Commerzbank
German Investment Seminar
13-15 January 2014
New York
Introduction to SGL Group’s Businesses
# SGL Group

## Business structure

<table>
<thead>
<tr>
<th>Base Materials</th>
<th>Advanced Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance Products (PP)</strong></td>
<td><strong>Graphite Materials &amp; Systems (GMS)</strong></td>
</tr>
<tr>
<td>• Graphite &amp; Carbon Electrodes (GCE)</td>
<td>• Graphite Specialties (GS)*</td>
</tr>
<tr>
<td>• Cathodes &amp; Furnace Linings (CFL)</td>
<td>• Process Technology (PT)</td>
</tr>
</tbody>
</table>

**Technology and Innovation (T&I)**

**Six Sigma (SGL Excellence)**

* Former Business Unit New Markets integrated into Business Unit GS as of May 1, 2013
** Former Business Unit Rotor Blades sold as of December 31, 2013
### Base Materials

**Performance Products (PP)**

#### Business units
- Graphite & Carbon Electrodes
- Cathodes & Furnace Linings

#### 2012 Group sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales €m</th>
<th>GMS</th>
<th>CFC</th>
<th>PP 55%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>563</td>
<td>29%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>644</td>
<td>24%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>713</td>
<td>29%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>836</td>
<td>29%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>966</td>
<td>17%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>642</td>
<td>19%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>763</td>
<td>15%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>846</td>
<td>19%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>941</td>
<td>19%</td>
<td>19%</td>
<td></td>
</tr>
</tbody>
</table>

#### Key industries served
- Steel
- Aluminum
- Ferrous and non-ferrous metals

#### Characteristics
- Supplying the metal industries
- Leading competitive position
- Ongoing growth in BRIC
- High ROS & ROCE
- Strong cash flow
- Stable growth

#### PP sales & EBIT margins

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales €m</th>
<th>EBIT margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>64%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>71%</td>
<td></td>
</tr>
</tbody>
</table>
Base Materials
Performance Products (PP)

Sales – 2012

- Cathodes & Furnace Linings: 16%
- Graphite & Carbon Electrodes: 84%

Highlights 2012

- Continued improvement in graphite electrode volumes
- Construction of full integrated Malaysian graphite electrodes plant completed, cathode plant on track

Medium-term targets

- Volume growth: 2 – 3% p.a.
- ROS (based on EBIT): 15 – 20%
- ROS (based on EBITDA): 19 – 24%

Strategic priorities

- Adjust infrastructure to reduced electrodes demand
- Major initiative to increase customer value through product quality and consistency
- Regular shipment of graphite electrodes from Malaysian plant
Performance Products
Graphite electrodes (GE) for steel production in EAFs

- Growth in steel production fuelled by infrastructure demand from emerging countries
- Scrap availability limits EAF growth in emerging countries
- Due to continued efficiency gains GE demand growth only 1 – 2% p.a.
- GE critical to EAF furnace efficiency but only ~3% of steel-making conversion cost

Source: WSD, IISI, own estimate

An EAF (electric arc furnace) is a furnace that heats charged scrap steel material (also known as mini mills)
BOF (blast oxygen furnace) is the steelmaking route that uses iron ore and coking coal to produce primary steel (also known as integrated steel)
Steelmaking – An Electric Arc Furnace (EAF)

Section view through EAF

- Furnace shell
- Molten steel
- Rocker tilt
- Tilt cylinder
- Eccentric bottom tapping (EBT)
- Teaming ladle
- Connecting Pin

Graphite electrode

- 100 – 360 cm
- 35 – 80 cm

Source: steeluniversity.org
Performance Products
Graphite electrode production process

- GE critical to EAF furnace efficiency but only ~ 3% of steelmaking conversion cost

- GE is a consumable – replaced every 5 to 8h

- GE usually sold mostly in annual contracts

- Needle coke requirements sourced on basis of multiyear contracts

→ Production process takes up to 3 months
**Capacity by competitor in 2013* – UHP / HP-quality**

<table>
<thead>
<tr>
<th>Competitor</th>
<th>Capacity in tmt</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGL (DE)</td>
<td>275</td>
</tr>
<tr>
<td>Graftech (US)</td>
<td>235</td>
</tr>
<tr>
<td>Showa Denko (JP)</td>
<td>125</td>
</tr>
<tr>
<td>Tokai Carbon (JP)</td>
<td>100</td>
</tr>
<tr>
<td>Graphite India (IN)</td>
<td>100</td>
</tr>
<tr>
<td>HEG (IN)</td>
<td>75</td>
</tr>
<tr>
<td>SEC (JP)</td>
<td>50</td>
</tr>
<tr>
<td>Nippon Carbon (JP)</td>
<td>50</td>
</tr>
</tbody>
</table>

* Russia and China: Potential UHP capacity dependent on equipment, technical capability and needle coke availability

Source: SGL Group's own estimates (as of March 2013)

**Regional demand in 2012**

- Americas: 19%
- Europe, CIS: 27%
- Asia: 46%
- North / Middle East, Africa: 8%
Performance Products
Cathodes for the aluminum industry

- Aluminum demand driven by:
  - Population growth and urbanization
  - Further industrialization of BRICs
  - Weight / strength / cost advantages in higher energy cost environment

- Cathodes essential to aluminum smelters
  - Existing smelters relining
  - Investment good (5 – 7 years lifetime)
  - New smelter construction leading first to project demand and long-term to higher relining demand

- Existing smelters upgrading
  - Amorphous → graphitized cathodes
  - Only three to four major established producers of graphitized cathodes

- Cathodes essential for aluminum smelting but representing only 2% of production costs for 1 mt aluminum

Aluminum global production scenarios
2003 – 2020 / Above pre-crisis scenarios

Fundamentals for Aluminum production growth are solid. Various new Projects under construction and additional feasibility studies for capacity increase underway.

