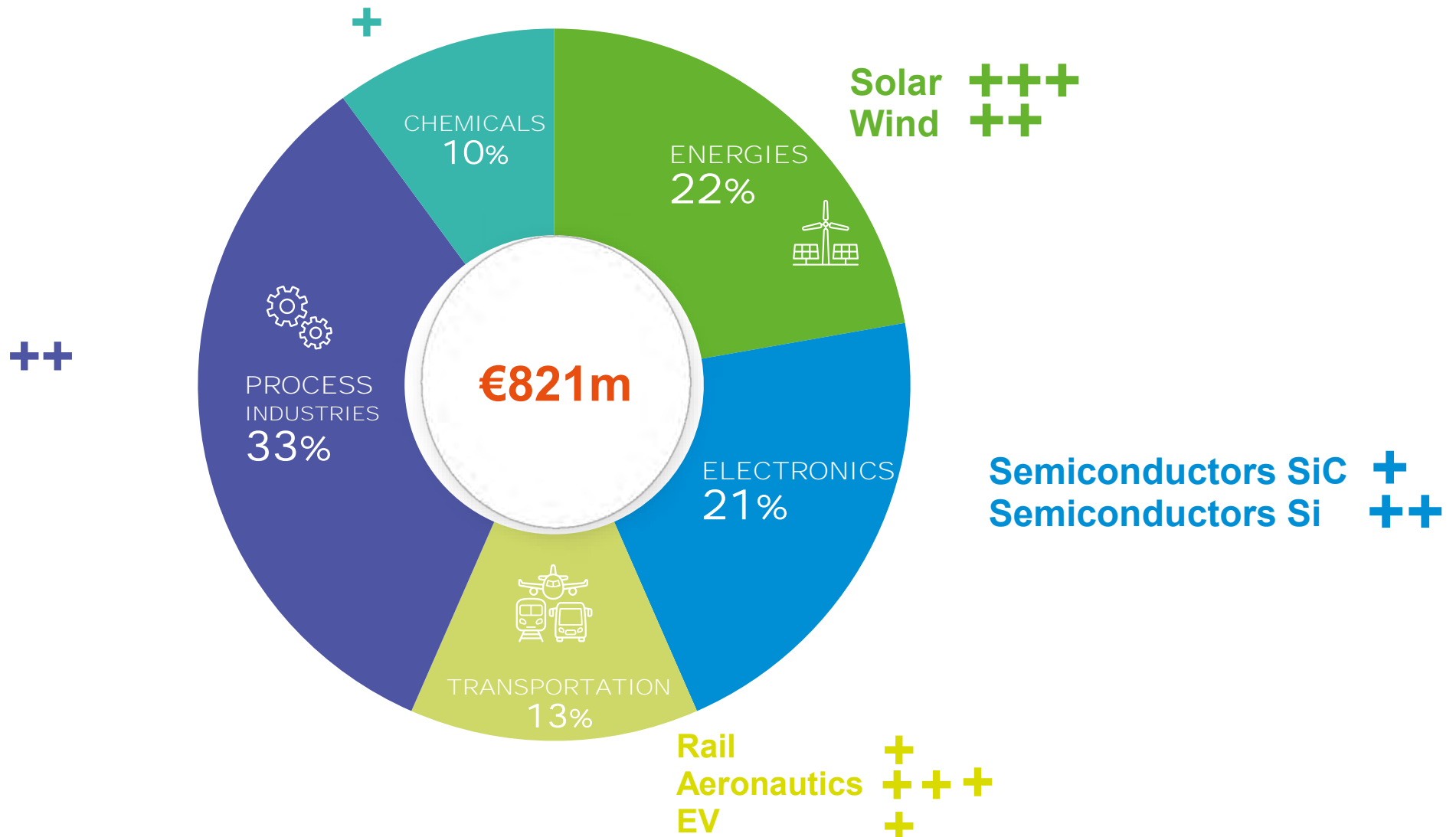
**€821m**

- 1 **Europe**  
+11% vs. 9-m 2021
- 2 **North America**  
+18% vs. 9-m 2021
- 3 **Asia-Pacific**  
+11% vs. 9-m 2021
- 4 **South America – Africa**  
+16% vs. 9-m 2021

*Organic growth (%)*



# DYNAMIC MOMENTUM ACROSS ALL MARKETS, IN PARTICULAR RENEWABLE ENERGIES AND SEMICONDUCTORS



# GROWTH MARKET POTENTIAL CONFIRMED

Sales growth 9-months 2022      Outlook Q4 2022 - 2023

**SOLAR POWER**



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Limited graphite volume allocation for the solar industry

