



Pyhäsalmi Mine

Pyhäjärvi Energy Storage in Mine

Pyhäsalmi Mine - History, Present and Future

Hilton Helsinki Airport, Vantaa, Finland | 5 April 2018

Outline



Pyhäsalmi Mine

- Pyhäsalmi Mine
- First Quantum Minerals Ltd
- Production History
- Personnel
- Safety
- Future of Operations
- Impact of Mine Closure

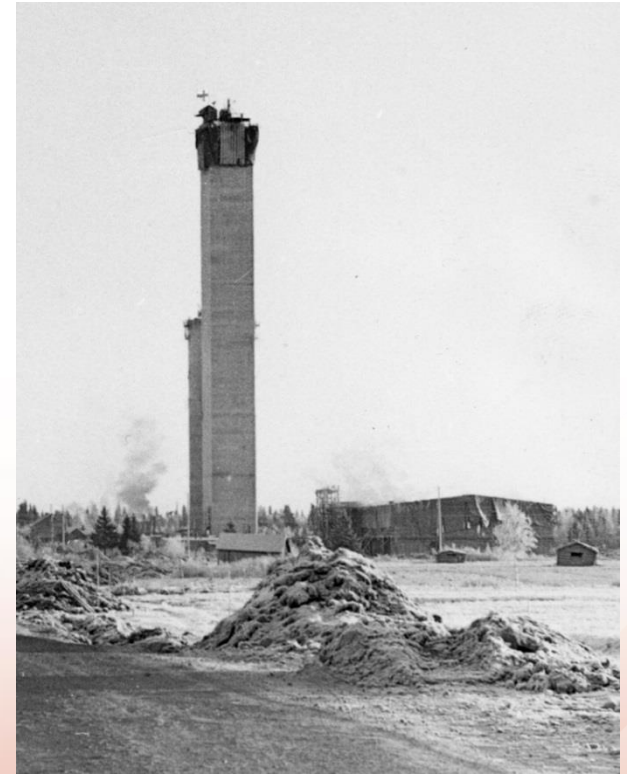


Pyhäsalmi Mine

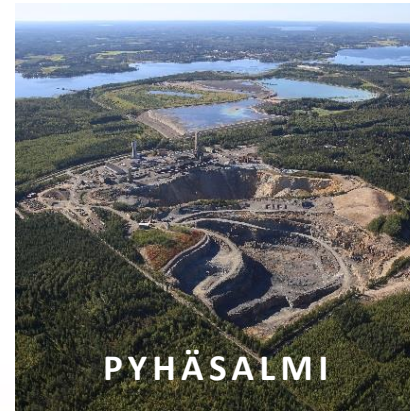
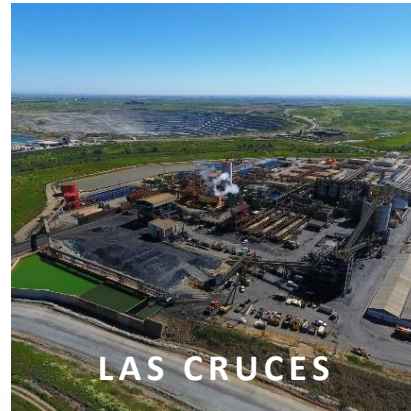
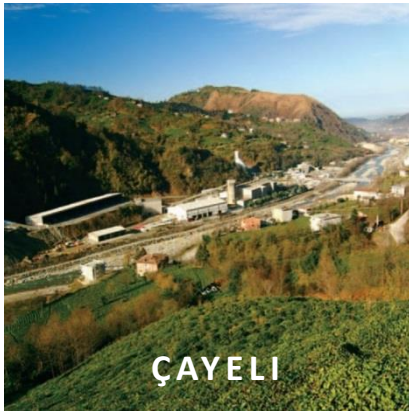


Pyhäsalmi Mine

- Found in 1958 by a farmer
- Established by Outokumpu
- Headframe up in 1959
- Production start-up in 1962
- Outokumpu to quit mining in 2001
- Acquired by Inmet Mining Corporation
- First Quantum Minerals Limited took over in 2013



