Capital Market Day 2014

Minerals Division
Manfred Schaffer, Group EVP

MANAGING THE CYCLE AND PREPARING FOR THE UPTURN

One Source
Manfred Schaffer, Group EVP Minerals

- Group EVP, Minerals Division, since Sept 2014
- Sandvik (2003-2013):
  - President, Mining Systems, Surface Mining
  - Global Div Man and Managing Director, Materials Handling
  - Managing Director, Materials Handling
  - Vice President, Bergtechnik
  - Managing Director Australian Operations, Mining & Tunneling
  - Manager Marketing and Sales, Bergtechnik
  - Project and Brand Manager, International Corp.
  - Project Manager, Machinenbau GmbH
  - Project Engineer, Maschinenbau
  - Design/R&D Engineer
- Mechanical Engineering, IFL Executive Education, IMD People Development and Business Strategy
- Born 1958, Austrian
Unique ability to respond to miners’ challenges

The miners challenges

- "The easy ore is gone" – more CAPEX for less revenue
  - Higher, deeper, dryer, more complex Mining
  - Decreasing head grades
- Costs headwinds
  - Labour Costs and Productivity
  - Materials and Energy
- Commodity prices
- Complex environment
  - Mine Licenses & rights
  - Corporate Social Responsibility
- Safety, Sustainability
- Shareholders‘ need for returns

Our response

Leverage our full offering to provide the PRODUCTIVITY SOLUTIONS to our customers

- Improved productivity by process optimization, in greenfield and brownfield applications, incl.
  - Ore characterization
  - Process design
  - Plant engineering,
  - supply and installation
  - Operation and Maintence

- Best project delivery capabilities by increasing EPC competence
Long term underlying positive outlook for Mining and Minerals

Accessible market

Mined copper production

Available minerals processing market (USD)

Global Copper Production in mt

4-5% OTC
The Minerals Division in brief

- ‘One Source’ minerals solution provider:
  - **Optimize minerals processes** - higher process efficiency and recovery rates
  - Design, supply and install from **single equipment to full flow-sheet solutions**
  - Smart **Material Handling Solutions** in e.g. Continuous Mining (IPCC), Dry Tailings, Heap Leaching

- Technology and Project centres in USA, Germany, India, South Africa, Chile and Australia

- Ambition: >3% EBITA margin by 2016 merger synergies result in cost reduction, 4-5% points improvement

- Approx. 2,600 FTE in Q3/2014

- A cycle resilient organization, easy to deal with, a performance oriented culture
Minerals Division’s ‘reason-to-be’

- Develop on promise to be a **stronger „One Source“ supplier value proposition** for our customers
  - Focus on full solutions to maximize customers’ productivity
  - Integrate our Material Handling and Minerals Processing activities

- ... and **develop it even further**
  - Evolve the EPC model in Minerals to meet the minerals industry needs

- **Leverage synergies** within our group
  - Concentration of competences into one engineering powerhouse
  - Global presence and avoiding sub-scale positions
  - Increase operational efficiencies (Frontline, Backoffice, Supply Chain)

- Become **more adaptable** to changing market conditions
  - Agile, lean, scalable organization, suitable for a cyclical industry
Our focus within the mining/minerals industry

**Exploration**
- Exploration for mineral resources
  - Remote sensing
  - Geophysical/geochemical tests
  - Samples
- Feasibility studies

**Development**
- Drilling and modeling of the ore body
- Selection of appropriate mining technique
- Capital investment in mine infrastructure

**Extraction**
- Mining of the ore body
- Rock breaking
- Surface mining
- Underground mining

**Material Handling**
- Mined minerals transported to processing site

**Crushing, Grinding & Sizing**
- Use of loaders, trucks, trains, at the face mining systems and conveyors
- Materials are crushed and ground to achieve finer particles
- Particles sized for optimum recovery of minerals species

**Separation**
- Flotation, leaching, sedimentation and filtration are used to increase the mineral content to an economic level

**Refining**
- Refining to increase concentration of minerals further

**Key techniques:**
- Pyro-metallurgy
- Electro-winning

**Suppliers:**
- FLSmidth
- Metso
- Outotec
- ThyssenKrupp Resources
- Sandvik
- Various Chinese suppliers

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“One Source” Supplier for all Minerals Processing Applications

