

## **SGL Carbon at a glance**



Thomas Dippold I Munich I September 2023

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- 2. Transformation years 2021 and 2022
- 3. Details on H1 2023 results
- 4. Current challenges and opportunities
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**1** Our business model at a glance

# "Expert for products and solutions based on carbon and graphite"



### Key figures 2022

SALES

## €1,135.9m

FY 2021: €1,007.0m

EBITDA pre BEFORE NON-RECURRING ITEMS

€172.8m

FY 2021: €140.0m

Net financial debt

€170.8m

FY 2021: €206.3m

EMPLOYEES **4,760** 

SITES

**29 Sites** in Europe, North America, Asia

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## SGL business units – innovative, unique and leading in focus markets

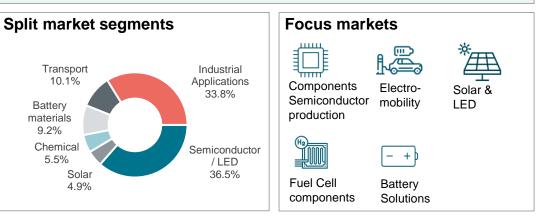
C > sgl carbon					
Graphite Solutions	Process Technology	Carbon Fibers	Composite Solutions		
	CEBO	MITT T			
<ul> <li>Tailor-made products based on synthetic graphite</li> <li>Strategic supplier for premium Semiconductor ("Power electronics") as well as LED and Solar applications</li> </ul>	Equipment and know-how specialist for chemical industry to handle corrosive material	<ul> <li>Acrylic fibers, carbon fibers, textiles, prepregs, preforms</li> <li>Transformation from automotive supplier to wind energy and higher margin applications</li> </ul>	<ul> <li>Tailor-made products based on carbon- and glass fibers</li> <li>Specialist in automotive composite components e.g. <ul> <li>Battery cases for electric cars</li> <li>Leaf springs</li> </ul> </li> </ul>		
Sales (FY 2022 mEUR)					
512.2	106.3	347.2	153.1		
	EBITDApre (	FY 2022 mEUR)			
118.5	9.9	43.2	20.0		
			Sgl carbo		

## Graphite Solutions: Strong growth potential in fast growing markets



#### **Strategy and Outlook**

- Well established technology leader in fast growing markets, esp. SiC-based semiconductor
- · Strong local/regional supply of critical components and technology
- Intense investment program to enlarge production capacity to fulfill market demand
- 2023e: Slight sales increase, but significant EBITDApre growth expected



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#### Slight change means $\leq 10\%$ I significant change means > 10%

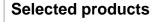
margin

# Process Technology: Engineering competence enabling business performance



## Carbon Fibers: Strong competence in carbon fiber and intermediates manufacturing as well as carbon fiber innovations

Strategy and Outlooks



Carbon fibers





Oxidized PAN fibers Textile fibers



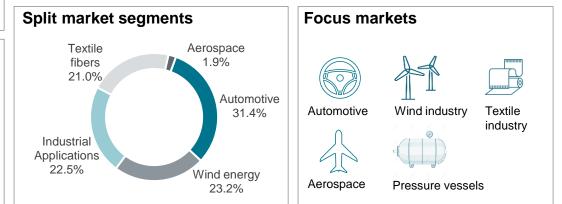
Pre-impregnated material



pressure vessels Ongoing demand from automotive and aerospace industry as well as textile applications

 2023e: Significant decrease in sales and EBITDApre expected due to full year effect of termination of i3 contract as well as drop in wind industry

Focus on growing markets like wind industry and attractive niche markets like



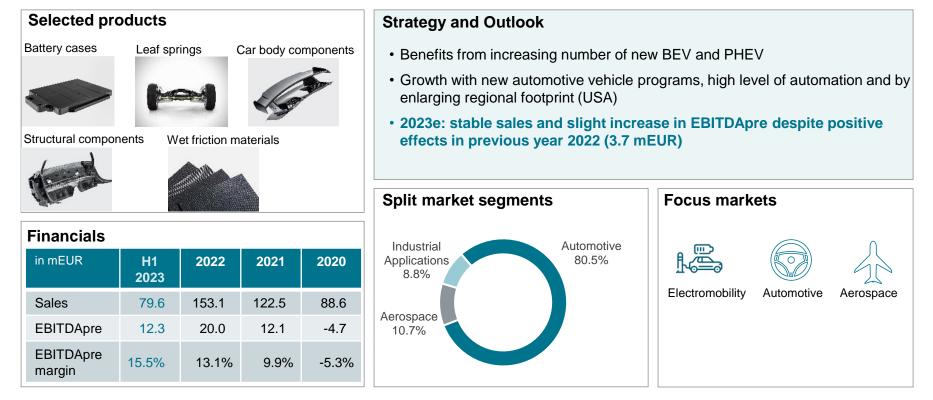
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#### Einanciale