- World Primary AL Prod above 4% CAGR
- Existing smelters relining
- Investment good (5 – 7 years lifetime)
- New smelter construction leading first to project demand and long-term to higher relining demand
- Existing smelters upgrading
- Amorphous → graphitized cathodes
- Only three to four major established producers of graphitized cathodes
- Cathodes essential for aluminum smelting but representing only 2% of production costs for 1 mt aluminum

Source: IAI, Habor, SGL Group’s own estimates, Hydro; Alcoa, CRU
Performance Products
Cathodes for the aluminum industry

Aluminum smelter

Cathodes

Source: SGL Group
Performance Products
Market shares in cathodes

- Increasing cathode demand due to new projects.

- In Western World disproportional growth for graphitized cathodes due to higher efficiency and yield advantages.

**Market shares in cathodes 2013**

- CIS 6%
- SEC 15%
- Carbone Savoie 20%
- Various (Chinese and others) 41%
- SGL 18%

Source: SGL Group’s own estimates, market shares based on volume (excl. China domestic).
Various (Chinese & others): various cathode producers combined in this number, none of them exceeding 5% market share.
Advanced Materials
Graphite Materials & Systems (GMS)

Business units
- Graphite Specialties*
- Process Technology

Key industries served
- Chemical
- Energy – Solar/Battery
- Semiconductor/LED
- Metallurgy
- Tool manufacturing
- Automotive
- High-temperature processes

2012 Group sales
- CFC 16%
- PP 55%
- GMS 29%

GMS sales & EBIT margins
- 2004: 7%
- 2005: 8%
- 2006: 11%
- 2007: 13%
- 2008: 14%
- 2009: 8%
- 2010: 9%
- 2011: 18%
- 2012: 14%

Characteristics
- Sustainable growth potential in renewable energies, energy efficiency and energy storage
- Broadest product portfolio
- Global footprint
- C-parts supplier to high tech investment goods industry

* Former Business Unit New Markets integrated into Business Unit GS as of May 1, 2013
### Advanced Materials
**Graphite Materials & Systems (GMS)**

#### Sales – 2012

<table>
<thead>
<tr>
<th>Segment</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Markets</td>
<td>13%</td>
</tr>
<tr>
<td>Process Technology</td>
<td>24%</td>
</tr>
<tr>
<td>Graphite Specialties</td>
<td>63%</td>
</tr>
</tbody>
</table>

#### Highlights 2012

- GMS’s 2nd best year in history, despite polysilicon, photovoltaic and LED in cyclical downturn, partially compensated by solid performance in other markets, demonstrating the advantage of our broad portfolio.
- Long-term trend for isostatic graphite confirmed; capacity expansion on track.
- Process Technology ended 2012 with record order backlog.
- Ecophit Joint Venture with Lindner Group (for Graphite-based “Green” Air Conditioning).

#### Medium-term targets

- Sales growth: >10% p.a.
- ROS (based on EBIT): >10%
- ROS (based on EBITDA): >14%

#### Strategic priorities

- Maintain leading position in all core product technologies.
- Capture opportunities in challenging markets to disproportionately participate in market recovery.
- Further improve business position in Asia by strengthening local investments and skills.
Main properties carbon and graphite materials

- Thermal shock resistance
- Mechanical strength
- Resistance to high temperatures
- Purity
- Corrosion resistance
- Electrical and thermal conductivity
- Modifiable to suit requirements
Fine grain graphite manufacturing is complex and requires four to six months production time.

### Manufacturing process of fine grain graphite

**Coke & graphite**
- Grinding

**Binder pitch**
- Mixing

**Pitch impregnating**
- 800-1200°C
- Carbonizing

**Shaping**
- Extruding, vibration / die molding
- Isostatic pressing

**Graphitizing**
- 2500-3000°C

**Finishing**
- Machining, purifying, coating

**Tailor made product**

Source: GS Production
Examples:

- Advanced Silicon Carbide coated carriers for LED
- Carbon for anode material for lithium-ion batteries
- Expanded graphite for environmental needs and thermal management (JV between SGL Group and Lindner Group for Graphite-based “Green” Air Conditioning)
- SIGRABOND® Performance: carbon fiber reinforced graphite material for heat treatment applications
- Four new products launched in Process Technology: Ecosyn, Ecopor, Heatstorage, Fluegas Heatexchanger

GMS 2012 sales: €486 million

- 1/3 new
- 2/3 established

1/3 of sales based on new products introduced over the last 4 years
## Graphite Materials & Systems
### Major customer industries and market shares 2012