**SI SEMICONDUCTOR MANUFACTURING**



+++

++

Significant medium-term potential for Mersen.  
Increase capacity in South Korea

**SIC SEMICONDUCTOR MANUFACTURING**



++

+++

Very high order intake, for after 2022  
Increase capacity in Columbia

**ELECTRIC VEHICLES**



+

++

Several important awards in the first 9 months

# SOLAR: A MAJOR SUPPLIER ACROSS THE VALUE CHAIN



PROCESS  
STAGE



Silicon ingot  
manufacturing



Cell  
manufacturing  
(PECVD)

Electricity  
generation



Electrical panel  
protection

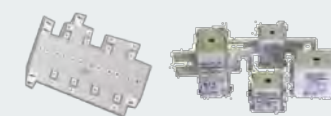
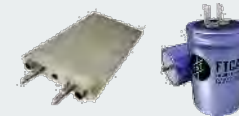
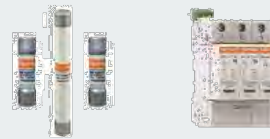


Storage

Power  
conversion



MERSEN  
EXPERTISE



CUSTOMERS

**LONGI** 隆基

中环  
ZHONGHUAN

Solar  
**Jinko**

EIFFAGE  
**CLEMESSEY**

**VINCI**

**shoals**  
INVENTING SIMPLE\*

