Capital Markets Day
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Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.
Agenda

1. Levers to profitability improvement
2. Improved monitoring and execution of CAPEX projects
3. Evaluation process for new growth opportunities
4. Summary
EBIT development 2013 to 2017.
Since 2013 continuous improvement of EBIT\(^1\)

Increase by ~ €100m in the last five years

Targeted increase of ~ €100m in the next five years

\(^1\) EBIT before non-recurring items; for comparison EBIT 2013-2015 is adjusted excluding the discontinued segment Performance Products (PP) and including At-Equity result (in 2016/2017 reported EBIT before non-recurring items excludes segment PP and includes At-Equity result)
Levers to profitability improvement.
During last years SGL has proven to be able to grow and improve profitability

Measures of last years

Sales:
- Focus on improved capacity utilization in all businesses
- Improved product mix with focus on higher margin downstream businesses
- Pursued higher margin businesses in Megatrend markets (energy, mobility, LED etc.)

Cost Savings: Reorganization (CORE) after divestment of PP
- Fit-to-size cost and process adaption
- Business Units refocused on sales, manufacturing and application development
- All administrative processes bundled in Corporate

Portfolio: Investment into future technologies/product development
- Creation of fully controlled and integrated composites value chain (acquisition of BMW and Benteler shares in joint ventures, divestiture of shares in SGL Kümpers joint venture)
- CFM: Lightweight and Application Center, precursor for carbon fiber
- GMS: Surface treatment technology, graphite anode material
Growth & profitability targets.
We introduced new mid-term targets in March 2018

Additional 2022 targets:
Net profit margin ~ 6–7%
Free cash flow margin ~ 5%

We also introduced margin targets for the business units: ≥ 12% ROS$_{EBIT}$ by 2022 with transparent progress reporting on a quarterly and annual basis externally and internally.

Note: EBIT always refers to EBIT before non-recurring items
Levers to further profitability improvement.

General

Sales:
- Further growth in higher margin innovative Megatrend markets (digitization, energy, mobility)
- Further increase in share of higher margin downstream businesses
- Increase utilization of existing capacities (mostly CFM) and capacity extensions (mostly GMS)
- Commercial Excellence process implemented three years ago with continuous enhancements; especially transformation to a margin and KPI steered sales organization (price increases, margin improvements by improved product mix, focus on high margin and high growth areas)

Costs:
- Automation
- Digitization (e.g. Manufacturing Execution System, state of the art new logistic center in Meitingen)
- Global standardized and efficient processes: e.g. Global Maintenance Initiative, Operations Management System
- Fully utilize Shared Service Center in Portugal and transfer further transactional tasks

Portfolio:
- Lightweight and Application Center will support market penetration within automotive industry by closing the gap between materials and applications
- Battery laboratory: continuous build-up of own competencies to develop next generation material by better understanding the anode materials performance in the entire cell and battery system
- Strategic and KPI-driven CAPEX planning – CAPEX at the right place – and improved execution (processes & controls and organizational changes) – details to follow
- Focused and efficient research & development: clear distinction of research on future growth activities and application development – details to follow
Levers to further profitability improvement.
CFM by value chain

Precursor + Carbon Fibers*
- Develop advanced carbon fibers; e.g. aerospace, energy
- Sales growth will lead to increased capacity utilization of carbon fiber lines
- Conversion of low profitability textile fiber lines to precursor lines and increase efficiency of precursor production
- Leverage own precursor production and improve properties
- Develop higher margin acrylic fiber products

Materials
- Develop new materials and enhance production know-how, leveraging expertise of Lightweight and Application Center
- Broaden competencies in materials for energy and civil engineering market

Components
- Leverage series manufacturing capabilities (former Benteler SGL)
- Expand manufacturing footprint to USA and China
- Develop further products/technical capabilities

* including Textile Fibers
Levers to further profitability improvement.

CFM by market segments

Indicative/targeted sales

Overall:
Leverage Lightweight and Application Center: Gain know-how, provide tailor made products and win customer projects

Automotive:
- Full integration of SGL ACF and Benteler SGL post acquiring of remaining JV interests
- Increase presence in regions outside Europe
- Important projects won: significant German OEM project (SOP 2021)
- Numerous projects with OEMs and tier 1 (for leafspring, battery cases, components)

Aerospace:
- Expand product portfolio based on own precursor and sell products across entire value chain
- Extension of contract with Elbe Flugzeugwerke (Airbus) for A350 floor panels
- Product development with large aircraft manufacturers for adoption of SGL (50k) fiber in structural components (SOP beyond 2022)
- Planned increase in vertical integration with aerospace supplier for secondary structural parts (SOP beyond 2022)

Energy:
- Temporary sales decline by divestment of Kümpers joint venture
- Development of pultrusion know-how and capacities
- Significant order with additional wind energy customer won for deliveries from 2019 onwards

Industrial Applications:
- Increase market penetration through leveraging sales agent network
- Increase presence in regions outside Europe
- Develop materials for civil engineering market

Textile Fibers:
- Improve profitability by operational improvements & development of higher margin products (pigmented fibers and flame resistant fibers)
Levers to further profitability improvement.
GMS by value chain

- Operational improvements (energy efficiency, de-bottlenecking, portfolio optimization)
- Sourcing excellence

- Strong growth in energy markets driven by expansion of product and customer portfolio
- Organic growth with investments (following customers – production in the region for the region)

- Strong growth in high margin digitization market (LED, semiconductor)
- Leverage ability to provide one-stop shop solutions based on the industry’s most comprehensive product portfolio
- Focus on total cost of ownership
- Participate in the fast changing mobility market
- Customize graphite anode materials for electric vehicles
- Components for solutions reducing CO₂ emissions (e.g. vacuum pumps, water pumps) serving automotive industry
- Technical competence close to the customer to strengthen position as solution partner
- Focus high labor cost activities in low cost countries (Poland, China)
- Automation
Levers to further profitability improvement.
GMS by market segments