FQM Operating Mines



Cobre Panamá



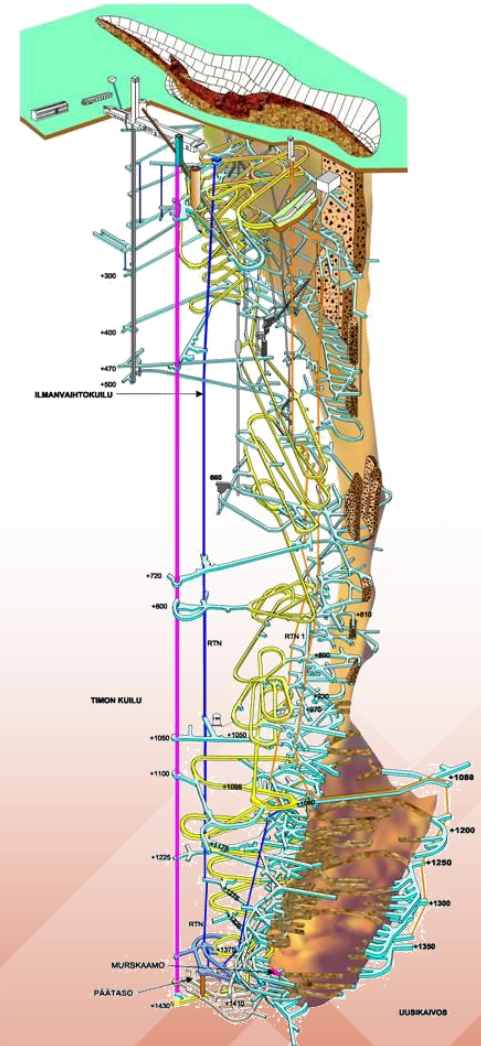
- First coal shipment in January
- Power plant first unit into operation in February
- Copper concentrate production to start in April 2019
- Capex U\$6 billion.

Pyhäsalmi Mine



Pyhäsalmi Mine

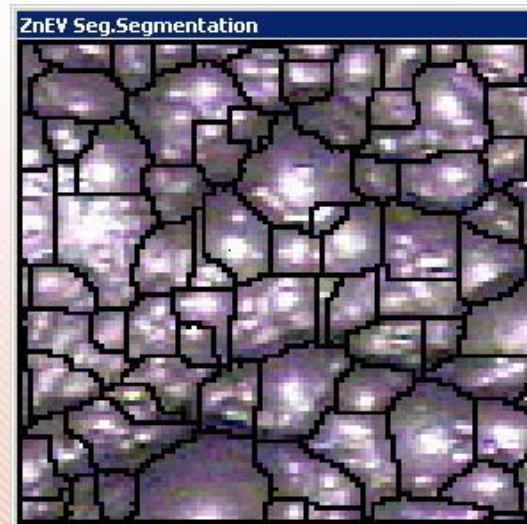
- Mine developed in four stages:
 - Open pit – crusher at 210L
 - Underground Mine – crusher at 400L
 - Blind shaft – crusher at 660L
 - New Shaft from surface – crusher at 1410L
- One of the most efficient non-caving u/g mines in the world.
- Access by shaft in less than 3 minutes or by 11km decline in 30 minutes – rare asset.
- Both mine and mill have pioneered several advanced technologies developed together with domestic technology suppliers.