**SOLAR  
BOS**



**SIEMENS**

**TMEiC**  
We drive industry

**POWER ELECTRONICS**  
PURE ENERGY

**ABB**

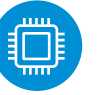
**northvolt**



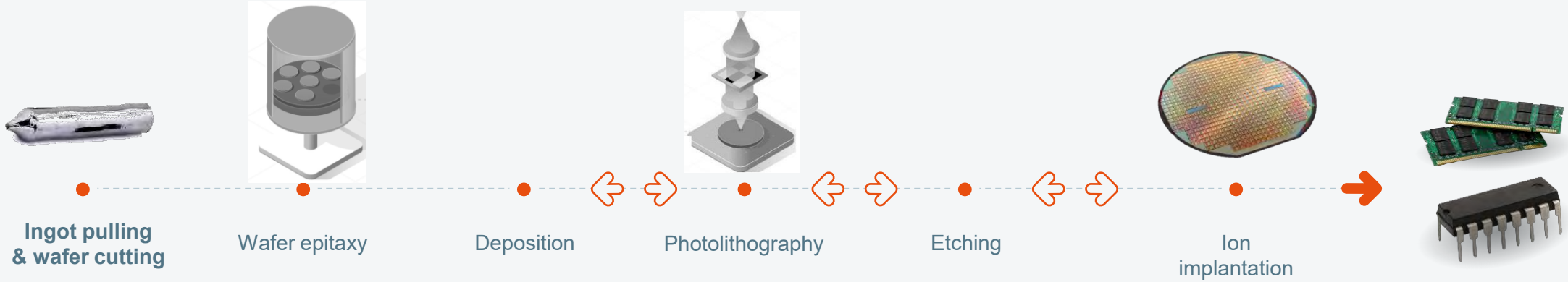
2021 SALES  
**€71m**

2025 EST. SALES  
**€100m**

# ESSENTIAL MATERIALS EXPERTISE IN THE SI SEMICONDUCTOR MANUFACTURING PROCESS



PROCESS  
STAGE



MERSEN  
EXPERTISE



CUSTOMERS



2021 SALES  
**€47m**

2025 EST. SALES  
**€60m**

# UNIQUE POSITION IN THE SOPHISTICATED AND INTRICATE SIC MANUFACTURING PROCESS



PVT  
PROCESS

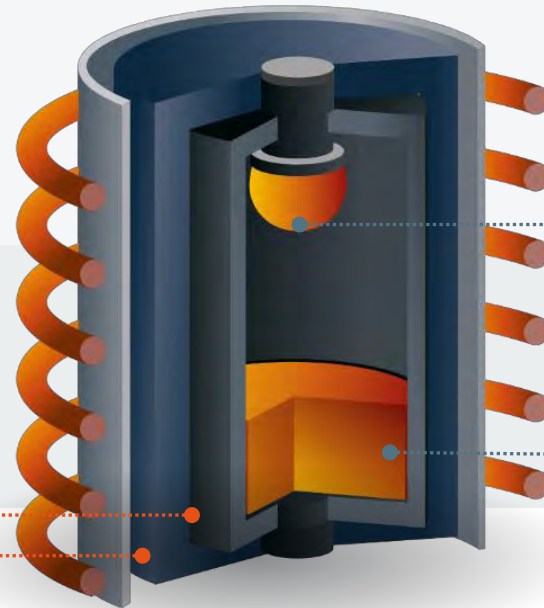
2,400°C +/- 1°C



MERSEN  
EXPERTISE



CUSTOMERS



SiC powder

Monocrystalline  
SiC ingot



Wafer  
epitaxy

SiC wafer



Ion  
implantation

Power  
semiconductors



**TOSHIBA**

onsemi