<table>
<thead>
<tr>
<th>Industry</th>
<th>% of total GMS sales 2012</th>
<th>Global market share 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>24%</td>
<td>35%</td>
</tr>
<tr>
<td>Energy: Batteries &amp; Nuclear</td>
<td>18%</td>
<td>30%</td>
</tr>
<tr>
<td>Energy: Solar (including Polysilicon)</td>
<td>16%</td>
<td>25%</td>
</tr>
<tr>
<td>Semiconductor (incl. LED)</td>
<td>7%</td>
<td>20%</td>
</tr>
<tr>
<td>Metallurgy</td>
<td>7%</td>
<td>25%</td>
</tr>
<tr>
<td>Tool manufacturing</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>Automotive</td>
<td>3%</td>
<td>15%</td>
</tr>
<tr>
<td>High-temperature processes</td>
<td>3%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Source: SGL Group’s own estimates
Graphite Materials & Systems
BU Graphite Specialties – the reliable material supplier

**Full integration to ensure consistent quality**
- Feedstock
- Machining
- Purification
- Impregnation & coating
- Global production: America, Asia/Pacific and Europe

**Most comprehensive portfolio in the industry**
- Isostatic
- Extruded
- Vibro molded
- Die molded
- Expanded
- Carbon fiber reinforced carbon
- Soft & rigid felt
- SiC coating

**Partnering with customers from >35 industries**
- Polysilicon, photovoltaic & semiconductor
- LED & sapphire
- Heat treatment
- Sealings & gaskets
- EDM
- Glass & refractories
- Mechanical engineering
Graphite Materials & Systems
Best solutions for our customers …

... in the PV / Semiconductor Industry
- Iso graphite heating element
- Iso susceptor, heating elements, heat shields/insulation (Soft- and Rigid Felt)
- Mono crystalline silicon ingot

... in the LED Industry
- MOCVD reactor
- SiC coated Iso Graphite Susceptor

... in the Chemical and Automotive Industry
- Flange sealed by a gasket
- Reinforced Graphite Sealing Sheet
- Flexible Graphite Foil
BU Process Technology
Process solution provider for chemical and related industries

Product portfolio

**Systems**
- Syntheses
- Distillation, purification, concentration, dilution
- Absorption, desorption
- Reactors & converters
- Steel pickling

**Equipment**
- Heat exchangers
- Reactors and internals
- Quenchers and vessels
- Pumps
- Piping
- Accessories

**After sales services**
- Spare parts
- Maintenance / Repairs
- Training

Core industries served

- Chemicals
- Pharma
- Metals & Mining
- Energy
- Solar
- Environmental

Core applications

- Hydrochloric acid (HCl)
- Phosphoric acid (H₃PO₄)
- Sulfuric acid (H₂SO₄)
- Hydrofluoric acid (HF)
- Oxidizing acids
- Isocyanates
- Epichlorohydrine (EPC)
- Vinyl chloride (VCM)
- Polysilicon
Engineered process solutions lead to high value leverage on graphite

Value chain

1st Dimension: Regional rollout

3D growth strategy – engine for sustainable profitable growth

2nd Dimension: New products

3rd Dimension: New industries

Leading to sales growth, ROS and ROCE supporting GMS targets

3D growth strategy – engine for sustainable profitable growth
**Advanced Materials**  
**Carbon Fibers and Composites (CFC)**

### Business units*
- Carbon Fibers/Composite Materials
- Aerostructures

### At-Equity JVs
with BMW, Brembo, Benteler

### Key industries served
- Energy
- Aerospace & Defense
- Automotive
- Industrial
- Recreation
- Medical Technology
- Construction
- Pressure Vessels

### 2012 Group sales
- CFC 16%
- PP 55%
- GMS 29%

### CFC sales & EBIT margins
- 2004: -18%
- 2005: -3%
- 2006: -3%
- 2007: 2%
- 2008: 4%
- 2009: -11%
- 2010: -3%
- 2011: -8%
- 2012: -14%

### Characteristics
- New applications in automotive, energy, aeronautics, industrial
- High earnings improvement potential
- Complete value chain in house
- Only EU carbon fiber company

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* Former Business Unit Rotor Blades sold as of December 31, 2013

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**Investor Relations Presentation**  
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### Sales – 2012

<table>
<thead>
<tr>
<th>Business Unit</th>
<th>Sales Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotor Blades*</td>
<td>34%</td>
</tr>
<tr>
<td>Carbon Fibers &amp; Composite Materials</td>
<td>37%</td>
</tr>
<tr>
<td>Aerostructures</td>
<td>29%</td>
</tr>
</tbody>
</table>

*sold as of December 31, 2013

### Highlights 2012

- **Carbon Fibers & Composite Materials (CF/CM):**
  - Secured own raw material supply (acquisition of Fisipe)
  - JVs with BMW Group for automotive materials progressing on schedule to support SOP of new car models

- **Aerostructures (AS):**
  - Further ramp up of customer projects in commercial and military aviation
  - High investments in automation to support further growth in aerospace & defense business

- **Rotor Blades (RB)*:**
  - Increased utilization due to acquisition of new customers and internal optimization programs improved profitability

### Longer-term targets

- **Sales growth:** >20% p.a.
- **ROS (based on EBIT):** >10%
- **ROS (based on EBITDA):** >14%

### Strategic priorities

- **Become supplier of choice for our focus markets**
  - Automotive
  - Alternative Energies
  - Aerospace & Defense Technology
  - Industrial, Construction, Pressure Vessels
- **Optimize carbon fiber and composite capacities along the value chain**
- **Support organic growth with selective partnerships and (bolt-on) acquisitions**
- **Convert Fisipe acrylic fiber lines into PAN precursor production**
Carbon Fibers & Composites
Best solutions for our customers

