



# Smelters update

CMD 21 November 2013

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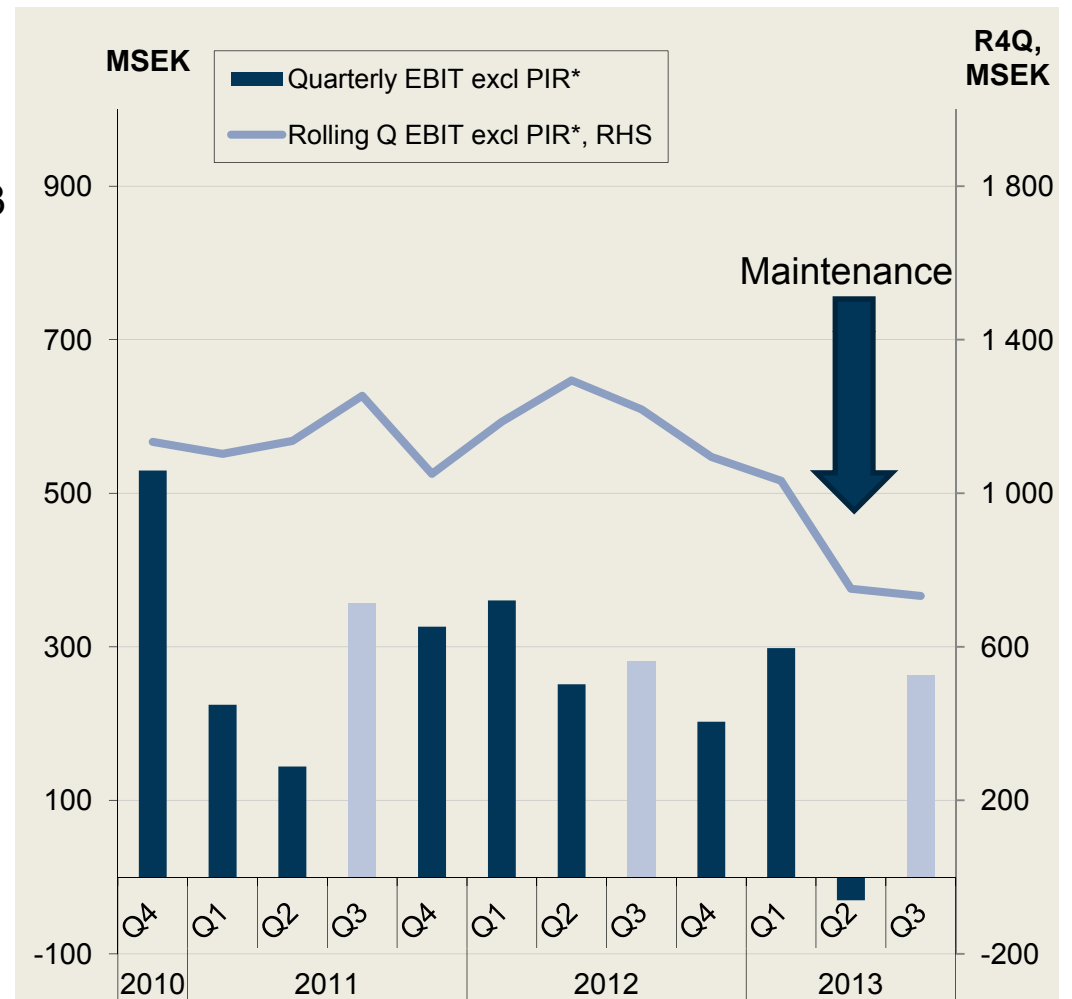
President