SICC

Wolfspeed

SiCrystal  
A ROHM Group Company



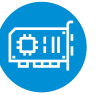
2021 SALES

**€36m**

2025 EST. SALES

**€80m**

# SOITEC PARTNERSHIP: DEVELOPING A NEW RANGE OF SUBSTRATES FOR THE EV MARKET



SiC ingot



Monocrystalline SiC wafer



P-SiC wafer

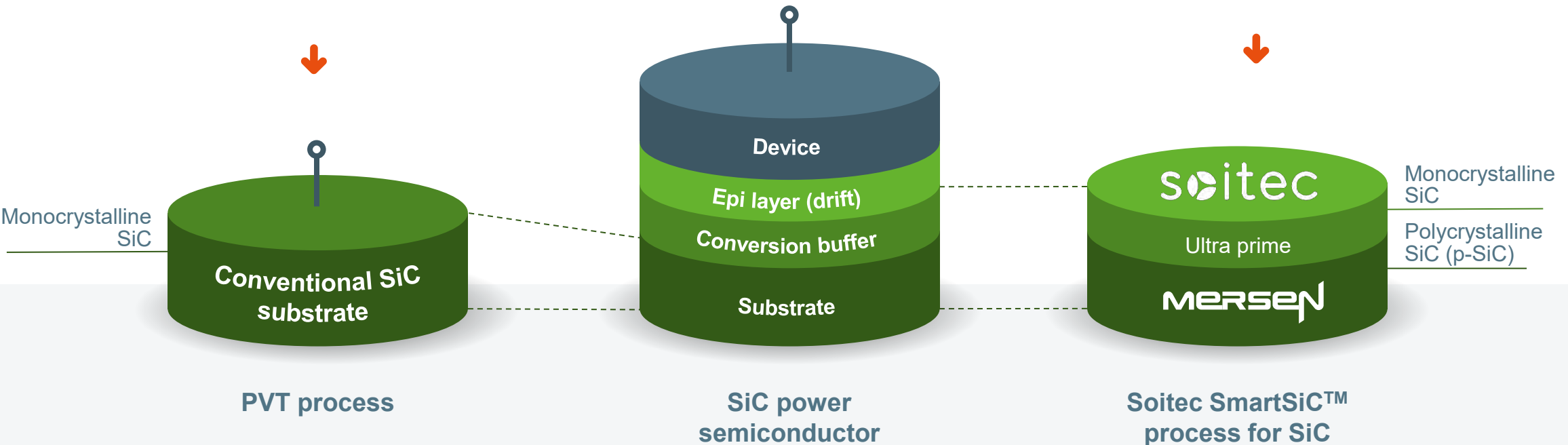


2021 SALES

€0m

2025 EST. SALES

€30m



# MERSEN'S OFFERING FOR EV/HEV APPLICATIONS



MERSEN  
EXPERTISE

Inverter



Electrical circuit  
protection  
*Courtesy: Würth Electronic*



Battery

*Courtesy: Exagon*

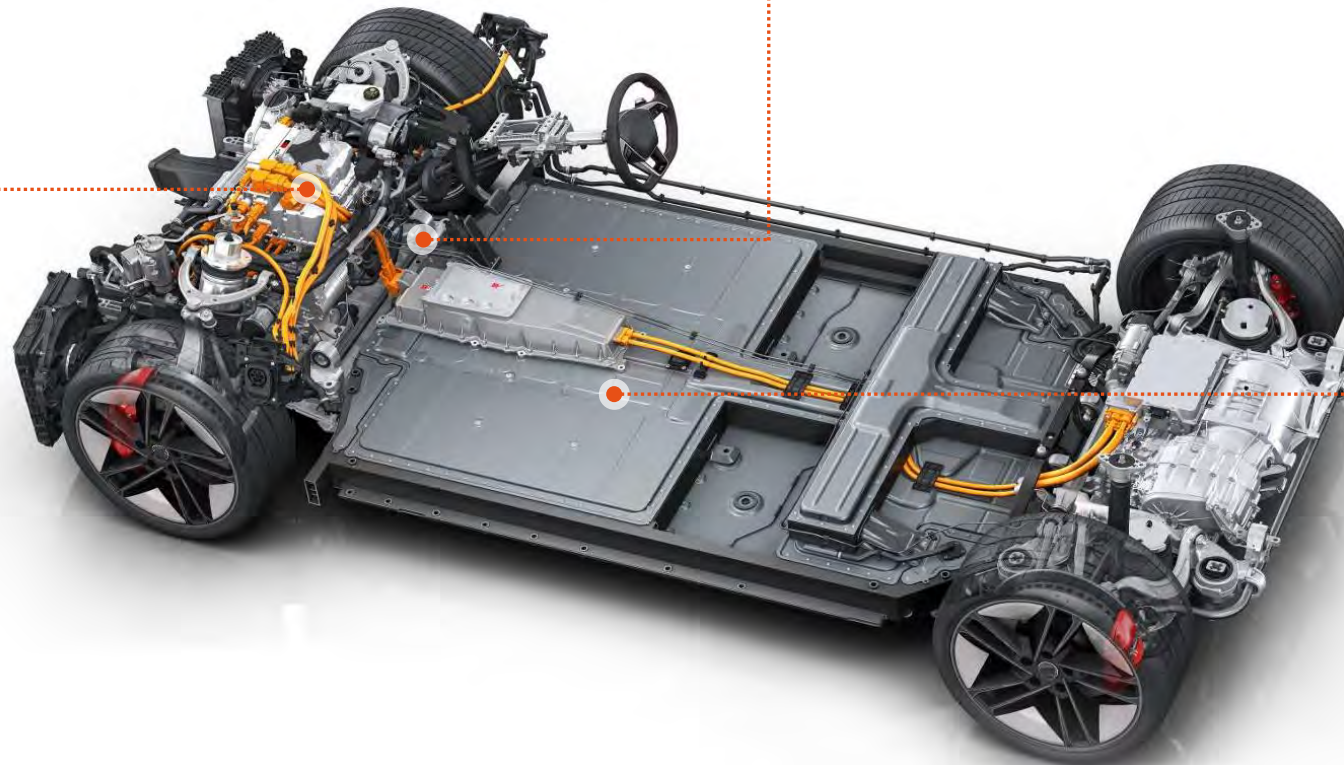


2021 SALES

€16m

2025 EST. SALES

€40-70m



# THE MEANS TO GROW



## A powerful industrial tool

3 sites IATF-qualified or in progress - **fuses** (Shanghai, Juarez, Kaposvar)

1 site IATF-qualified - **bus bars** (Angers)