- Minerals Division is the final step in aligning and integrating our previous acquisitions in Minerals Processing and Materials Handling
- We release the full potential of processing knowledge and product ownership for all major steps in minerals processing
Wide Range of Engineered Products
Incl. metallurgical testing, automation & service organisation

- Crushing & Screening
  - Crushing
  - Screening
- Milling
  - Grinding
  - Milling
  - HPG
- Precious Metals
  - Gravity Separator
  - Downstream Gold
- Flotation & Dewatering
  - Flotation
  - Sedimentation
  - Filtration
  - Classifiers
  - Centrifuges
- Stockyard & Port Machines
  - Ship Loader
  - Stockyard Equipment
- Conveying & Feeding
  - Apron Feeder
  - Pipe Conveyor
  - Overland Conveyor
  - Mobile Stacking Conveyor
  - Mobile Sizer
  - Mine Hoist
  - Mine Skips

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Minerals Processing and Material Handling: Combination logic

Core Customers and Go-to-Market Models overlap

Complementary capabilities, to provide full solutions span

Similar drivers and success factors

- Same business model and drivers
- Sharing Markets and global footprint
- Strong Market, Sell, Design and Delivery synergies

* Islands or larger projects, e.g. full flowsheet
Unique materials testing facility in Salt Lake City

Robotic Ore Analyses

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Using our unique competences for integrated Minerals Processing and Materials Handling solutions

**IPCC – In-pit Crushing and Conveying**

Reduce truck haulage OPEX by creating one continuous Minerals (or Waste) Extraction System

**Dry Tailings Processing and Handling / Stacking**

Reduce OPEX and CAPEX by

- Extracting and recirculate valuable water from tailings
- Stack dry tailing, eliminating environmental risks and pools/dams

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By engaging earlier we can create more value

**Project Development Phases**

- **Metallurgical Test and Studies**
  - Conceptual Studies
  - Basic Engineering
  - Detailed Engineering
  - Production Supply
  - Mechanical Erection
  - Plant Operation

**Desired Position**
- FLSmidth as a partner for most productive solution development and project supply partner

**Elevated Position**
- FLSmidth bidding as bundle or Island supplier

**Traditional Entry Point**
- FLSmidth bidding as an equipment supplier
Evolving the EPC model

Early involvement and selection of critical equipment

- A key driver of **system performance**
- Reduces **project time and plant life cycle cost** by up to 10%
- Improve **project delivery time and risks** through better forward-looking Project Execution Model
- Improve **ramp-up time**: modularization and pre-commission in factory rather than onsite

It does not take away project scope from the EPCM

- Early engagement with FLSmidth in the concept phase will position the EPCMs better to deliver greater overall value
Achieving profitable growth through productivity solutions leadership and best practices in FLSmidth

Our ambition:
- 5-6% annual revenue growth over the cycle
- EBITA 3-8% over a cycle
- Negative NWC and positive Cashflow throughout project execution

Our vision:
Be our Customers’ preferred full-service provider of sustainable Minerals Technologies

Our enablers:
- Know-how in minerals technology and flowsheet optimisation
- Excellence in ore characterization and pilot testing
- Comprehensive product portfolio
- Project / EPC Competence
- Global coverage, customer intimacy, experience, references, brand, trust

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Strategic Roadmap to Profitable Growth

Long term: expand from a leading position

Short term: realize the “One Source” vision

- Realize synergies from re-organization
- Focus on leadership in selected product segments
- Realize the full solution - best productivity concept and EPC capabilities
- Expand by increased geographic market penetration (e.g. Australia, SE Asia)

- Expand to adjacent markets
- Explore opportunities in mid-market
- Couple EPC full solutions, with Operation and Maintenance
- Preferred partner for Majors Miners, partnership with EPCM houses
Minerals key take-aways

- **Minerals is becoming a stronger „One Source“ supplier**
- **The new Minerals division will capture synergies and deliver significant efficiency improvements**
- **Competencies are better leveraged, enabling easier adaptation to changing market conditions**
- **Growth by evolving the EPC model in Minerals**