



Boliden Area

CMD 20 November 2013

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Boliden Area

BOLIDEN

Boliden Area 2013

Production units

- Concentrator, Gold leaching, Tellurium plant
- 3 underground mines
- 1 open pit mine (2 pits)

Milled production, kt

- Ore from mines 1,600
- Slag from smelter 250

Products and customers

- Copper and gold concentrates to Rönskär
- Zinc concentrate to Odda, Kokkola and external

500 Employees



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Renström mine

- Ore production 300 kt
 - 100 employees
 - 1,250 meter deep
 - Cut-and-fill mining
 - 20 km from concentrator
 - Complex ore: Au, Ag, Cu, Zn and Pb
 - Highest ore value in the group
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- Reserves & resources: 3.0 & 5.4 mt



Kristineberg mine

- Ore production 700 kt
- 1,250 meters level
- Cut-and-fill mining
- 95 km from concentrator
- Oldest mine in the Boliden area
- Gold ore body depleted in 2013
 - Still gold as by-metal in Zn, Cu ore
- 200 employees
- Reserves & resources: 4.6 & 9.3 mt



Kankberg mine

- Ore production 320 kt
- 10 km from concentrator
- Production of Au and Te (Tellurium)

- 70 employees
- Reserves & resources: 3.6 & 0.7 mt



Maurliden mines (2 open pits)

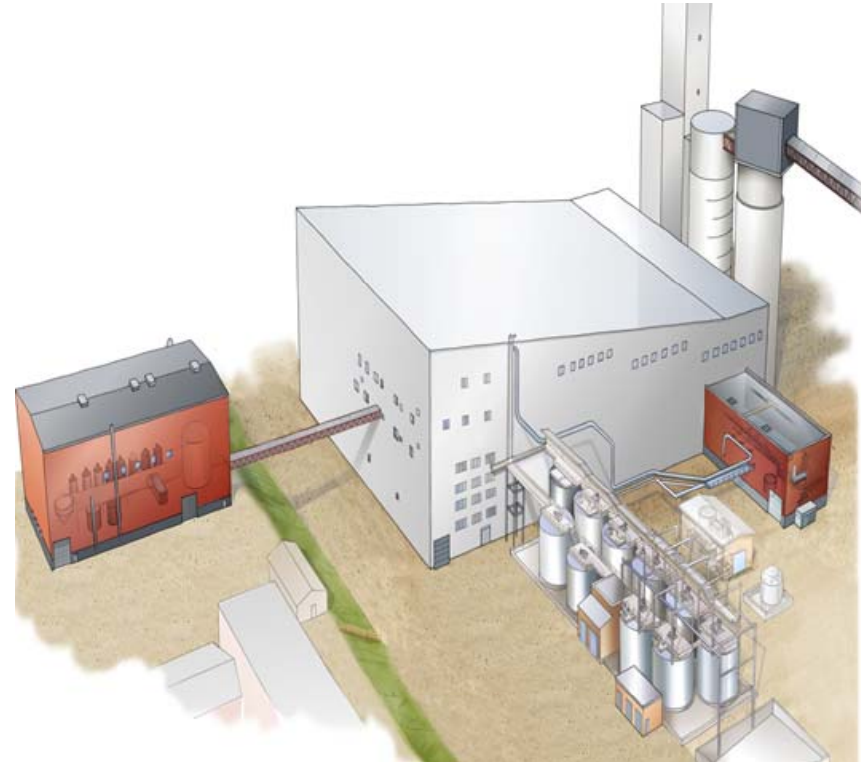
- Flexible ore production
 - 50 km from concentrator
 - Main metal zinc
 - Production to balance other mines
 - Maurliden East depleted 2013 (Cu)
 - New method to reduce metal leaching from waste rock piles
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- 10 own employees + contractor
 - Reserves & resources: 1.3 & 1.4 mt