## A strengthened team

50 people (in the 3 regions) at end-2021

80 people by end-2022



## A dedicated product range

Fuses  
Bus bars

€10-€1,000 per vehicle



## Partnerships with industry manufacturers

Autoliv



## Industry Leading References

Rivian  
Lucid  
BAE  
Marquardt  
Panasonic  
Arrival  
Lordstown





# A DIVERSIFIED ACCESSIBLE MARKET FOR MERSEN



Car  
manufacturers

Tier-1  
suppliers

Battery module  
manufacturers

New entrants



STELLANTIS



APTIV

Webasto

preh

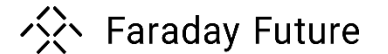


CATL

SAMSUNG SAMSUNG SDI

Litens

LUCID



ARRIVAL



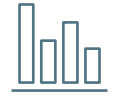



PROTERRA

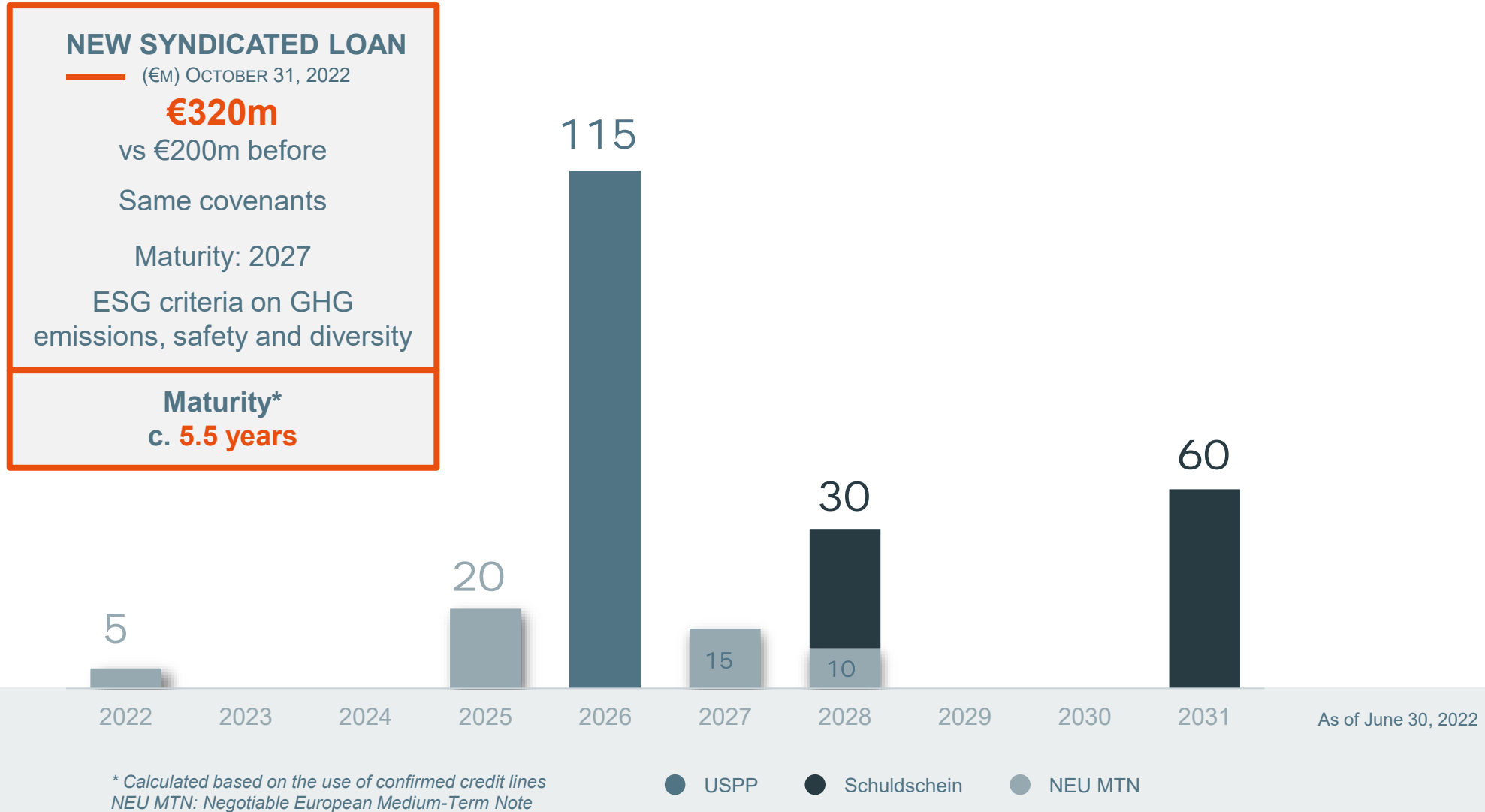


# Outlook

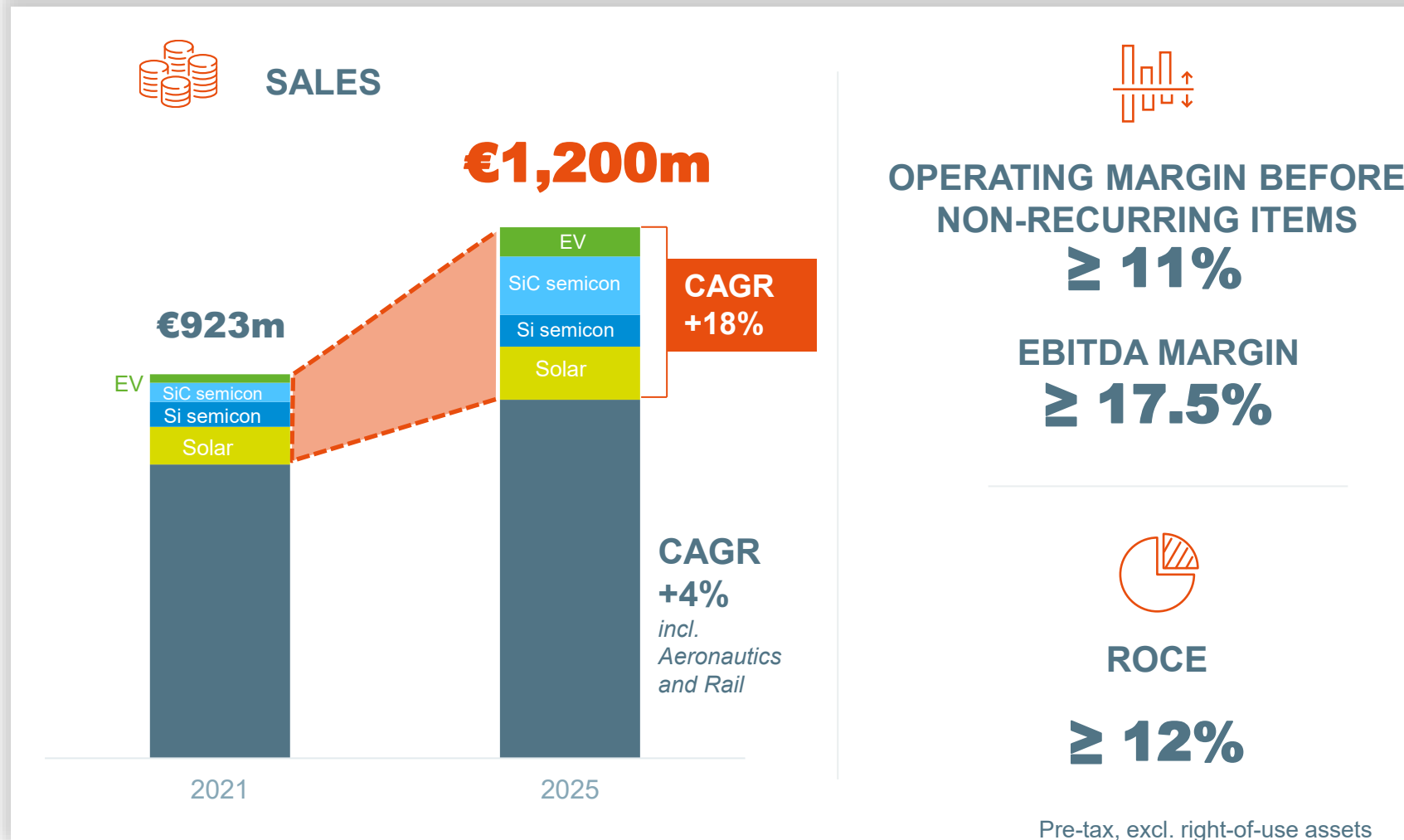
# 2022 TARGETS RAISED FOR THE 2<sup>ND</sup> TIME, BASED ON EXCELLENT PERFORMANCE FOR THE FIRST 9-MONTHS

	 <b>SALES</b>	 <b>OPERATING MARGIN BEFORE NON-RECURRING ITEMS</b>	 <b>CAPITAL EXPENDITURE</b>	 <b>EBITDA MARGIN</b>
<b>MARCH</b>	Organic growth of between <b>3% and 6%</b>	Around <b>10%</b>	Around <b>€80m-€85m</b>	Growth of <b>20-30 bps</b>
<b>JULY</b>	Organic growth of between <b>8% and 10%</b>	Around <b>10.5%</b>	Around <b>€85m-€90m</b>	Growth of around <b>50 bps</b>
<b>OCTOBER</b>	Organic growth around <b>13%</b>	Around <b>10.8%</b>	Around <b>€90m</b>	Growth of around <b>50 bps</b>