Boliden Smelters

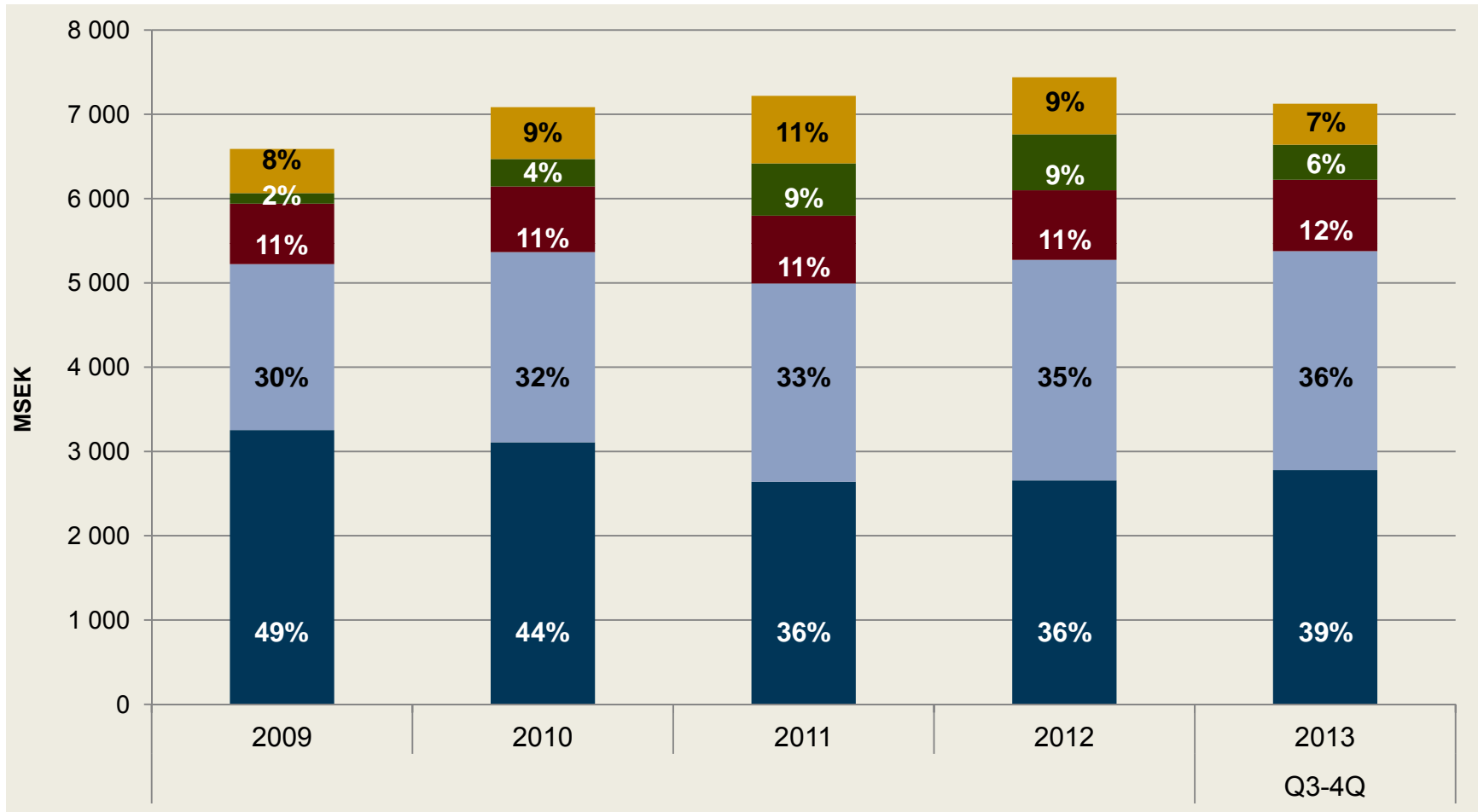
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# Smelters Financial development

- EBIT ex PIR YTD Q3 530 (892) MSEK
- Major maintenance stops in 2013
- Otherwise stable quarterly earnings since 2011
- Lower metal prices
- Positive TC development
- Sulphuric acid market weaker
  
- Capex YTD Q3 946 (716) MSEK
- Capex higher than maintenance level in coming years
  - De-bottle necking
  - Environmental