Carbon fiber

Aerostructures

Lightweight automotive parts

Fabrics

Brake discs
SGL Group: only integrated European carbon fiber producer

(Re-)Focus on materials & automotive/other industrial components

**Carbon Fibers & Composite Materials**

- **Raw Material**
- **PAN Precursor**
  - Fisipe (100%)
  - MSP: JV with Mitsubishi Rayon (33%)
- **Carbon Fiber**
  - Prod. Capacity
    - ~ 4kt in UK
    - ~ 2kt in USA
  - SGL-ACF: JV with BMW (51%)
  - ~ 3kt in USA
- **Composite Materials**
- **Prepreg Preform**
  - SGL epo (100%)
  - SGL Kümpers (51%)
  - SGL-ACF: JV with BMW (51%)

**Composite Components***

- **Automotive & other Industrial**
  - Benteler SGL (50%)
  - Brembo SGL Carbon Ceramic Brakes (50%)
- **Aerospace & Defense**
  - HITCO (100%)

* Former Business Unit Rotor Blades sold as of December 31, 2013
Carbon Fibers & Composites: Carbon fiber demand growth delayed but all growth drivers intact

CF market forecast (in thousand mt p.a.)

28  30  34  39  41  49  53  60  68

Source: SGL Group market research
Carbon Fibers & Composites
Carbon fiber capacity

**Capacity in mt**

<table>
<thead>
<tr>
<th>Name</th>
<th>Capacity in mt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toray (JP)</td>
<td>20,000</td>
</tr>
<tr>
<td>Toho/Fortafil (JP)</td>
<td>15,000</td>
</tr>
<tr>
<td>Zoltek (US)</td>
<td>10,000</td>
</tr>
<tr>
<td>MRC (JP)</td>
<td>5,000</td>
</tr>
<tr>
<td>SGL Group (DE)</td>
<td>5,000</td>
</tr>
<tr>
<td>Formosa Plastic (TW)</td>
<td>5,000</td>
</tr>
<tr>
<td>Hexcel (US)</td>
<td>5,000</td>
</tr>
<tr>
<td>Aksa (TR)</td>
<td>1,000</td>
</tr>
<tr>
<td>Cytec (US)</td>
<td>1,000</td>
</tr>
</tbody>
</table>

**Name plate capacities* carbon fiber (excl. oxidized fiber)**

- LT = Low tow fiber 1 – 24k
- HT = High tow fiber 50 – 300k

* Actual production tends to be 20 – 30% below name plate capacity

**Source:** SGL Group’s own estimates, company websites (as of January 2013)

* following conversion of Fisipe acrylic fiber lines to PAN-precursor
Carbon Fibers & Composites
Composite Materials

- Carbon fibers can be woven or braided and are often impregnated with resin before component production

- We aim to have a broad range of technologies for prepreging / preforming
  - Impregnation (e.g., prepregs for wind turbine blades or aircraft parts)
    - SGL epo
  - Weaving (e.g., sporting goods, automotive, medical industry)
  - Preforms (e.g., automotive industry)
  - Braiding (e.g., automotive industry)
    - SGL Kümpers
• HITCO: California-based composite component manufacturer for aerospace & defense industries

• Complex multi-contoured hand lay-up expertise augmented by world class automation for carbon fiber reinforced aero structures

• Investment into automation technologies AFP (Automated Fiber Placement machine), ATL (Automatic Tape Layer machine) and NDI (Non Destructive Testing Equipment) substantially improves competitiveness of HITCO

• Infrastructure installed to support high rate fabrication of primary structure – passenger floor beams and cargo beams

• Successive Preferred Supplier Certifications from The Boeing Company for Quality & Delivery Performance

• Recent contract wins / extensions:
  – Composite Cargo Beams for 787-9 Dreamliner Section 46
  – 767 Engine Fan Cowl
  – Automated fabrication of Out Of Autoclave (OOA) Mixed Modulus Material
**Carbon Fibers & Composites**

**JVs in automotive**

- **Benteler-SGL:**
  - 50/50 JV between SGL Group and Benteler AG to develop composite based automotive components
  - Leading position in developing structural automotive parts and modern, automated production technologies
  - Successful manufacturing of prototype parts for the BMW i projects
  - Set-up of the first high volume composite components production plant

- **Brembo-SGL:**
  - 50/50 JV between SGL Group and Brembo SPA for carbon ceramic based automotive brakes
  - Leading global position, supplying most of the high-end car makers, with production sites in Germany and Italy

- **SGL Group’s strategic objectives in automotive:**
  - Drive the metal substitution process in automotive to become a major automotive parts supplier
  - Ensure that SGL Group’s materials are at the forefront in the automotive industry
Carbon Fibers & Composites

JVs with BMW, Mitsubishi exclusively for BMW’s demand

• Milestone in serial application of carbon fibers in automotive industry – market launch of first serially produced car (BMW i3) with a CFRP passenger cell in 2013

• €90 million total investment volume in initial phase, overall investment volume €230 million subject to BMW demand increase

• JVs to be accounted for at equity by SGL and BMW during build-up phase

• BMW guarantees certain minimum purchasing volumes at contractually agreed conditions in the context of safeguarding the overall project