Advanced Technologies



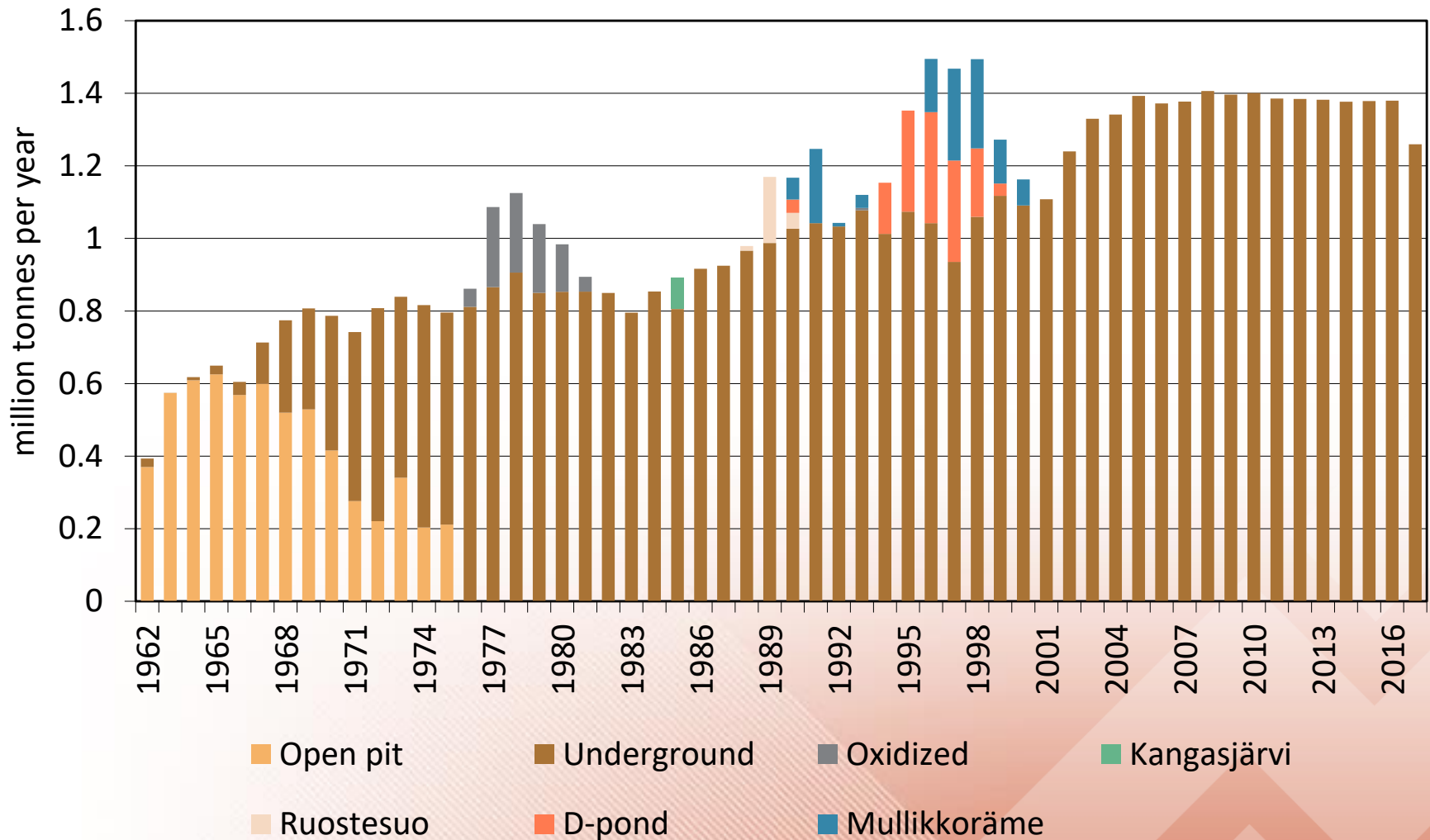
Pyhäsalmi Mine



Production History



Pyhäsalmi Mine



Production to Date