# Gross profit development

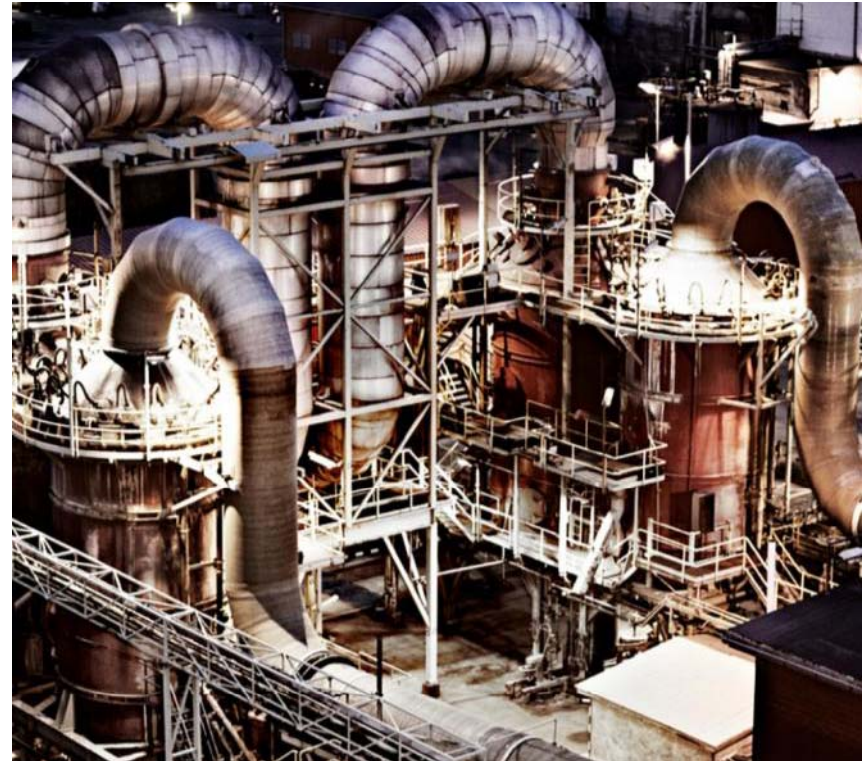


■ TC/RC 
 ■ Free Metal 
 ■ Premium 
 ■ Sulphuric acid 
 ■ Other by-products



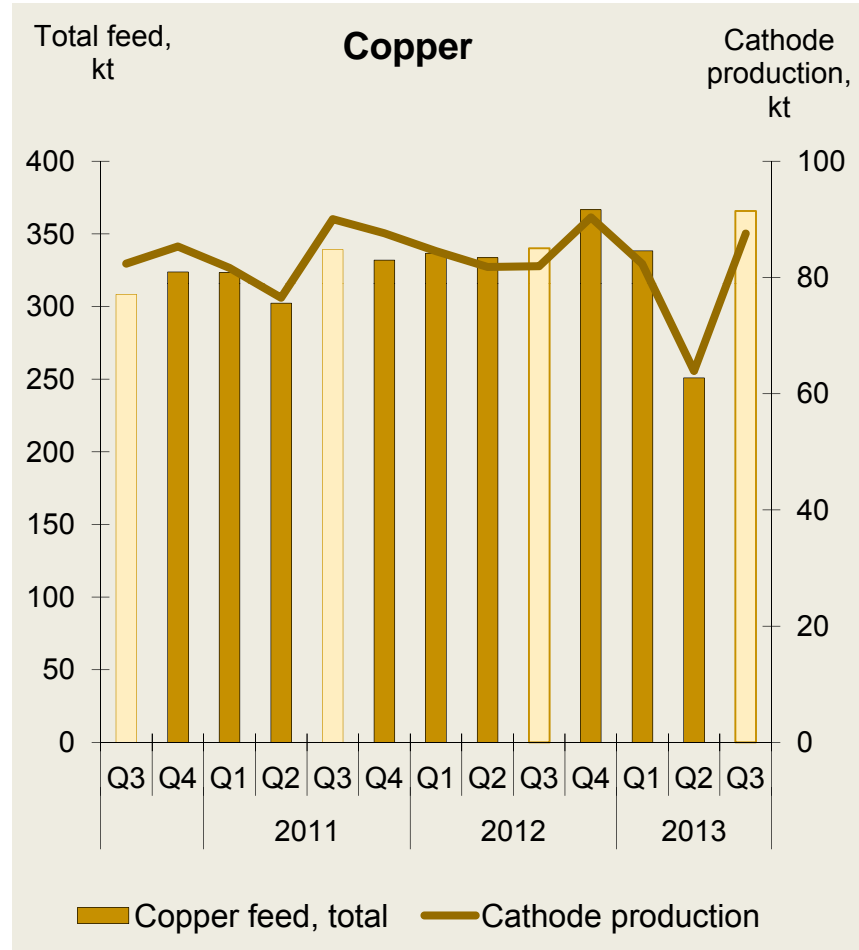
# Strategic priorities

- Improve safety, environmental & CSR performance
- Secure optimal raw material supply
- Broaden customer & product portfolio
- Increase and diversify metals output
- Improve operational efficiency & cost position
- Reduce Capital Employed



# Copper Production – Q3

- Rönnskär – production stability issues
- Harjavalta – ok
  
- Maintenance stops in Q2
  - Rönnskär at plan; Production problems at start-up
  - Harjavalta 1 week delayed