• BMW provides debt financing

• SGL Automotive Carbon Fibers LLC, Moses Lake (USA): 51/49 JV between SGL Group and BMW Group to produce carbon fibers exclusively for BMW’s demand (3kt carbon fiber capacity in 1st stage)

• SGL Automotive Carbon Fibers, Wackersdorf (Germany): 51/49 JV between SGL and BMW Group to produce composite materials (fabrics) in Wackersdorf (Germany) based on carbon fiber produced in Moses Lake (USA)

• These fabrics to be sold to BMW who will produce automotive parts and then assemble the BMW i3 and i8 in Leipzig (Germany)

• Precursor supply safeguarded by MRC – SGL Precursor Co. Ltd., Otake (Japan): 33/67 JV between SGL Group and Mitsubishi Rayon

Source: BMW Group
Ensuring the future
SGL Excellence – enables productivity and growth

SGL Excellence
- Started in 2002
- The core element of the Company mission
- An ongoing and Company wide program
- Our philosophy of doing business

SIX SIGMA + LEAN
- Our core methodology
- Focuses on:
  - Customer value
  - Measurable objectives and results
- Applies to every function in our Company
- Empowers our employees with skills and tools:
  - > 4,000 SIX SIGMA trained employees
  - > 350 active Green Belts
  - > 120 Black Belts
Ensuring the future
SGL Excellence savings

Since 2002 continuous cost reduction of €283 million in total

![Bar chart showing annual net savings from 2002 to 2012](chart.png)
Ensuring the future
Technology & Innovation – foundation for profitable growth

Technology & Innovation: SGL Group’s centralized R&D organization

- Market driven R&D ensures best-in-class support for current and future customers
- Industry networks with suppliers and customers are an essential part of our development strategy thus ensuring close contacts to our markets
- Global networks with leading universities cover the basic research.
- Material, process and application know-how is the platform for our development clusters: synthetic graphite, carbon fibers and composites, energy systems, and ceramic fibers and composites.
- Strategic IP management safeguards our products and processes and is a driver of our long term market success
## Activity areas of T&I 2013

### Raw materials & synthetic graphite development for basic industries targeting
- Reduction of graphite electrode consumption in EAF by optimization of raw materials, oxidation resistance and GE-joint
- Increase energy efficiency of aluminum production process by improved cathode recipes and advantageous cathode designs
- Elongate lifetime of furnace linings by improved microporous carbon-ceramic recipes and advanced lining bloc designs

### Strengthen Carbon Fiber based value chain
- Operation of carbon fiber Pilot Line and improvement of carbon fiber production processes
- Development of new carbon fiber grades based on own precursor
- Development of a new composite material system based on Thermoplastic matrix

### Energy systems
- Low cost graphite based anode materials for Li-ion batteries.
- New carbon & graphite based composite anode materials with enhanced energy density for 3rd generation Li-Ion batteries
- Development of carbon felt with enhanced surface characteristics and improved electrochemical behavior for stationary energy storage systems such as redox flow batteries.
- Advanced gas diffusion layers for PEM fuel cells for automotive and stationary applications.

### Improved Ceramic Materials
- Development of new C/SiC materials and manufacturing methods for complex shaped ceramic structures
- Development of high-temperature stable SiC fiber
Latest Financials and Outlook 2013
## SGL Group
### 9M/2013 Results for the Group

<table>
<thead>
<tr>
<th></th>
<th>9M/2013</th>
<th>9M/2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenue</td>
<td>1209.7</td>
<td>1255.9</td>
</tr>
<tr>
<td>EBITDA before non-recurring charges</td>
<td>89.5</td>
<td>188.6</td>
</tr>
<tr>
<td>EBITDA-Margin before non-recurring charges (in %)</td>
<td>7.4</td>
<td>15.0</td>
</tr>
<tr>
<td>EBIT before non-recurring charges</td>
<td>28.0</td>
<td>130.3</td>
</tr>
<tr>
<td>EBIT-Margin before non-recurring charges (in %)</td>
<td>2.3</td>
<td>10.4</td>
</tr>
<tr>
<td>Non-recurring charges</td>
<td>-179.4</td>
<td>-54.2</td>
</tr>
<tr>
<td>Results from At-Equity accounted investments</td>
<td>-13.9</td>
<td>-12.4</td>
</tr>
<tr>
<td>Net financing result</td>
<td>-37.3</td>
<td>-38.5</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>-202.6</td>
<td>25.2</td>
</tr>
<tr>
<td>Consolidated net profit attributable to equity holders</td>
<td>-277.8</td>
<td>-5.6</td>
</tr>
<tr>
<td>EPS, basic (in €)</td>
<td>-3.92</td>
<td>-0.08</td>
</tr>
</tbody>
</table>

- Sales revenue -4%, currency adjusted -2% - Fisipe (acquired in Q2/2012) contributed 3%
- EBITDA significantly decreased due to price pressure in PP and cyclical trough at GMS
- Cost savings of €34 million from SGL2015 in 9M/2013, of which €19 million attributable to SGL Excellence
- Non recurring charges of €174.9 million relating to extraordinary effects recorded in Q2/2013 and restructuring expenses in Q3/2013. Tax expense of €74.4 million includes impairment of deferred tax assets on loss carry forwards due to lower short and midterm earnings expectations and provisions for tax risks from ongoing tax audits totaling €69 million