Indicative/targeted sales

Overall:
• Efficiency gains in operations improve profitability

Battery & other energy:
• Expand capacities to grow with existing and new customers
• Investment into battery laboratory: develop next generation material
• “Economies of scale” and operational improvements compensate potential pressure on prices

Semiconductor & LED:
• Strongly growing and attractive market
• Utilize capacity in St. Marys and further expansion in other regions (China)
• Invest into technology & know-how

Automotive:
• Major customer projects won (e.g.: Bosch: parts for diagnosis tank leakage module pumps, Pierburg: parts for brake assistant pump)
• Focus high labor cost activities in low cost countries (Poland)

Solar
• Grow with market while improving profitability
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Improved monitoring and execution of CAPEX projects.

History: several major investments were not planned diligently and executed successfully

Process was analyzed and adjusted with ongoing feedback (learning organization):

- Stringent process and resource allocation from

  - Budgeting by BoM (strategy defines investment plan)
  - Project manager from Central Engineering competence, lead engineer from BUs
  - Economical evaluation (business case) and risk analysis by BUs; application of lessons learned from prior projects (e.g. more focus and cautious planning in start-up phase)
  - Challenging of business plan and technical/resource plan by experienced controllers and Head of Engineering
  - Approval by Board of Management
  - Project management of major projects by central engineering competence
  - Monitoring by BoM during quarterly Business Review Meetings
  - Ex-post review with focus on learning and improving: technical and economical aspects
Improved monitoring and execution of CAPEX projects.

Major changes & improvements

Strengthening of Central Engineering

• BU independent Head of Engineering as “full time” resource
• Project manager for major projects (mandatory > €5m) delegated from Central Engineering (expert in project management), is responsible for project planning and execution
• Consistent application of our processes; responsibility (budget, timeline) is a “single hand responsibility“

Orientation on strategy and financial targets

• Investment budgets:
  Iterative approach from top-down and bottom-up planning: planning and decision on budgets at the Group and the BU level derived from the Group’s strategy and profitability expectations based on the financial planning and targets; flexibility to include structural bottom-up inputs

Strengthening of controlling:

• Stronger challenging of business assumptions (e.g. by utilizing market studies or competitions benchmarking)
• Independent controlling: Business Unit controllers report directly to CFO
**Improved monitoring and execution of CAPEX projects.**
**5 projects reviewed ex-post in 2018**

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<th>Approval year</th>
<th>BU</th>
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<th>CAPEX spent</th>
<th>Technical scope</th>
<th>Timing</th>
<th>Payback (years)</th>
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Initial ex-post results show that organization and process changes have a positive impact on the quality of investment decisions

¹ Non-controlled joint venture
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Evaluation process for new growth opportunities.
Basic principles

1. Target of innovation is to maintain or create business. The dimension market (e.g. market size/growth/profitability) is evaluated against the dimensions efforts, risks, time to market and technology position.

2. Each dimension is evaluated via assessing subdimensions by a 1-5 rating using defined categories (e.g.: technical feasibility: 1: < 25%, 2: 25%–50%, 3: 50%–80%. 4: 80%–95%, 5: 95%–100%)

3. The subdimension ranking contributes with a certain weight to the total ranking of dimension (1 = worst to 5 = best possible)

4. Benchmarking and ranking of projects
Evaluation process for new growth opportunities.

Output

Dimensions for each single project compared to respective dimension average

Project with an attractive business case, shortly before introduction with low risk, but requires slightly higher than average efforts

- High priority project

Project with worse than average market, SGL has a difficult technology position and there are high efforts, risks and time required to follow the project

- Low Priority project
Evaluation process for new growth opportunities.

Prioritization

- Market vs. Effort
  - High Market potential: Low Effort
  - Low Market potential: High Effort

- Market vs. Risk
  - Low Market potential: High Risk
  - High Market potential: Low Risk

- Market vs. Time
  - High Market potential: Short term
  - Low Market potential: Long Term

- Market vs. Technology
  - High Market potential: Good fit
  - Low Market potential: Bad fit

Attractive projects to be prioritized.
Evaluation process for new growth opportunities.
Technology roadmap

- Product & technology roadmaps (for the next 10 years) incl. respective product group strategies are continuously developed for selected product groups
- This includes the development of a product & technology roadmap based on the current product portfolio, the market environment and future trends. Part of the roadmap development will be a clear product strategy generation
- The market segments and the BU management are actively involved during the process
- After roadmap & strategy have been set, the implementation starts with a roll-out in the BUs to ensure good communication within all involved functions
Evaluation process for new growth opportunities.
Details on procedure

Development of product & technology roadmap incl. product group strategy

Basic analysis
- SGL Carbon’s current product portfolio & capabilities regarding technology and operations
- Market environment incl. competitors, customers, suppliers, etc.
- Future trends (up to 15 years)

Strategy
- Product group strategy for next 10 years defining goals, future developments, future product portfolio, future technology & operations’ capabilities, future target markets & applications
- Involvement of market segments (organizational units of BUs)

Roadmap
- Product and technology roadmap for the next 10 years to implement strategy
- Details on required projects and activities

Roll-out
- Final agreement on strategy & roadmap with management and market segments
- Communication to relevant functions (e.g. sales, operations, technology)
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Summary.

The path for growth and levers for increased profitability for the future are defined. SGL Carbon has transparently set its objectives and is publishing the progress on a quarterly basis.

Investments are steered by strategy & financials KPIs. The project planning and execution has been improved significantly.

The R&D process safeguards SGL Carbon’s further growth beyond the 5-year planning horizon.