# Rönnskär - Challenge

## Copper, lead and secondary smelter

- Production instability
  - Background:*
    - Lower grade in concentrates
    - Quality e-materials
    - Changed raw material mix
  - Consequences:*
    - Lower recovery
      - High intermediate stocks
      - Low free metals
    - High costs
- Low EBIT from by-products
- Environmental permitting process appealed



# Rönnskär - Actions

## Copper, lead and secondary smelter

- Focus areas
  - Production stability
  - Reduce intermediate stocks
  - Reduce costs
  
- Actions
  - Raw material selection
  - Process control – steering and models
  - Adapt processes towards more complex material mixes and low-grade concentrates
  
- Time perspective
  - Short term – stabilize
  - Long term – recovery



# Harjavalta

## Copper and nickel smelter

- Current situation
  - Costs under control
  - Copper - intermediate stocks back on target
    - High free metals
  - Nickel - stable
- Focus areas
  - OEE (Overall Equipment Effectiveness)
  - Costs
- Q4
  - Cable fire, EBIT impact ~4MEUR





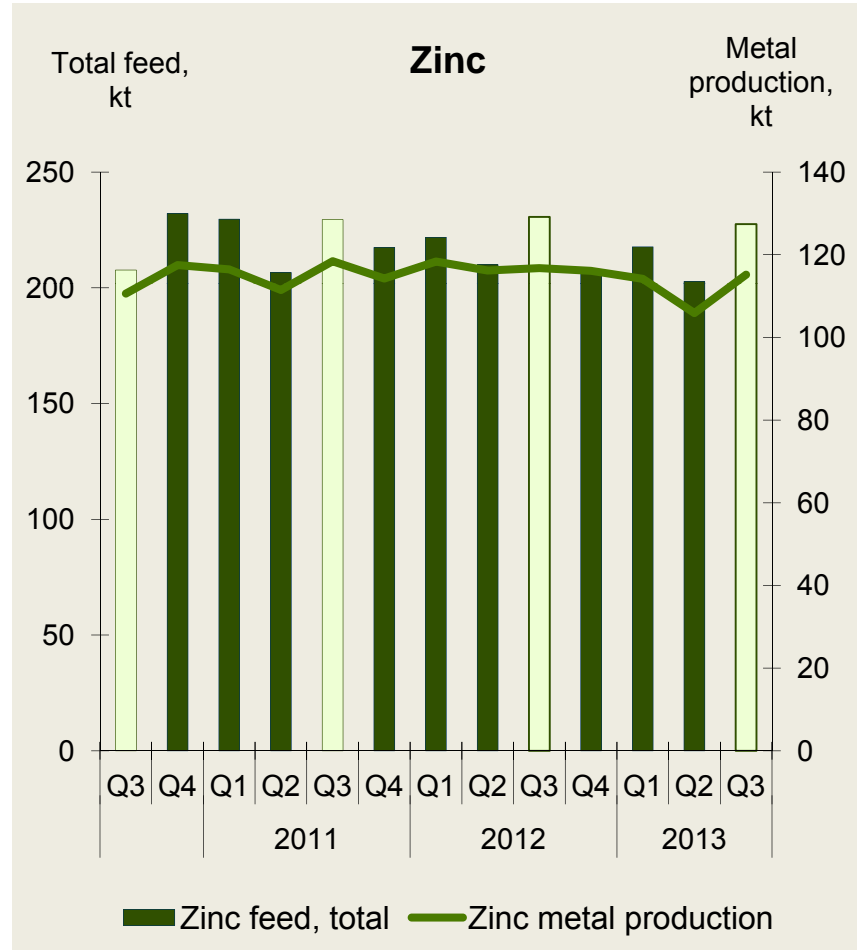
# Bergsöe

- Current situation
  - Tight supply of batteries
  - Significant raw material price increases
  - Improved productivity
    - 3-4% volume increase
    - Stable cost level
  
- Focus areas
  - New sourcing markets
  - Continue operational improvements
  - Environmental permitting process appealed



# Zinc Production – Q3

- Kokkola – stable production
- Odda - only 3 Direct Leach-reactors
  
- Maintenance stops in Q2
  - On plan



# Odda

- Current situation
  - Respacing of tankhouse no 5, closure of tankhouse no 4
  - 17% cost reduction/ton zinc since 2010
  - Reduced production due to DL-reactor
    - DL-reactor replaced begin 2014