* Adjusted for effects of adopting IAS 19R
### SGL Group
9M/2013 Results for Performance Products (PP)

<table>
<thead>
<tr>
<th>in € million</th>
<th>9M/2013</th>
<th>9M/2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenue</td>
<td>595.9</td>
<td>681.4</td>
</tr>
<tr>
<td>EBITDA before non-recurring charges**</td>
<td>94.3</td>
<td>168.0</td>
</tr>
<tr>
<td>EBITDA-Margin before non-recurring charges (in %)**</td>
<td>15.8</td>
<td>24.7</td>
</tr>
<tr>
<td>EBIT before non-recurring charges**</td>
<td>63.7</td>
<td>139.5</td>
</tr>
<tr>
<td>EBIT-Margin before non-recurring charges (in %)**</td>
<td>10.7</td>
<td>20.5</td>
</tr>
</tbody>
</table>

- Sales revenue (-12%) strongly impacted by price pressure in graphite electrodes, currency impact -2%
- Reduced EBITDA (-44%) due to
  - lower selling prices as a result of intensifying price pressure in H2/2013
  - prior year EBITDA benefited from low double-digit million € final settlement of longterm supply contract
- Closure of graphite electrode plant in Lachute (Canada) announced. Phase-down of production towards year end 2013. Final closure expected in Q1/2014. Non-recurring charges of €24.9 million accounted in 9M/2013 resulting from asset write-offs. Reduction of 30,000 t graphite electrode capacity 1st step to sustain cost leadership of SGL Group
- €16 million savings from SGL2015, thereof €9 million from SGL Excellence

* Adjusted for effects of adopting IAS 19R
** Non-recurring restructuring charge of €24.9 million relating to the closure of the plant in Lachute (Canada)
### SGL Group
#### 9M/2013 Results for Graphite Materials & Systems (GMS)

<table>
<thead>
<tr>
<th>in € million</th>
<th>9M/2013</th>
<th>9M/2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenue</td>
<td>311.7</td>
<td>374.5</td>
</tr>
<tr>
<td>EBITDA</td>
<td>40.1</td>
<td>69.1</td>
</tr>
<tr>
<td>EBITDA-Margin (in %)</td>
<td>12.9</td>
<td>18.5</td>
</tr>
<tr>
<td>EBIT</td>
<td>27.0</td>
<td>55.9</td>
</tr>
<tr>
<td>EBIT-Margin (in %)</td>
<td>8.7</td>
<td>14.9</td>
</tr>
</tbody>
</table>

- Sales revenue -17%, currency adjusted -14%
  - 9M/2012 still benefited from high order backlog at end 2011
  - Business Unit Graphite Specialties (GS) reached cyclical trough in 2013 driven by downward trend in new orders from all three regions (Asia, Europe and North America). Order intake in the previously more stable industrial applications substantially weakened since beginning of 2013, in addition to an already weak demand development in solar, semiconductor and LED industries. Positively, trend in Q3 showed some stabilization
  - Business Unit Process Technology sales slightly surpassed previous year level
- EBITDA decreased significantly due to
  - underabsorption of fixed costs in Business Unit GS as production levels adjusted to lower order backlog
  - price pressure in some areas within Business Unit GS
- €9 million savings from SGL2015, thereof €5 million from SGL Excellence

*Adjusted for effects of adopting IAS 19R
SGL Group
9M/2013 Results for Carbon Fibers & Composites (CFC)

<table>
<thead>
<tr>
<th>in € million</th>
<th>9M/2013</th>
<th>9M/2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenue</td>
<td>298.7</td>
<td>197.6</td>
</tr>
<tr>
<td>EBITDA before non-recurring charges**</td>
<td>-16.4</td>
<td>-11.9</td>
</tr>
<tr>
<td>EBITDA-Margin before non-recurring charges (in %)**</td>
<td>-5.5</td>
<td>-6.0</td>
</tr>
<tr>
<td>EBIT before non-recurring charges**</td>
<td>-30.2</td>
<td>-24.2</td>
</tr>
<tr>
<td>EBIT-Margin before non-recurring charges (in %)**</td>
<td>-10.1</td>
<td>-12.2</td>
</tr>
</tbody>
</table>

• Sales revenue increase 51%, currency adjusted 53%
  – initial consolidation of Fisipe (acquired in Q2/2012) contributed 34%-points to sales growth (9M/2013: €87.5 million, 9M/2012: €55.4 million)
  – like-for-like sales growth of 26% mainly due to higher sales in Business Unit Rotor Blades (sold as of December 31, 2013)

• EBITDA decreased due to
  – continued underutilization of capacities in the carbon fiber business due to project shifts, resulting in lower material demand from wind industry and other industrial applications
  – unsatisfactory utilization level in the Business Unit AS caused by Boeing 787 and Joint Strike Fighter delays
  – price pressure in carbon fiber markets due to overcapacities as a result of project delays

• €7 million savings from SGL2015, thereof €5 million from SGL Excellence

* Adjusted for effects of adopting IAS 19R
** Non-recurring charges of €153.6 million, thereof €153.2 million extraordinary effects in Q2/2013
## SGL Group
### 9M/2013 Results for Central T&I and Corporate Costs