Fillaliciais				
in mEUR	H1 2023	2022	2021	2020
Sales	125.1	347.2	337.2	303.9
EBITDApre	6.1	43.2	54.5	41.4
EBITDApre margin	4.9%	12.4%	16.2%	13.6%

Slight change means ≤ 10% I significant change means > 10%

# Composite Solutions: excellent technology reputation in supplying high-volume solutions lead to growth perspectives



Slight change means ≤ 10% I significant change means > 10%

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2 Transformation years 2021 and 2022

# "All transformation targets successfully realized within two years"



## SGL mid-term roadmap – Step-by-step approach to create value

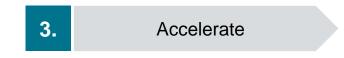
Improve

#### **Profitability**

- Options for significant performance improvement
- · Organic investments to expand capacities

2.

Selective disposals/acquisitions





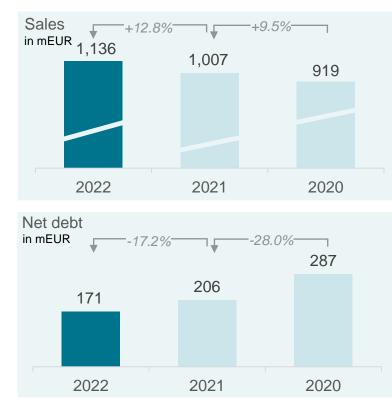


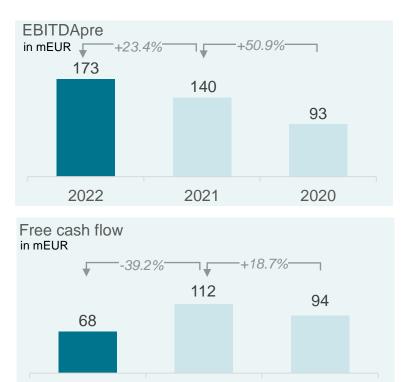
### What we have achieved





# Continued operating improvement supported by balance sheet strengthening





2021

2020

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2022

%-changes based on exact figures

**3** Details on H1 2023 results

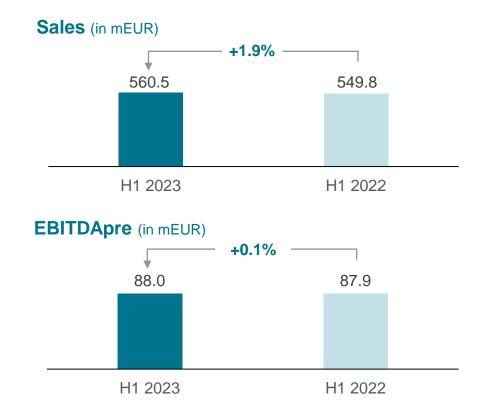
## "H1 2023 in line with expectations"



## H1 2023: Solid Group numbers

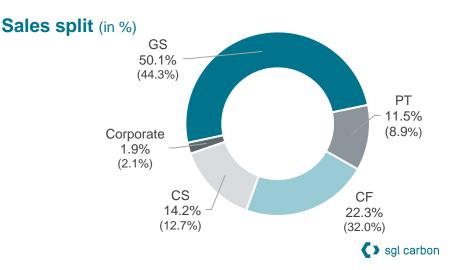
Financials		Business		Outlook	
<b>560.5</b> mEUR Group sales 1.9% up – driven by rising demand from semiconductor customers	Equity Ratio at <b>36.1%</b> (31.12.2022: 38.5%)	Increasing demand from semiconductor industry - especially SiC-customers leads significant growth in C		Strong business development in PT and CS	After six months in 2023: confirmation of sales and earnings forecast at group level
of <b>88.0</b> mEUR despite strong	financial debt <b>9.9</b> mEUR I stable erage ratio of <b>0</b>	CF burdened by temporary downturn in wind industry resulting in an impairment of 44.7 mEUR	cap incr pro	e third higher bex in 2023 to rease duction bacities in GS	Guidance 2023: Sales: previous year level EBITDApre: between 160 – 180 mEUR