# Increased productivity in cell house

## Respacing

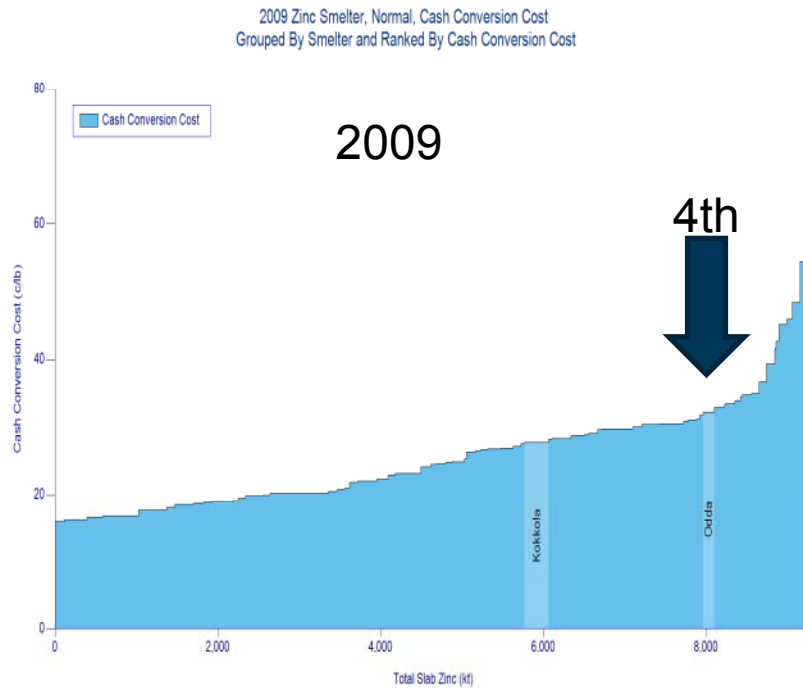


## New transformer

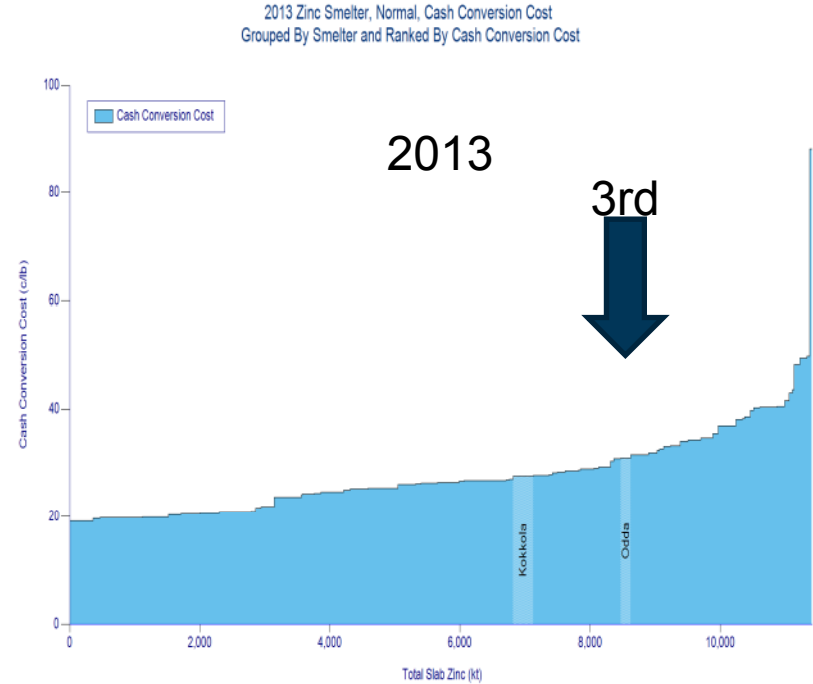


# P100 Odda improvement programme continues

- Focus areas
  - Cost reductions
  - De-bottlenecking



Source: Wood Mackenzie Ltd, Dataset: 2013 Q4



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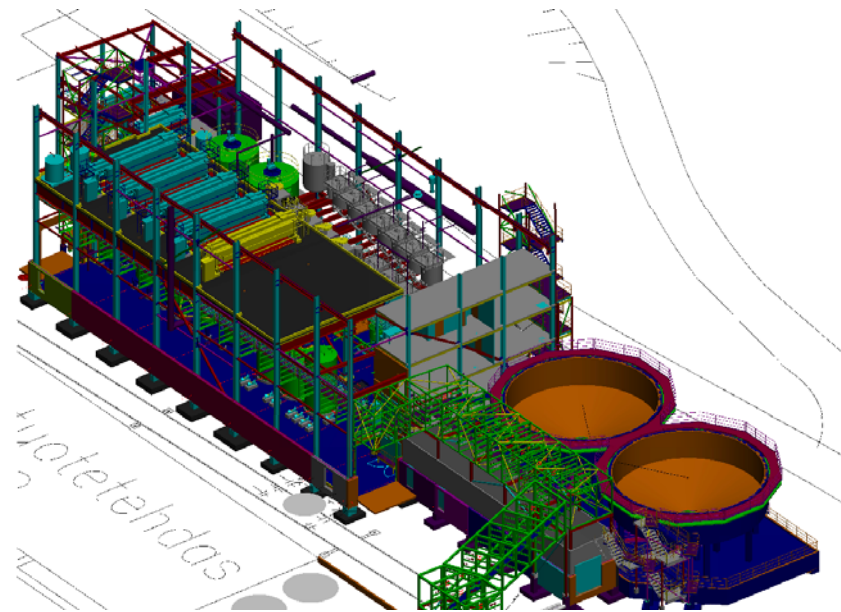
# Kokkola

- Current situation
  - Continued stable production
  - Managing calcine stock
  - High costs due to oxygen
- Focus areas
  - Silver recovery
  - Quality of sulphuric acid



# Silver recovery

- Background
  - Increasing silver content in zinc concentrates
  - High silver prices
- Investment
  - Investment 27 MEUR
  - Production Q3 2014
  - Production of 25 t silver
    - Silver concentrate, <10 000 g/ton, with small amounts of gold and lead
    - Further refinement to silver elsewhere