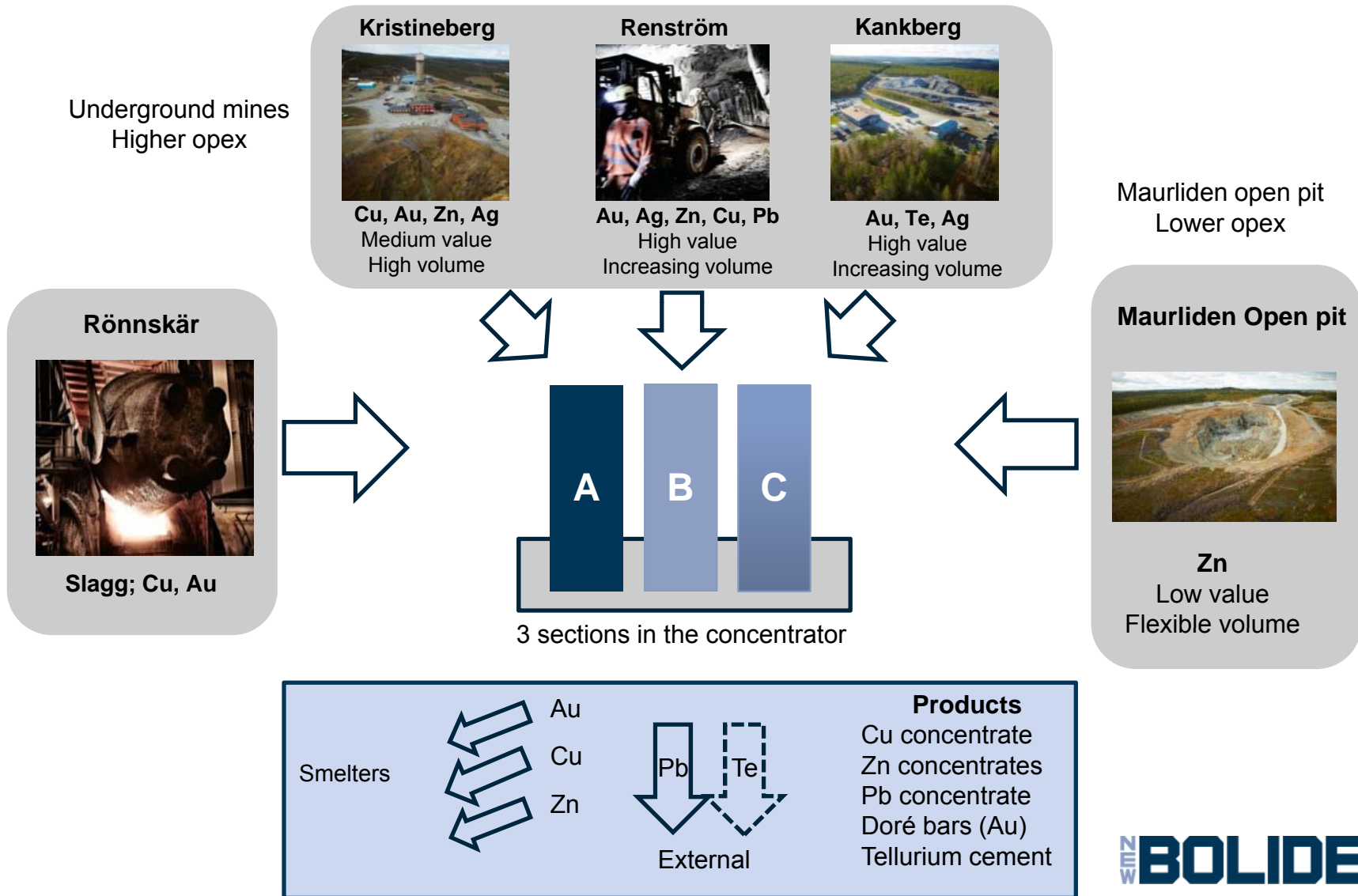
Concentrator

- Milled production 1,850 kt
 - Milled ore 1,600 kt
 - Milled Rönnskär slag 250 kt
- Ore and slag trucked to the mill
- Milling through autogeneous grinding and flotation
- Gold extracted through cyanide leaching
- Tellurium extracted through process developed in-house