## Stable sales and EBITDApre confirm 2023 as stabilization year



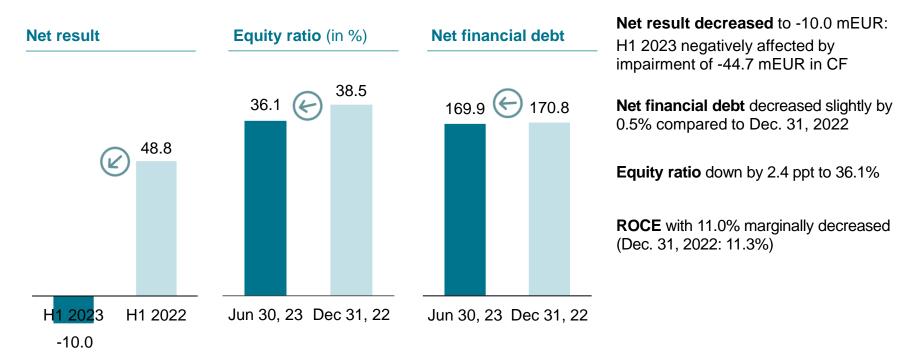
#### Key developments

- Sales development: GS (+37.2 mEUR), PT (+15.2 mEUR) CS (+10.0 mEUR) and CF (-50.9 mEUR)
- Improvement in profitability due to product mix changes in GS as well as positive developments in PT and CS
- Solid financial Group figures in H1 2023



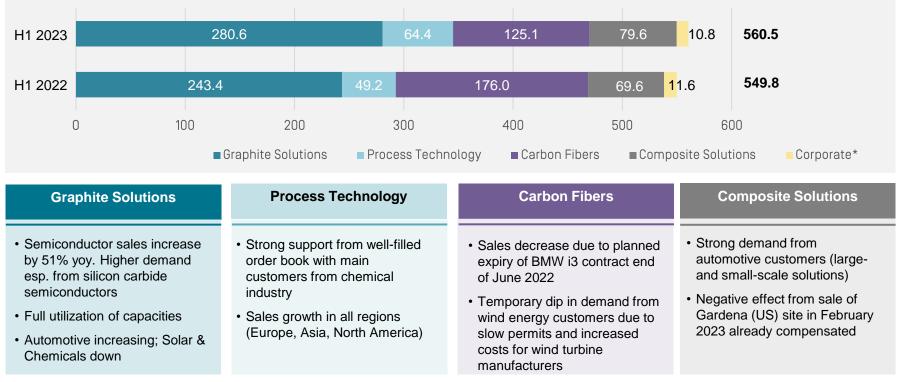
## **CF Impairment burdens net result**

Key figures (in mEUR)

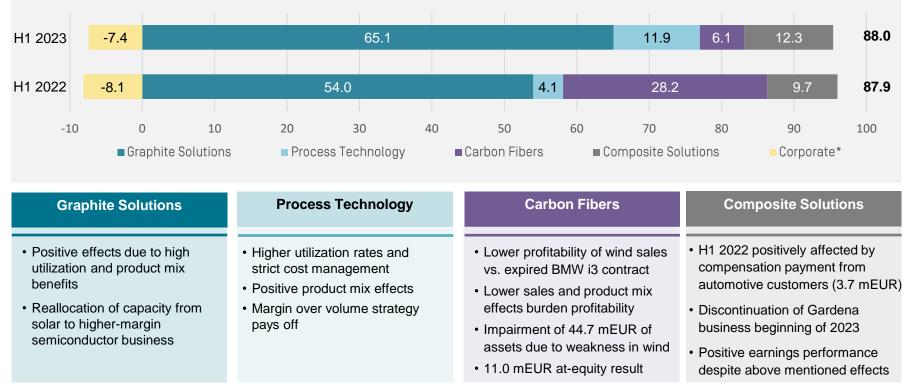


**Key developments** 

## Sales development per Business Unit (in mEUR)



## **EBITDApre development per Business Unit (in mEUR)**



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4 Current challenges and opportunities

"Drop in wind market burdens CF, but strong rise in demand from SiC customers boosts GS business"



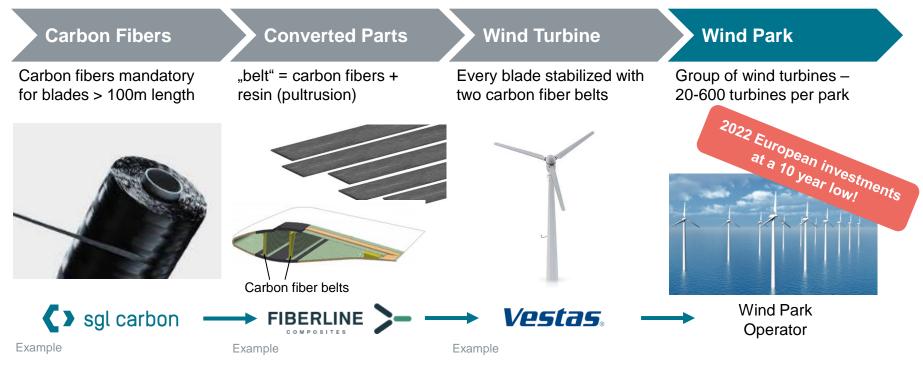
## **Challenge: SGL Carbon to transform its Carbon Fiber business**

