The New Boliden Way
Striving to become a world class producer

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Director Group Strategy and
Business Development
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A European base metals company

- Zinc, Copper, Gold, Silver, Lead
- Mining and Smelting
  - Net buyer of concentrates
- Global leader in e-recycling
- High environmental performance
- In-house project execution resources
- Tech leader in several fields
### Mines

<table>
<thead>
<tr>
<th>Metal in conc, t</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>271,203</td>
</tr>
<tr>
<td>Copper</td>
<td>79,363</td>
</tr>
<tr>
<td>Lead</td>
<td>49,477</td>
</tr>
<tr>
<td>Gold, kg</td>
<td>3,644</td>
</tr>
<tr>
<td>Silver, kg</td>
<td>229,791</td>
</tr>
</tbody>
</table>

### Smelters

<table>
<thead>
<tr>
<th>Product, t</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>467,389</td>
</tr>
<tr>
<td>Copper</td>
<td>338,577</td>
</tr>
<tr>
<td>Lead</td>
<td>18,970</td>
</tr>
<tr>
<td>Lead alloys</td>
<td>42,558</td>
</tr>
<tr>
<td>Gold, kg</td>
<td>16,175</td>
</tr>
<tr>
<td>Silver, kg</td>
<td>575,959</td>
</tr>
<tr>
<td>Sulphuric acid</td>
<td>1,633,676</td>
</tr>
</tbody>
</table>
## Financials

In USD

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>5,970 Mio</td>
<td>6,018 Mio</td>
</tr>
<tr>
<td>EBITDA ex PIR</td>
<td>919 Mio</td>
<td>1,035 Mio</td>
</tr>
<tr>
<td>EBIT ex PIR</td>
<td>588 Mio</td>
<td>747 Mio</td>
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</tbody>
</table>

PIR=Process Inventory Revaluation
USD/SEK = 6.70
New Boliden Way

- Launched 2004
- Boliden's organisational and production philosophy based on the “lean” concept
- All Boliden units now work with NBW in one form or another, for example:
  - Productivity improvements
  - Cost reductions
  - Efficient maintenance work
  - Leadership development
New Boliden Way

- Who we are
- What we do
- Why we do it
- How we do it
Who we are
The core of who we are – Our values

- Passion for improvements
  - I work smarter
  - I give that little extra

- Personal commitment
  - I am a problem solver
  - I solve the problems immediately

- Value chain responsibility
  - I'm an expert in my part of the value chain
  - I supply the right things with the right quality
The House illustrates the most important components of our NBW work

All the components are necessary to prevent the House from collapsing
What we do
Boliden produces metals that make modern society work

- Metals are vital to society's development

- Boliden produces base and precious metals through our exploration, mining, smelting and recycling operations

- Throughout our value chain, we do our utmost to comply with society's demands for safety, environmental consideration and good ethical conduct
Why we do it
To be a world-class metals company

- Boliden shall be among the leading companies in our industry in terms of customer satisfaction, efficiency and responsibility

- Operational excellence helps us remain at the forefront in a volatile industry
How we do it
Boliden's value chain

- Exploration
- Mining & Concentration
- Smelting, Refining & Recycling
- Metal Sales & Customer-driven Product Development
You create value within the value chain

- each and every single activity
- each handover between activities and steps
- the entire flow of the whole value chain
- handling of deviations
Empowered, responsible employees

- You have clearly defined responsibilities
- You have the authority to carry out your duties
- You strive for continuous improvements
Inspiring leadership

- You ensure that clear information flows freely
- You create the best possible conditions for employees
- You communicate with the employees
LTI frequency in Boliden

5 year development

- Employees
- Contractors
Boliden has the best fatality ratio per employee in the world

Source: Deutsche Bank
Sick leave (2013-08)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>3,9%</td>
<td>3,7%</td>
<td>3,7%</td>
<td>4,0%</td>
<td>4,2%</td>
<td>4,7%</td>
</tr>
<tr>
<td>Bergsöe</td>
<td>2,5%</td>
<td>2,0%</td>
<td>2,9%</td>
<td>2,6%</td>
<td>2,4%</td>
<td>2,1%</td>
</tr>
<tr>
<td>Staff</td>
<td>2,7%</td>
<td>2,3%</td>
<td>2,5%</td>
<td>2,0%</td>
<td>3,2%</td>
<td>0,0%</td>
</tr>
<tr>
<td>Garpenberg</td>
<td>2,8%</td>
<td>2,7%</td>
<td>2,6%</td>
<td>3,0%</td>
<td>2,7%</td>
<td>3,4%</td>
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<tr>
<td>Tara</td>
<td>3,2%</td>
<td>2,8%</td>
<td>2,4%</td>
<td>3,0%</td>
<td>3,5%</td>
<td>4,5%</td>
</tr>
<tr>
<td>Boliden Area</td>
<td>3,1%</td>
<td>2,9%</td>
<td>3,3%</td>
<td>4,5%</td>
<td>4,6%</td>
<td>5,2%</td>
</tr>
<tr>
<td>Aitik</td>
<td>3,9%</td>
<td>3,8%</td>
<td>3,9%</td>
<td>3,5%</td>
<td>3,8%</td>
<td>4,1%</td>
</tr>
<tr>
<td>Rönnskär</td>
<td>4,2%</td>
<td>3,9%</td>
<td>4,0%</td>
<td>3,9%</td>
<td>4,0%</td>
<td>4,8%</td>
</tr>
<tr>
<td>Odda</td>
<td>5,0%</td>
<td>5,1%</td>
<td>6,0%</td>
<td>5,6%</td>
<td>4,8%</td>
<td>5,9%</td>
</tr>
<tr>
<td>Harjavalta</td>
<td>5,0%</td>
<td>4,9%</td>
<td>4,6%</td>
<td>5,4%</td>
<td>5,9%</td>
<td>4,3%</td>
</tr>
<tr>
<td>Kokkola</td>
<td>5,1%</td>
<td>4,9%</td>
<td>4,7%</td>
<td>5,5%</td>
<td>5,7%</td>
<td>5,4%</td>
</tr>
</tbody>
</table>