<table>
<thead>
<tr>
<th>in € million</th>
<th>9M/2013</th>
<th>9M/2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenue/other revenue</td>
<td>3.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Central T&amp;I costs (EBIT)</td>
<td>-7.7</td>
<td>-8.9</td>
</tr>
<tr>
<td>Corporate costs (EBIT)</td>
<td>-24.8</td>
<td>-32.0</td>
</tr>
</tbody>
</table>

- Central T&I costs decreased by 14% mainly due to the already implemented cost savings measures as well as a grant received in 9M/2013
- Corporate costs decreased by 23% primarily due to lower expenses for variable remuneration components and cost savings related to consulting fees and travel expenses
- €2 million savings from SGL2015

* Adjusted for effects of adopting IAS 19R
SGL 2015: targeting approx. €150 million savings by end 2015*
Approx. €50 million* cost savings to be realized in 2013 already

PP & GMS affected by cyclical downturn and temporary overcapacities, CFC impaired by repeated project and development delays => SGL2015: comprehensive global cost savings program consisting of three pillars

<table>
<thead>
<tr>
<th>Organizational restructuring</th>
<th>Site restructuring</th>
<th>Portfolio restructuring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of organizational structure with support of external consultant</td>
<td>Develop measures for site restructuring</td>
<td>Optimize portfolio</td>
</tr>
<tr>
<td>Adjust and simplify business processes</td>
<td>Relocate, close or sell production assets e.g. GE plant closure in Lachute (Canada)</td>
<td>Potentially divest non core activities e.g. sale of SGL Rotec (Germany) as of December 31, 2013</td>
</tr>
<tr>
<td>Streamline management structures</td>
<td>Adapt production network to changed circumstances</td>
<td>Transfer activities into partnerships</td>
</tr>
<tr>
<td>Reduce SG&amp;A cost base by one third from €90 million to €60 million</td>
<td>Improve capacity utilization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce fixed costs</td>
<td></td>
</tr>
</tbody>
</table>

- non-recurring restructuring expenses expected to reach nearly €100 million
- major part to be accounted for in 2013 annual financial statements
- approx. 40% cash effective mostly from 2014 onwards, remainder non cash

- of approx. €50 million cost savings in 2013 roughly half from SGL X, remainder from other cost savings measures - already €34 million savings achieved in 9M/2013

* Based on 2012 actual costs
**Group**

- FY 2013 sales slightly below 2012 level*
- EBITDA (before non-recurring charges) 50-60% below comparable 2012 level (€240 million before project write-offs)
- Substantially improved At-Equity results from CFC JVs
- Substantial Group-wide cost savings program initiated: SGL2015

**Capex, Balance Sheet, Cash Flow**

- GEARING temporarily above mid term target of approx. 0.5
- CAPEX limited to below €100 million
- Negative FREE CASH FLOW - due to restricted capex and working capital requirements: FREE CASH FLOW neutral in H2/2013

**Key risks to forecasts**

- Further political, economic, and currency related uncertainties
- Further market risks arising from new capacities temporarily exceeding demand

---

*Based on constant currencies*
## Performance Products (PP)

- **Graphite Electrodes**: slight volume growth in Q4/2013 vs. previous three quarters expected. Prices in Q4 to remain at low levels, below H1/2013 and FY2012 level, but some raw material price benefits in Q4 2013
- **Cathodes**: previous year EBITDA boosted by final settlement of long term contract, stepwise recovery in demand continues, price increases not yet enforceable

=> FY 2013 sales substantially lower YoY*, EBITDA ROS in 2013 significantly below 2012 and H1/2013

## Graphite Materials and Systems (GMS)

- **Graphite Specialties**: impacted by cyclical downturn across all end markets; however, the order intake has stabilized in the last months
- **Process Technology**: strong order backlog at year end 2012 to positively impact 2013 sales and earnings resulting in a performance similar to its record year 2012

=> Sales significantly lower YoY*, EBITDA ROS slightly below mid term target of ≥ 14%

## Carbon Fibers & Composites (CFC)

- **Carbon Fibers/Composite Materials**: continues to be affected by overcapacities resulting from lower demand in the wind, sports and leisure markets as well as other industrial applications
- **Aerostructures**: HITCO continues to be negatively affected by delays in civil and military aerospace projects
- **Rotor Blades** (sold as of December 31, 2013): SGL Rotec to reduce losses compared to 2012 thanks to higher capacity utilization and further improving productivity

=> Slight reduction in operating losses compared to 2012 due mainly to internal optimization measures

---

* Based on constant currencies
SGL Group established a solid long term financial structure in December 2013

- €250 million Corporate Bond at 4.875% (maturity 2021)
- €200 million credit facility, undrawn (maturity 2017)

Supported by previously issued debt instruments (June 2009 and April 2012)

- €134.7 million* Convertible Bond at 3.5%, adjusted conversion price of €29.00 (maturity 2016) (originally €190 million prior to conversion)
- €240 million Convertible Bond at 2.75%, adjusted conversion price of €43.5164 (maturity 2018)

SGL Group has solid balance sheet ratios and liquidity at end of September 2013

- Equity ratio: 36%
- Gearing: 0.64
- Total liquidity: €178 million

* As of December 31, 2013
Appendix
### Global presence

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Production Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>11</td>
</tr>
<tr>
<td>Europe</td>
<td>24</td>
</tr>
<tr>
<td>Asia</td>
<td>8</td>
</tr>
</tbody>
</table>