#### **Transformation steps**

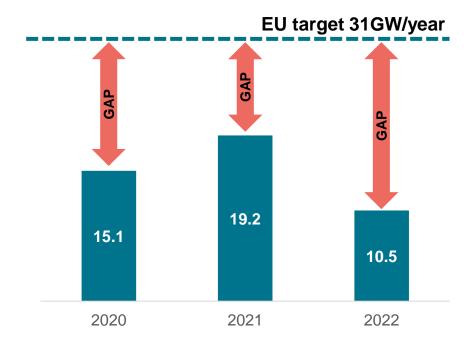
Until 2022 (BMW i3) 2023 (Wind Crisis)		After 2024		
<ul> <li>SGL carbon fiber focused on BMW i (take-or-pay, high margin)</li> </ul>	<ul> <li>Wind energy in 10 years low in 2023</li> </ul>	SGL expects recovery of wind market in 2024		
<ul> <li>BMW i3 discontinued in 07/2022</li> <li>Capacity re-allocated to wind energy</li> </ul>	<ul> <li>High carbon fibers inventories</li> <li>SGL partially idled capacity since June 2023</li> </ul>	SGL to diversify fiber portfolio for better resilience		

## Wind park installations drive carbon fibers demand in value chain

#### Value chain wind industry (illustrative)



## **2022: Temporary effect – recovery needed to meet EU 2030 targets**



#### **New EU Wind Capacity Financed** [in GW]

#### **Reasons for delayed wind investments**

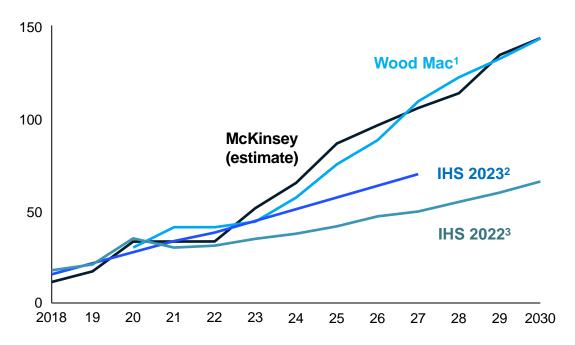
- Production costs for turbines increased by 40%
- Long permitting processes
- Uncoordinated governmental intervention in energy markets
- Rising interest rates

#### Trends in wind industry

- Mid-term double-digit growth
- Ostende Conference: offshore wind energy target of 120 GW by 2030 and 300 GW by 2050



## The wind market's paradox - Carbon Fiber market forecasted to grow, but market participants currently with low profitability Wind carbon fiber market



#### **Drivers wind recovery**

- Growth in wind energy turbines
  - offshore +18% CAGR
  - onshore +2.4% CAGR
- Larger blades (>90m) need carbon fiber
- Average carbon fiber demand growth in wind CAGR > 10%

<sup>&</sup>lt;sup>1</sup> Wood Mackenzie - Global Wind Turbine Supply Chain Trends, 2021, <sup>2</sup>. IHS - Green Power Materials, 2023, <sup>3</sup>. IHS - Carbon Fibers Chemical Economics Handbook, 2022



## New higher margin Carbon Fiber application – stepwise migration

#### New carbon fiber markets



H<sub>2</sub> Pressure Vessels

- Mid-term
- Volume: medium
- Launched Q2/2023, already customers, others sampled

Construction

- Mid-term
- Volume: small
- Concrete refurbishment already existing business





Aerospace

- Long-term
- Volume: medium
- Special CF IM fiber, approval & redesign ongoing at Airbus/Boeing

#### **Concrete Rebars**

- Long-term
- Volume: medium
- Carbon fibers with thermoplastics, local approvals needed

# **Opportunity: SiC power semi serve the future trends of digitalization and climate protection**

#### SiC Semiconductors<sup>1</sup> [in bnUSD]

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#### Growth segment for SiC power

- Electric vehicles clearly remain the #1 application
- Industrial applications as 2nd strongest driver
- Distributed energy (e.g. PV, storage)