- 90 employees

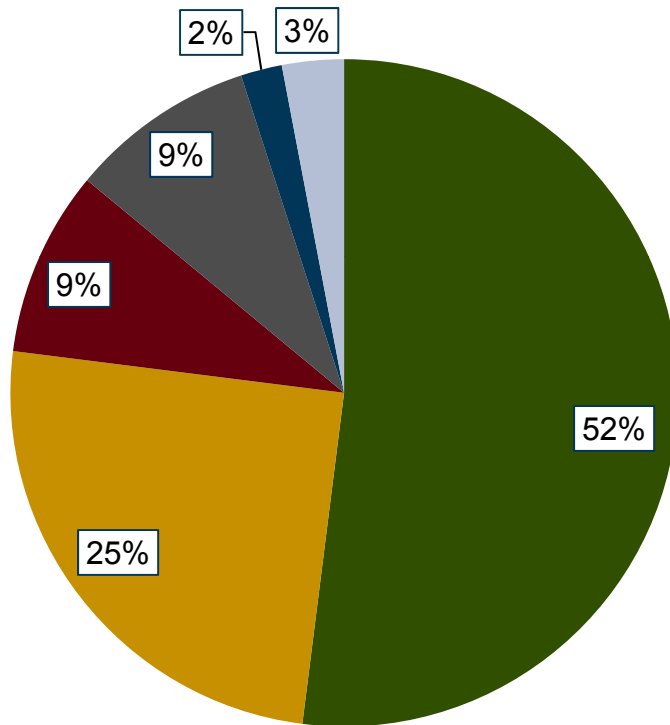


More complex than other operations within Boliden

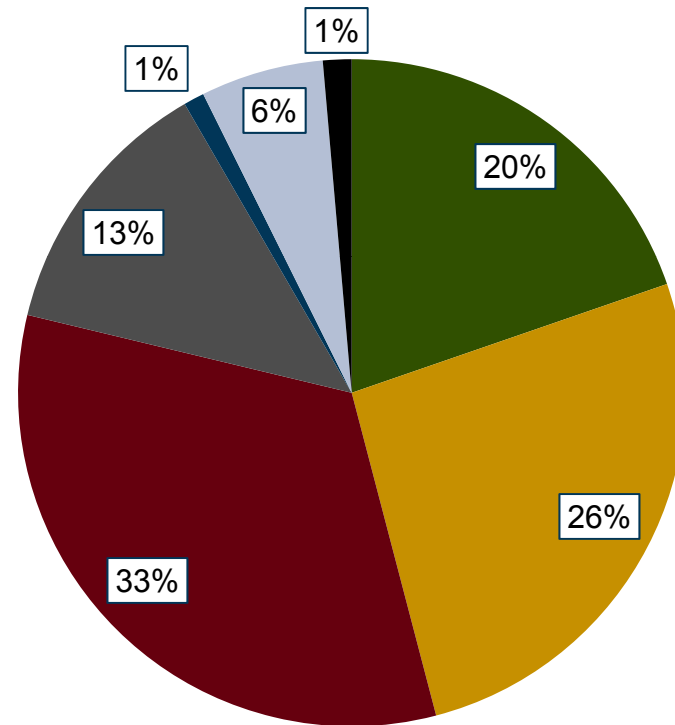


Zinc-Copper-Gold Revenues

2007 – Zinc & Copper



2013 – Gold & Copper



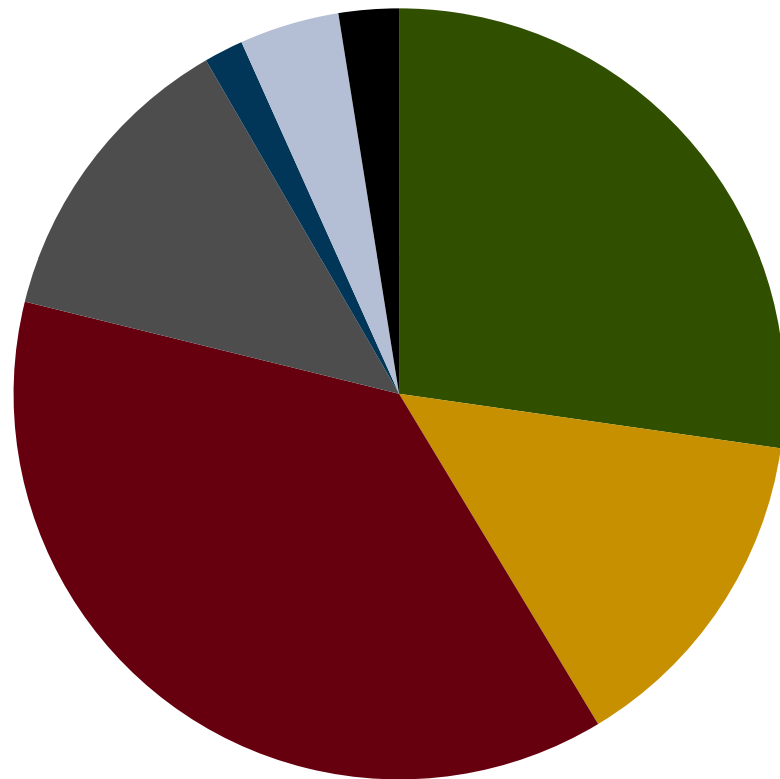
■ Zinc
 ■ Copper
 ■ Gold
 ■ Silver
 ■ Lead
 ■ Slag
 ■ Tellurium