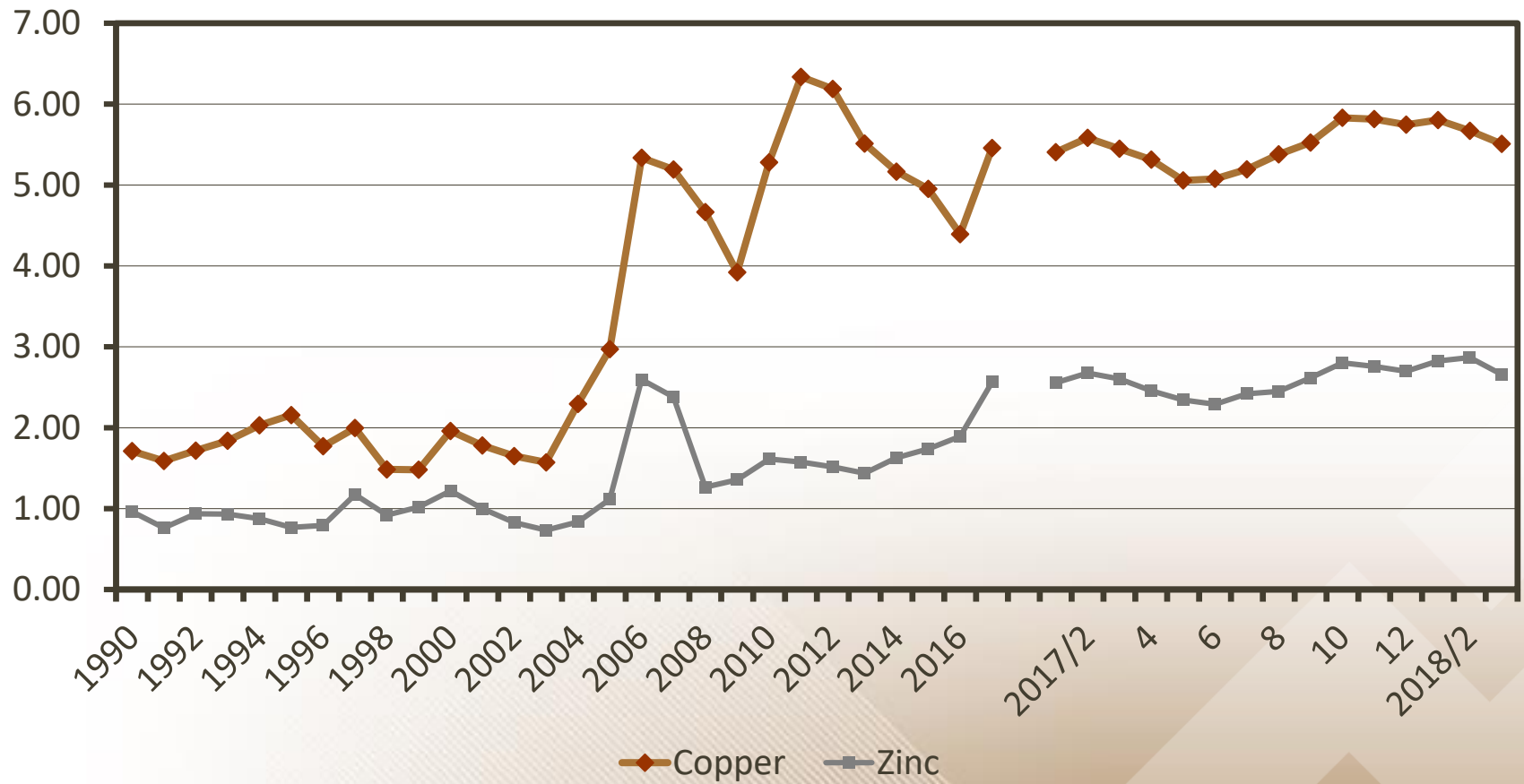
Pyhäsalmi Mine

Ore milled	59.2	Mt
Copper	490	kt
Zinc	1 289	kt
Pyrite concentrates	30.1	Mt
Gold	10	t
Silver	500	t
D-pond	1.3	Mt