#### **Reduction of CO<sub>2</sub> emissions**

- Electrification of transport leads to an increasing electricity demand
- SiC semis play a key role in production, storage and transport of electricity
- Efficiency of SiC semis enable huge CO<sub>2</sub> savings



## What is SGL Carbons role in the Silicon Carbide value chain?

#### Example automotive industry



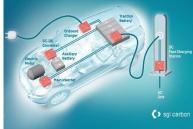




Sql carbon

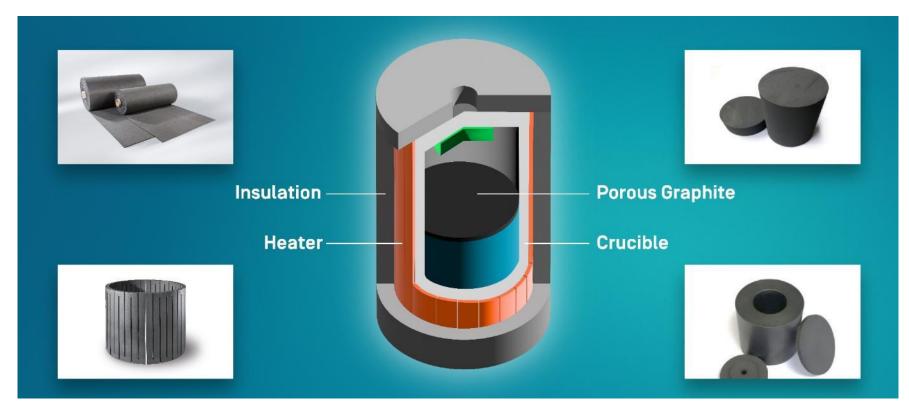


Inverter





# Wafer manufacturers need SGL graphite components for SiC crystal growth



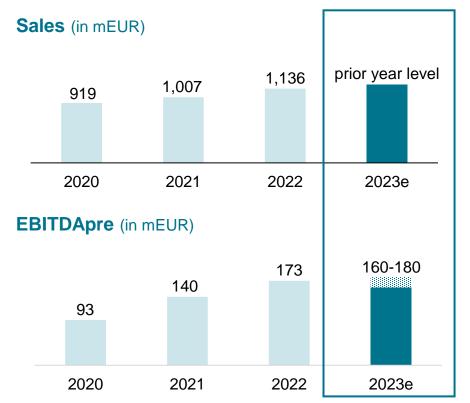


### 5 **Outlook 2023**

"Stabilization of achieved level and investments in capacity expansion to meet rising demand from SiC semiconductor industry"



## Stabilization at prior year level



#### Key drivers and effects Sales

- Focus on established business in growth markets such as semiconductors, electromobility and renewable energies
- Selective expansions in our core segments
- Slight negative sales impact due to Gardena business sale (~30 mEUR) as well as BMW i3 full year effect

#### EBITDApre

- Margin over volume strategy
- 2023 to be the first year with full impact of expiry of attractive BMW i3 contract in mid of 2022
- Factor costs on high level

**6** Mid-term expectations

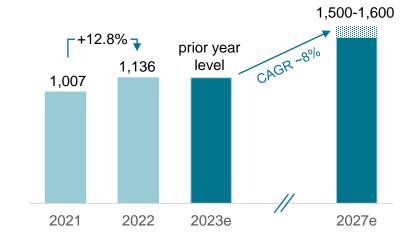
## "Mid-term planning updated"



# Mid-term: Faster organic growth of EBITDApre compared to sales from 2023 onwards

#### Group sales 2021 – 2027

#### in mEUR



#### EBITDApre and -margin 2021-2027

in mEUR



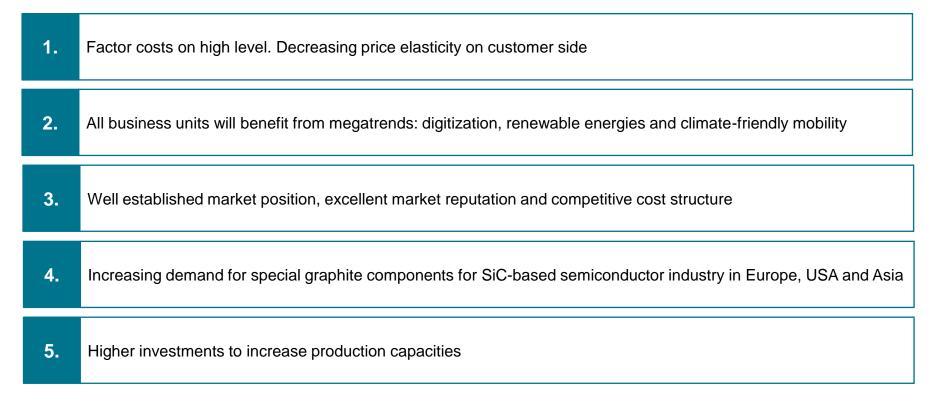
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## 7 Summary