# INCREASED LEVEL OF FINANCING AND IMPROVED FINANCING MATURITY WITH THE NEW SYNDICATED LOAN



# AMBITIOUS MEDIUM-TERM PLAN ANNOUNCED IN MARCH 2022



*To be revisited  
in Q1 2023*

# COMMITTED TO SUSTAINABILITY: 2022-2025 ROAD-MAP

## RESPONSIBLE PARTNER

Mersen meets the expectation of suppliers, users, partners and other stakeholders across the value chain, driven by a commitment to progress for all and guided by strict ethical principles.



### ENSURING RESPONSIBLE PURCHASING

- Supplier CSR self-assessment
- 100%** of suppliers in 2022
- Supplier map
- Supplier CSR progress measured through audits and action plans



## LIMITING OUR ENVIRONMENTAL IMPACT

Mersen has a responsibility to limit the environmental impact of its operations, particularly by reducing CO<sub>2</sub> emissions.



### LIMITING GREENHOUSE GAS EMISSIONS

- Reduce GHG emission intensity by **20%** (vs. 2018)



### RECYCLING WASTE

- Increase the share of waste recycled to **75%**



### LIMITING WATER CONSUMPTION

- Reduce water consumption by **10%** (vs. 2018)



## HUMAN CAPITAL

Around the world, Mersen strives to help employees, communities and talent grow while paying the utmost respect to human rights, health and safety, and diversity.