**Production Sites**
- Performance Products
- Graphite Material & Systems
- Carbon Fibres & Composites

![Map of production sites around the world](image)
### Shares in issue and shareholder structure

**Basic shares**

<table>
<thead>
<tr>
<th>Security Identification Number</th>
<th>723530</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISIN Number</td>
<td>DE0007235301</td>
</tr>
<tr>
<td>Cusip Number</td>
<td>784 188 203</td>
</tr>
<tr>
<td>Number of Shares (as at December 31, 2013)</td>
<td>71,016,193</td>
</tr>
<tr>
<td>Free float</td>
<td>~ 38%</td>
</tr>
</tbody>
</table>

**Reported shareholdings according to §§ 21 f. WpHG**

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Date</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKion GmbH</td>
<td>(17 May 2011)</td>
<td>26.87%</td>
</tr>
<tr>
<td>BMW AG</td>
<td>(21 Dec 2011)</td>
<td>15.72%</td>
</tr>
<tr>
<td>Volkswagen AG</td>
<td>(04 Dec 2013)</td>
<td>9.98%</td>
</tr>
<tr>
<td>Voith GmbH</td>
<td>(01 Sep 2011)</td>
<td>9.14%</td>
</tr>
</tbody>
</table>
## Debt market instruments

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coupon</strong></td>
<td><strong>Coupon</strong></td>
<td><strong>Coupon</strong></td>
</tr>
<tr>
<td>3.5%</td>
<td>2.75%</td>
<td>4.875%</td>
</tr>
<tr>
<td><strong>Principal Amount</strong></td>
<td><strong>Principal Amount</strong></td>
<td><strong>Principal Amount</strong></td>
</tr>
<tr>
<td>€ 190 million</td>
<td>€ 240 million</td>
<td>€ 250 million</td>
</tr>
<tr>
<td><strong>Outstanding Amount</strong></td>
<td><strong>Adjusted Conversion Price</strong></td>
<td><strong>Issue Date</strong></td>
</tr>
<tr>
<td>(as at December 31, 2013)</td>
<td>€ 43.5164</td>
<td>12 December 2013</td>
</tr>
<tr>
<td><strong>Adjusted Conversion Price</strong></td>
<td><strong>Conversion Right</strong></td>
<td><strong>Date of Maturity</strong></td>
</tr>
<tr>
<td>€ 29.00</td>
<td>(as at December 31, 2013)</td>
<td>15 January 2021</td>
</tr>
<tr>
<td><strong>Conversion Right</strong></td>
<td><strong>Issue Date</strong></td>
<td></td>
</tr>
<tr>
<td>(as at December 31, 2013)</td>
<td>25 April 2012</td>
<td></td>
</tr>
<tr>
<td>4.64 million shares</td>
<td><strong>Date of Maturity</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Issue Date</strong></td>
<td>30 June 2009</td>
<td></td>
</tr>
<tr>
<td>30 June 2009</td>
<td><strong>Date of Maturity</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Date of Maturity</strong></td>
<td>30 June 2016</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Capital Expenditure by Business Area

**Major investment focus in 2012:**

- **PP:**
  - Continued build up of new GE + CA production facility in Malaysia
  - Replacement and EHSA investments in Spain and Poland

- **GMS:**
  - Isostatic graphite capacity expansion in Bonn (Germany)
  - Capacity expansion in USA and China
  - EHSA investments in France and in USA
  - Reconstruction of Sigraflex facility in Meitingen (Germany)

- **CFC:**
  - Further investments in automation technologies at HITCO (USA) and SGL Kümpers (Germany)
  - Infrastructure improvement in Lemwerder (Germany)
  - EHSA investment in Scotland

---

#### Capital expenditure and depreciation (in € million)

<table>
<thead>
<tr>
<th>Year</th>
<th>Central projects</th>
<th>Graphite Materials &amp; Systems</th>
<th>Carbon Fibers &amp; Composites</th>
<th>Performance Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>30</td>
<td>69</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>2008</td>
<td>49</td>
<td>25</td>
<td>90</td>
<td>14</td>
</tr>
<tr>
<td>2009</td>
<td>54</td>
<td>80</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>2010</td>
<td>61</td>
<td>66</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>2011</td>
<td>29</td>
<td>35</td>
<td>61</td>
<td>14</td>
</tr>
<tr>
<td>2012</td>
<td>71</td>
<td>50</td>
<td>46</td>
<td>13</td>
</tr>
</tbody>
</table>

*Reported capex of €129.5 million for 2010 includes €7.4 million cash inflow for services rendered by SGL Group. Therefore cash outflow for capex was €136.9 million.*
## Financial calendar / contact details

### Financial calendar 2014

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 10, 2014</td>
<td>Annual Report 2013</td>
</tr>
<tr>
<td>April 29, 2014</td>
<td>Report on the first quarter 2014</td>
</tr>
<tr>
<td>April 30, 2014</td>
<td>Annual General Meeting</td>
</tr>
<tr>
<td>August 7, 2014</td>
<td>Report on the first half year 2014</td>
</tr>
<tr>
<td>November 6, 2014</td>
<td>Report on the first nine months 2014</td>
</tr>
</tbody>
</table>

### Contact

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Soehnleinstrasse 8  
65201 Wiesbaden  
Germany  
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Fax +49 (0) 611 - 6029 - 101  
investor-relations@sglgroup.com  
www.sglgroup.com
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