## "Excellent growth perspectives, stable cost basis and solid financial structure"



## SGL Carbon on profitable growth path





## 8a Backup



## H1 2023 as expected

#### Group income statement (in mEUR)

	H1/2023	H1/2022
Sales	560.5	549.8
EBITDApre	88.0	87.9
EBITpre	58.9	59.0
Exceptionals	-46.9	10.6
EBIT	12.0	69.6
Financial result	-15.8	-16.6
Results before income taxes	-3.8	53.0
Income tax expense	-5.9	-5.2
Non controlling interests & discontin. operations	-0.3	1.0
Net result attributable to shareholders	-10.0	48.8

#### **Key developments**

- Sales +1.9%
  - Sales plus driven by high demand from semiconductor and solid automotive call-offs despite weak demand from wind
- EBITDApre +0.1%
  - Higher sales, higher utilization in GS, PT and CS
  - Product mix effects
  - Weak conditions in CF/Wind
- Significant higher exceptionals, mainly due to impairment of 44.7 mEUR in CF

## **Stabilization at solid levels**

### Key figures and ratios (in mEUR)

	30.06.2023	31.12.2022
Equity ratio (in %)	36.1	38.5
Total liquidity	310.5	227.3
Net financial debt	169.9	170.8
Leverage ratio (net fin. debt/EBITDApre)	1.0	1.0
ROCE <sub>EBITpre</sub> (in %)	11.0	11.3

### **Key developments**

- Balance sheet solid
- Net financial debt decreased slightly
- Equity ratio decreased by 2.4 ppt
- ROCE decreased slightly

Cash flow (in mEUR)	H1 2023	H1 2022
Cash flow from operating activities	44.8	25.5
Capex	-40.4	-18.3
Cash flow from other investing activities	15.7	0.3
Free cash flow (continuing operations)	20.1	7.5

- Capex as expected significantly above prior year level
- FCF higher due to higher cash flow from operating activities and other investing activities

# Outlook 2023 on Business Unit level: weak CF compensated by better performance in PT and CS. GS continuation of strong performance.

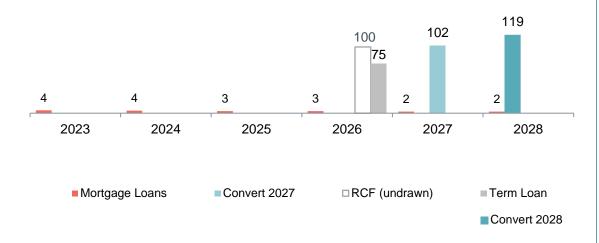
	Graphite Solutions	Process Technology	Carbon Fibers	Composite Solutions
Sales	slight increase	significant increase	significant decrease	stable
EBITDApre	significant increase	significant increase	significant decrease	slight improvement
Growth & profita- bility drivers	<ul> <li>Special graphite components for SiC-based semiconductors</li> <li>Renewable energy and LED</li> <li>Local supply of critical components and technology</li> </ul>	<ul> <li>Benefitting from well-filled order book</li> <li>Expanding its technological leadership role and optimizing its cost position</li> </ul>	<ul> <li>Full year effect automotive contract termination</li> <li>Drop in demand from wind industry</li> <li>Focus on development of attractive niches e.g. pressure vessels</li> </ul>	<ul> <li>Growth with new automotive programs, high level of automation and enlarging regional footprint (USA)</li> </ul>

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# The new convertible together with financing headroom and cash on hand enable the redemption of the corporate bond

# Maturity Profile as of July 31, 2023 in mEUR



# Two ESG KPIs included in new Credit Facilities



### ENVIRONMENTAL

Reduction of  $CO_2$  emissions intensity (in kt  $CO_2$ e, Scope 1 and 2, per 1 mEUR sales)