### PROMOTING EQUAL OPPORTUNITY AND DIVERSITY

- Encourage gender diversity in the workplace:
  - % women in senior management positions: **25%**
  - % women engineers and managers: **> 25%** in 2022
- Improve inclusion of people with disabilities: increase their number **x2**



### PROMOTING A SOCIAL RESPONSIBILITY POLICY FOR ALL

- Provide social protection with a universal indemnity in the event of death in service
- Standardize profit-sharing schemes
- Adopt a minimum amount of paid leave in all countries

Employee beneficiaries **100%**



### PROMOTING WELL-BEING, HEALTH AND SAFETY AT WORK

- Keep LTIR  $\leq 1,8$  and SIR  $\leq 60$
- Continue prevention efforts: increase the number of management safety visits by **20%**

## ETHICS AND COMPLIANCE CULTURE

Mersen owes its development to a great extent to the trust and confidence that the Group inspires in its stakeholders.



- Compulsory ethics training for new hires  
Compulsory refresher training every 2 years (individual or theme-based training by site)
- Compulsory cybersecurity training for employees with a personal computer

# KEY TAKEAWAYS

- Strong growth drivers for the **semiconductors** industry despite temporary slowdown
- **EV** very active in terms of nomination - production will start beginning of 2024
- **Solar** sales very high
- Still high level of **orders**
- **Price increase** passed on to customer so far
- **Energy costs** in Europe to be managed in 2023 (even if the impact should be moderate for the Group because the most energy-intensive sites are not in Europe)
- Acceleration of **strategic investment in Columbia** (USA): building additional capacities in iso graphite to meet market demand
- **Increase liquidity** to finance growing business
- Committed to **sustainability** for long-term business and stakeholder value

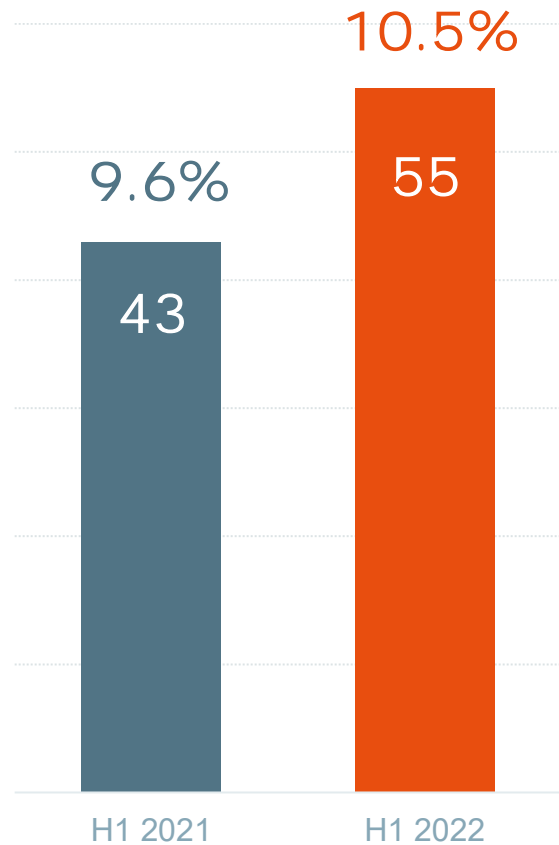


# First-Half 2022 Results

## Summary



# SHARP IMPROVEMENT IN OPERATING MARGIN BEFORE NON-RECURRING ITEMS THANKS TO VOLUMES AND PRICING



Operating income before non-recurring items (€m)  
Operating margin before non-recurring items (% of sales)

**H1 2021 operating margin before non-recurring items**

9.6%

In percentage points

Volume/mix effect

+2.9

Price effect

+2.9

Raw material/energy inflation

-2.3

Productivity gains

+1.1

Inflation (mainly wages)

-1.8

Columbia start-up, EV team

-1.2

Depreciation and amortization

-0.5

Other (including currency effect)