Metal Prices, €/kg



Pyhäsalmi Mine

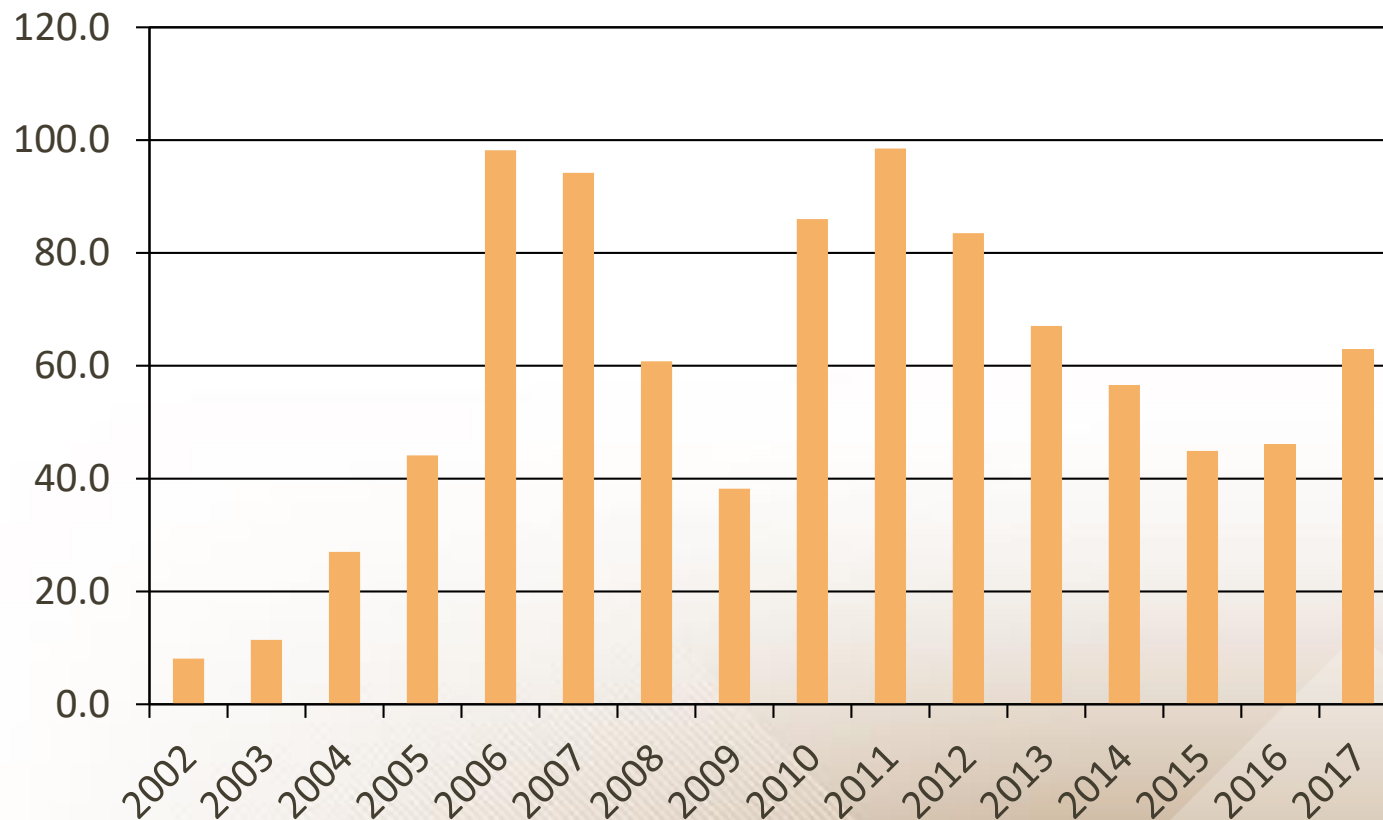


Supporting Owner's Growth

Operating Earnings, euro million



Pyhäsalmi Mine



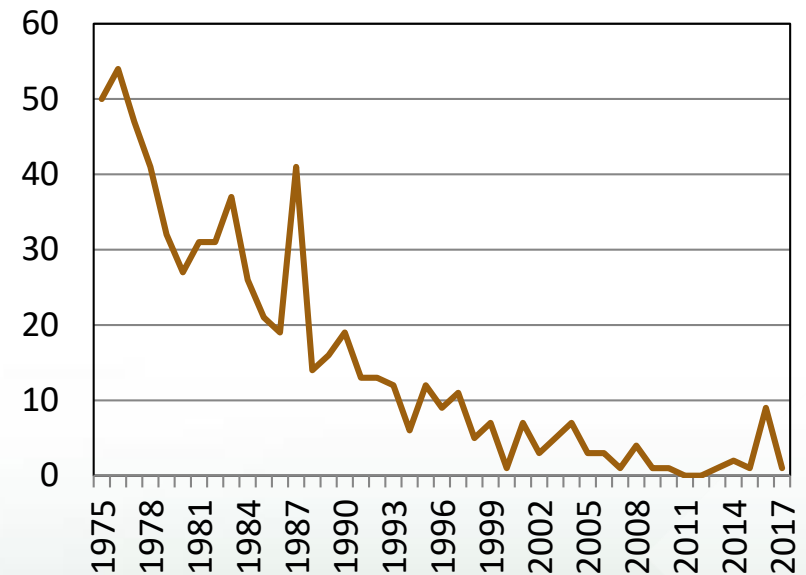
Corporate taxes paid 2004-2017 in excess of €200 million

Safety



Pyhäsalmi Mine

- Safety vastly improved in past 40 years.
- Year 2011 first full calendar year without a LTI.
- Longest period without a LTI 1,033 days
- Currently 336 days w/o LTI.