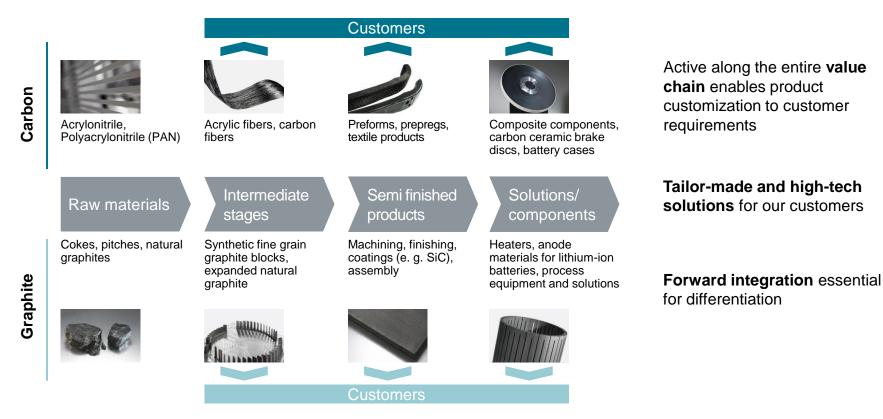
### SOCIAL

Reduction of Lost Time Injury (LTI) frequency rate per 1 million working hours

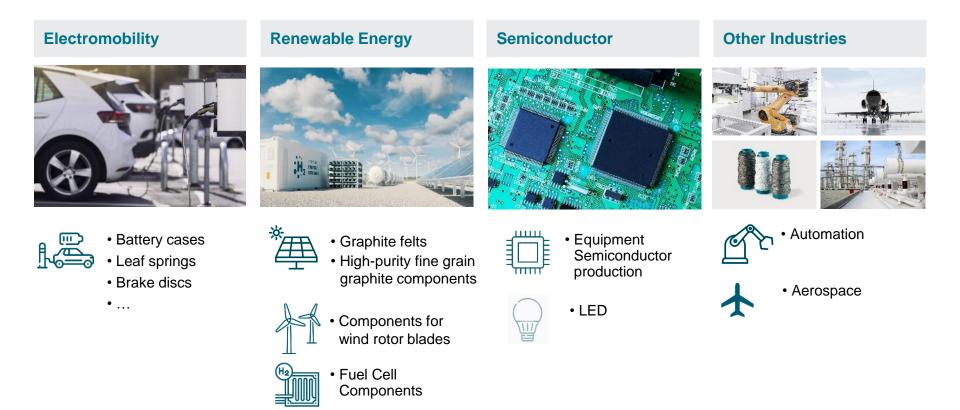
# 8b Attractive products from our Business Units support future markets



# Active on entire value chain in carbon and graphite Advantages in cost, quality and differentiation



# SGL products in fast growing markets



# SGL Carbon – innovative products used in future markets

### Graphite Anode Materials for Lithium-Ion-Batteries





#### **USP GAM**

- Synthetic graphite being superior compared to natural graphite
- High cycle stability and good fast charging performance
- Scalable production processes to market demand

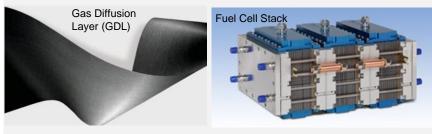
#### Market dynamics/size

- Benefiting from strong growth in e-mobility and stationary power storage;
- CAGR (2020-25): 30%; Market size (2025): €5.8 billion

#### Participation of SGL Carbon

- Tailor-made products based on SGL synthetic graphite
- Superior position of SGL in fast growing market Europe
- SGL offers services via its Battery Application Lab

### Non-replaceable component in Fuel Cells



#### **USP Gas Diffusion Layers**

- Enhancing efficiency of a fuel cell by:
  - homogenizing gas distribution and reducing electrical resistance
- Additional potential due to usage in electrolysis cells for the manufacturing of hydrogen

#### Market dynamics/size

- Benefiting from strong growth in e-mobility
- CAGR of 40%; Market size 2025: €500 million
- SGL Carbon amongst TOP 2 suppliers

#### Participation of SGL Carbon:

- Long term contracts with leading OEMs (e.g. Hyundai)
- Global sales footprint of more than 200 customers

# SGL Carbon – innovative, tailor made and of highest quality

### Benefiting from strong growth of e-mobility

Battery case



USP of Carbon Composites

- Stability and safety for passengers (fire, crash etc.)
- Weight reduction up to 40% compared to metals
- Thermal insulation
- produced in a highly automated process

#### Market dynamics

- CAGR of around 40% (electric vehicle market 2020-2028)
- CAGR of 70% (long fiber composite battery case components 2018-2025)

#### Participation of SGL Carbon

- Usage of full value chain; from precursor to component
- One-stop shop from engineering to production
- Industry leader for high volume composite components

# Large-scale automotive application for thermoplastic profiles

Thermoplastic profiles and component (Skirt of a wind runner)



#### USP SGL Carbon

 Coverage of the complete value chain (precursor -> carbon fiber)
 Excellent mechanical properties, tailor-made carbon fibers and highly customizable products