-0.2

-0.1

**H1 2022 operating margin before non-recurring items**

10.5%

# OPERATING CASH FLOW IMPACTED BY HIGH WORKING CAPITAL REQUIREMENT

*In €m*

H1 2021

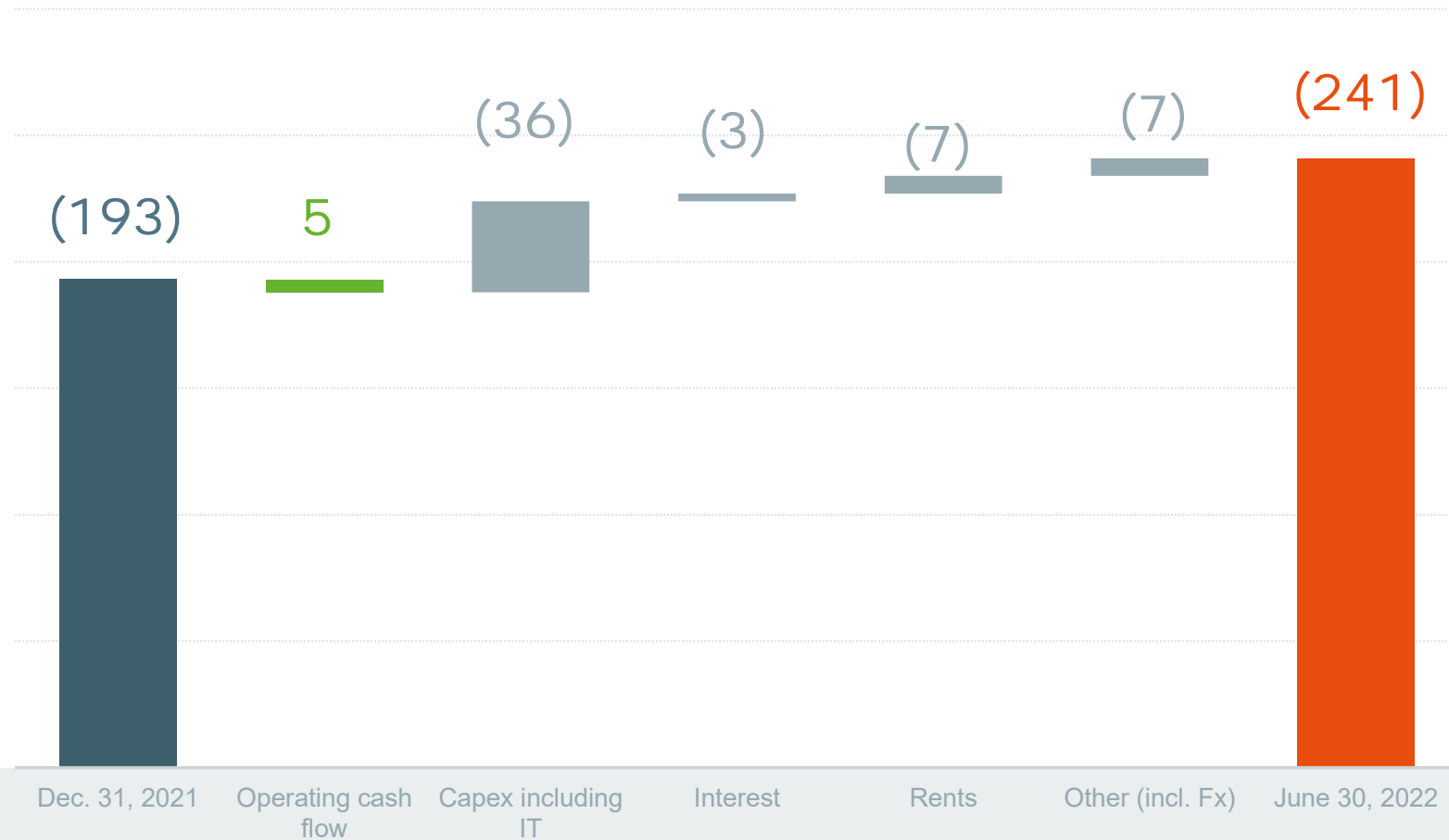
H1 2022

<b>Operating cash flow before change in WCR</b>	<b>64.0</b>	<b>82.0</b>
Change in WCR	(7.3)	(70.6)
<i>o/w change in inventories</i>	(8.6)	(55.2)
Income tax paid	(10.5)	(6.1)
<b>Operating cash flow</b>	<b>46.2</b>	<b>5.3</b>

- Very favorable cash seasonality in 2021. Payment in 2022 of very high 2021 bonuses
- Increase in inventories due to demand and industrial projects, e.g., Columbia, site relocation in South Korea, and increase in safety stocks

# SOLID FINANCIAL STRUCTURE

## NET DEBT (€m)



Net debt/  
EBITDA

1.53

Net debt/  
equity

34%

*Using the bank covenant method*

Not including

Lease liabilities:

**€54m** (vs. €53m at Dec. 31, 2021)

Provisions for pension obligations:  
**€35m** (vs. €49m at Dec. 31, 2021)