..and going forward

Revenues (indicative)

Gold & Zinc



■ Zinc ■ Copper ■ Gold ■ Silver ■ Lead ■ Slag ■ Tellurium

Strategic direction

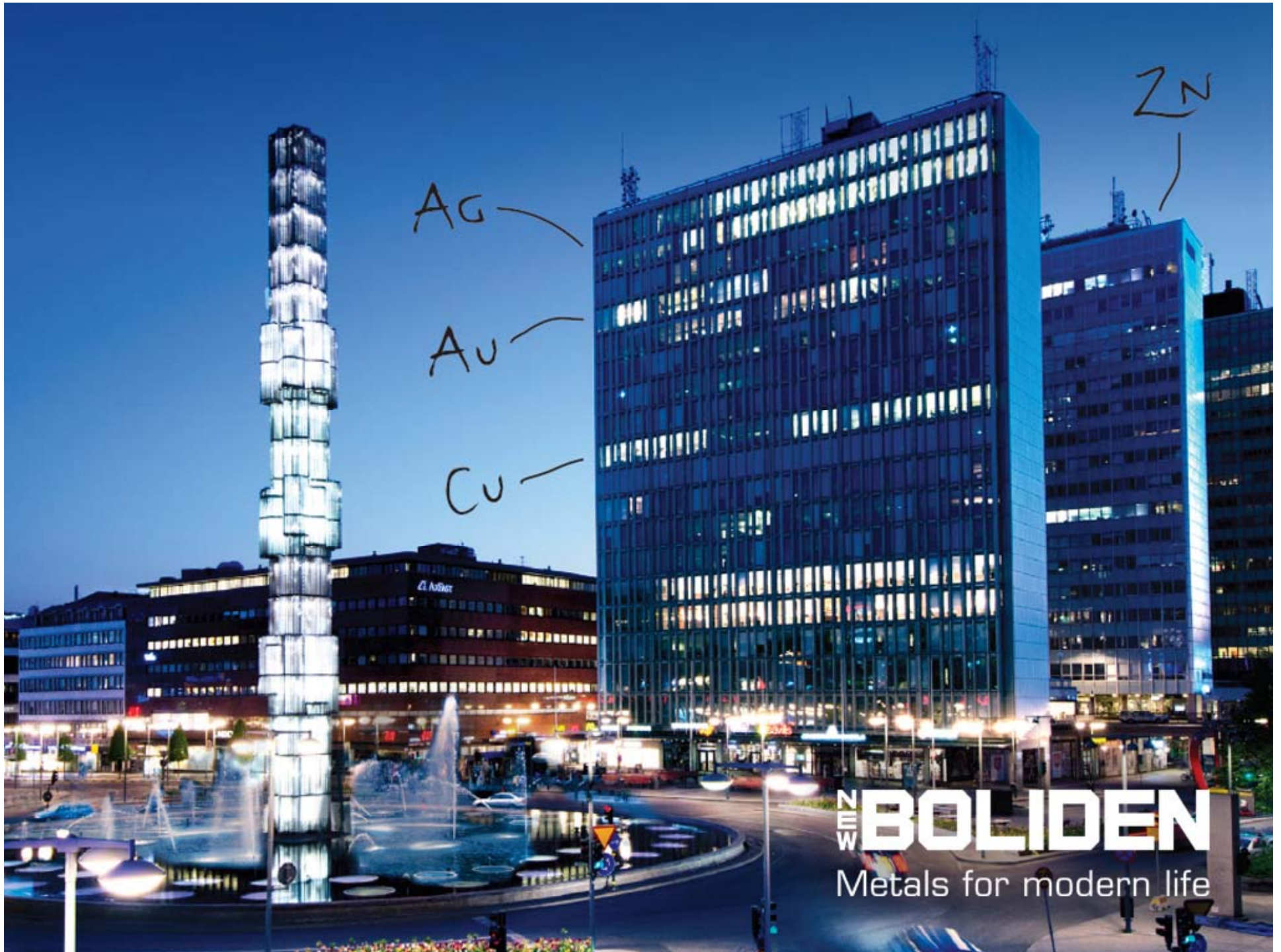
- Increase production of high value ores
- Maintain Maurliden for flexibility at minimum annual cost
- Production in old, but safe and efficient assets
 - Mix changes
 - From open pit (Maurliden East) to underground – higher unit cost
 - Maintenance
 - Logistics



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Ag

Au

Cu

Zn

N W **BOLIDEN**
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