#### Great potential for large-scale production

- Highly automated processes
- High material efficiency in manufacturing & processing
- Recyclability due to thermoplastic matrix
- Advanced manufacturing design
  - Skeleton structure carbon fiber is used only where necessary
  - Very low costs for lightweight construction, in some cases comparable to aluminum or steel

# 8c Backup - Others



# **CEO - Dr. Torsten Derr and CFO – Thomas Dippold**



"SGL Carbon and I are a good fit, I know how to manage technology focused businesses with an appropriate cost structure and a clear focus on market requirements"

- Born and raised in Bremen, northern Germany
- Studied and completed PhD in Chemistry in Bremen
- Professional career
  - 10 years Bayer AG in various roles
  - 10 years Lanxess AG (Business Unit Head)
  - 4 years Saltigo GmbH, subsidiary of Lanxess AG (CEO)
- Overall, 23 years experience in technology focused industries, of which 15 years with P&L responsibility. Expert in successful restructuring processes.



- "I am fascinated by the SGL's materials portfolio and competence and aim to support SGL's turnaround and sustainable path to profitability"
- Born and raised in Bamberg, southern Germany
- Studied Business Administration in Bamberg and Mainz (Germany) as well as Austin, Texas
- Started professional career at HSBC
- Various Finance roles at Schott AG (Germany and Asia)
- CFO at Semikron International in Nürnberg (Germany)
- CFO at Faber-Castell AG, Stein (Germany)
- CFO of stock exchange-listed Schaltbau Holding AG
- Overall, 23 years experience in various finance roles, with particular focus on successful operational and financial transformation situations

### **Global presence SGL Carbon worldwide sites**





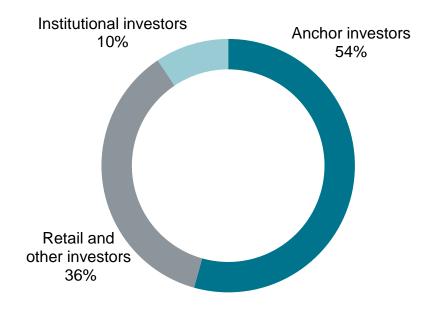
## Shareholder structure dominated by anchor shareholders

### **Anchor investors**

Structure:

- SKion GmbH: 28.5% (Investment company of Mrs. Klatten)
- BMW AG: 18.4%
- Volkswagen AG: 7.4%

### Shareholder structure





## **Financial calendar and IR contact details**

### **Financial calendar**

#### November 2, 2023

- Quarterly statement as of September 30, 2023
- Conference call for analysts and investors

### Contact

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www.sglcarbon.com



#### **Important Note**

This presentation contains statements relating to certain projections and business trends that are forward-looking, including statements with respect to SGL Carbon's outlook and business development, including developments in SGL Carbon's Graphite Solutions (GS), Process Technology (PT), Carbon Fibers (CF) and Composite Solutions (CS) businesses, expected customer demand, expected industry trends and expected trends in the business environment, statements related to SGL Carbon's cost savings programs. You can generally identify these statements by the use of words like "may", "will", "could", "should", "project", "believe", "anticipate", "expect", "plan", "estimate", "forecast", "potential", "intend", "continue" and variations of these words or comparable words. These statements are not historical facts, but rather are based on current expectations, estimates, assumptions and projections about SGL Carbon's businesses and future financial results, and readers should not place undue reliance on them. Forward-looking statements do not guarantee future performance and involve risks and uncertainties. These risks and uncertainties include, without limitation, changes in political, economic, legal and business conditions, particularly relating to SGL Carbon's main customer industries, competitive products and pricing, the ability to achieve sustained growth and profitability in SGL Carbon's Graphite Solutions (GS), Process Technology (PT), Carbon Fibers (CF) and Composite Solutions (CS) businesses, the impact of any manufacturing efficiencies and capacity constraints, widespread adoption of carbon fiber products and components in key end-markets of SGL Carbon, including the automotive and aerospace industries, the inability to execute additional cost savings or restructuring measures, availability of raw materials and critical manufacturing equipment, trade environment, changes in interest rates, exchange rates, tax rates, and regulation, available cash and liquidity, SGL Carbon's ability to refinance its indebtedness, development of the SGL Carbon pension obligations, share price fluctuation may have on SGL Carbon's financial condition and results of operations and other risks identified in SGL Carbon's financial reports. These forward-looking statements are made only as of the date of this document. SGL Carbon does not undertake to update or revise the forward-looking statements, whether as a result of new information, future events or otherwise.