  - High profitability
- Enlarges zinc concentrate market for both zinc smelters



# Silver recovery November 2013





# Pricing model

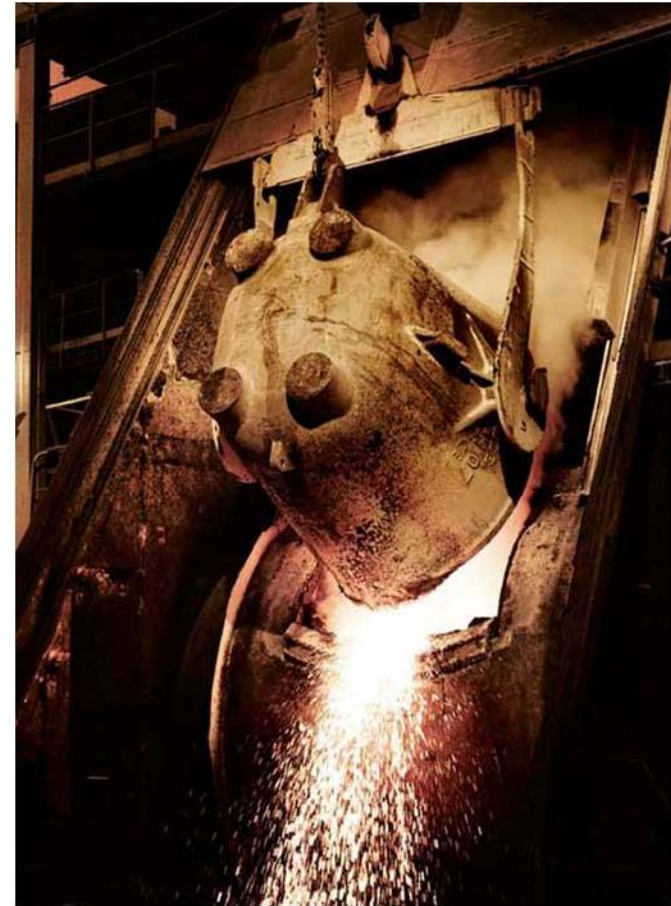
- Income streams - pricing of zinc concentrate
  - Metal value from recovery of silver\*, gold and lead from zinc concentrate
  
- Deductions - pricing of silver concentrate
  - Silver (5%), Gold (5%) and lead (3units)
  - Treatment Charge and Silver & Gold Refining Charges
  
- Minimum deduction zinc concentrates > 3 troy ounces/DMT (~93 gram/DMT) gives ~70% payable silver.

Source: Wood Mackenzie



# Maintenance 2014

- Maintenance stops
  - Maintenance stops in all units Q2 or Q3
  - Ni-line in Harjavalta
- EBIT effect -220 MSEK
  - -140 MSEK in Q2
  - -80 MSEK in Q3



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Ag

Au

Cu

Zn

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