Green: < 4,0%, Yellow: >= 4,0%, Red: > 4,5%

From 2008-2011 absence due to Lost Time Injuries is excluded in the sick leave rate from Tara

Staff include Boliden Group Staff, Boliden Smelters Staff, Boliden Mines Staff, Exploration, Technology and Garpenberg 2.5 (project).
Metals to air and water (2007-2013-08)

Metals to air (Zn, Cu, Pb, Ni, Cd, As)
Metals to water (Zn, Cu, Pb, Ni, Cd, Hg)
CSR in Boliden

- Health and Safety
- Environment
- Relations to local community
- Risks connected to Business Partners

Plan
- Identified Significant Aspects
- Review status

Set targets
- KPI:s
- Action plans

Do
- Apply controls
  - Reporting
  - Audits
  - Site visits
  - Networking

Check
- Review results

Act
- Take further actions

External reporting

Boliden sites
- Business Partners
- Audit
- Follow up
- Survey
- Assessment
- Follow up
Expansion projects
Expansion Projects update

2010
- Aitik Expansion Cu-Au
- Rönnskär Electronic recycling Au, Ag, Cu

2012
- Kankberg Au, Te
- Kokkola Zinc smelter Ag recovery

2014
- Garpenberg Expansion Zn, Ag, Pb
- Potential
- Aitik further expansion Cu-Au
- Laver New deposit Cu-Au

Boliden Area
- Hötjärn tailings pond
- Mauriiden East Cu open pit mine
- Boliden Area Mill/feed logistics
- Kankberg, Te leaching
In summary: Boliden strategy

- **Operational excellence**
  - Production stability and productivity
  - New Boliden Way

- **Organic growth**
  - Eliminating production bottlenecks
  - Long-term growth investments
  - Near-mine exploration

- **Acquisitions of mines and projects**
  - Boliden’s competence offers excellence opportunities to create value
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Metals for modern life
Complementary slides: Expansion projects
Aitik expansion 2010-2014

- Competitive position
  - High productivity
  - Favorable stripping ratio
  - Gold by-product
- From 18 to 36 mt of ore
  - Full production in 2014
- Capex SEK 6.1 billion 2006-2010

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt</td>
<td></td>
<td></td>
<td></td>
<td>Plan</td>
</tr>
<tr>
<td>Ore Production</td>
<td>27.6</td>
<td>31.5</td>
<td>34.3</td>
<td>36</td>
</tr>
</tbody>
</table>
Kankberg – mid 2012

- One of five mines in the Boliden area
- Production
  - Ore 320 kt
  - Gold 37,000 troz\(^1\) (high yearly variations)
  - Tellurium 41 t\(^1\)
- Life of mine >8 years
- Capex MSEK 475
- Production started Q2 2012

\(^1\) Metal in concentrate
E-recycling expansion

- Started 18 January 2012 – on time
- E-recycling volume incl. existing capacity
  - 120 kt annual rate from Q2
  - From 37 to 64 kt already in 2011
- Capex, MSEK 1,300 – on budget

Project data
- No 1 electronics recycling plant
- Electronics from phones, computers
- 120,000 t/year total capacity
- Increased recycling volume adds:
  - 2,000 kg gold
  - 32,000 kg silver
  - 14,500 t copper
Expansion Garpenberg

- Capex SEK 3.9 billion
- Period 2011 - 2014
- New industrial area
  - New underground facilities
  - New concentrator
  - New infrastructure
- From 1.4 to 2.5 mt of ore/year
- Ramp-up, 2 mt/year 2014 to full production end 2015
- Average grades in mineral reserve
  - Zinc 5.1 %
  - Lead 2.0 %
  - Silver 131 g/t
- Good geological potential
Silver recovery at Kokkola

- Increasing silver content in Zn concentrates
- Higher silver prices
- Proven technology
- 25 t silver
- Production Q3 2014
- Capex 27 MEUR (~240 Msek)
- High return
Aitik options

- Capacity 2014, 36 mt/yr
  - Tailings expansion
- Expansion to 45 mt/yr:
  - Pre-feasibility study
  - Tailings expansion
  - Mining equipment