Lost-time Incidents

Personnel

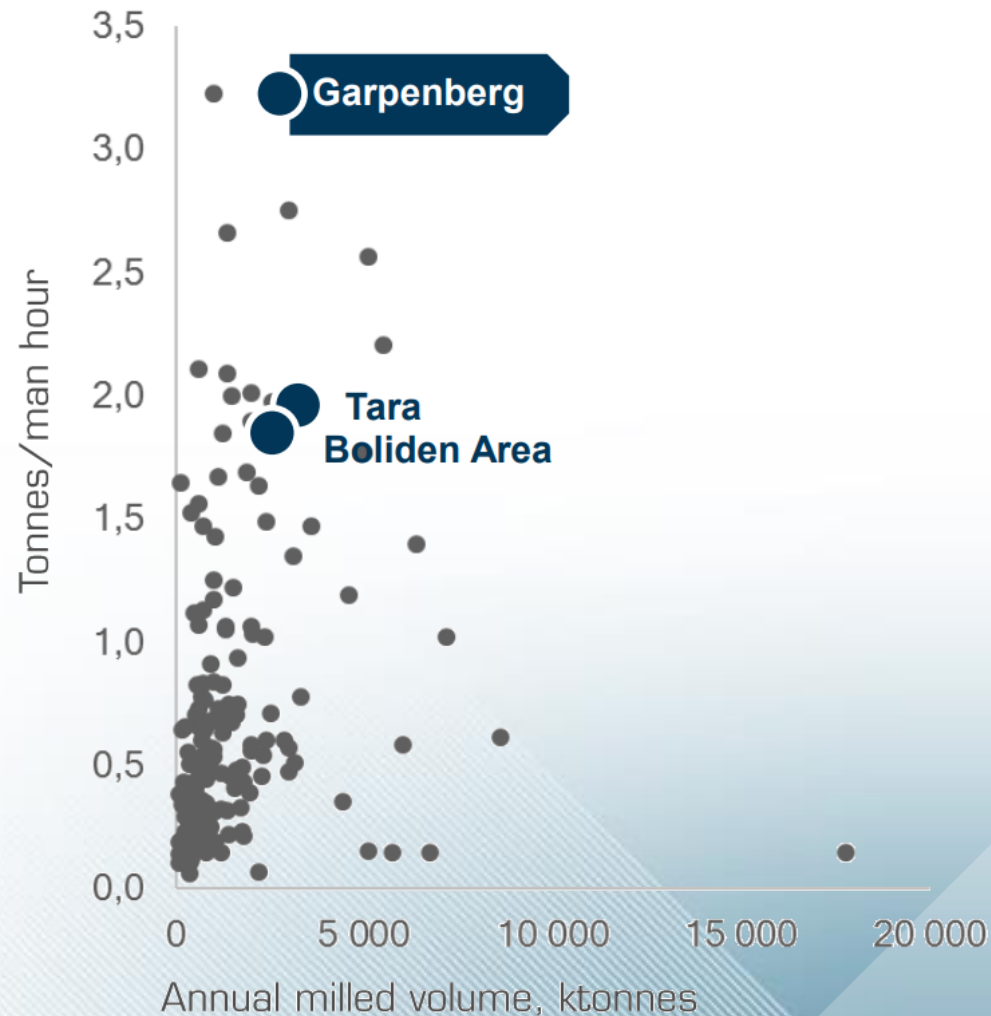


Pyhäsalmi Mine

Department	Salaried	Hourly paid	Total
Geology	2	2	4
Mine	11	59	70
Mill	10	58	68
Site Services	12	30	42
Administration	13		13
Safety, Health and Environment	5	1	6
Total	53	150	203



Productivity in U/G Zinc Mines



Future of Mine Operations



Pyhäsalmi Mine

- Underground mining will end in September 2019.
- Pyrite supply contract to Yara Siilinjärvi has been extended till 2025. Pyrite will be reclaimed from B-pond.
- Mine closure will commence without a delay with dismantling and earthworks as planned.





Impact of Mine Closure

Employees

Environment

Community

Future Survey

Mine Closure Plan

Economical and Employment
Impact Assessment

Security in Change

Confirming Survey Results
Career Paths and Needs
Career Plans
Roles

Legal Requirements
Best Practices
Scheduling
Dismantling and Earthworks
Monitoring

Reuse of Mine Site

MINE FOR BUSINESS

CALLIO

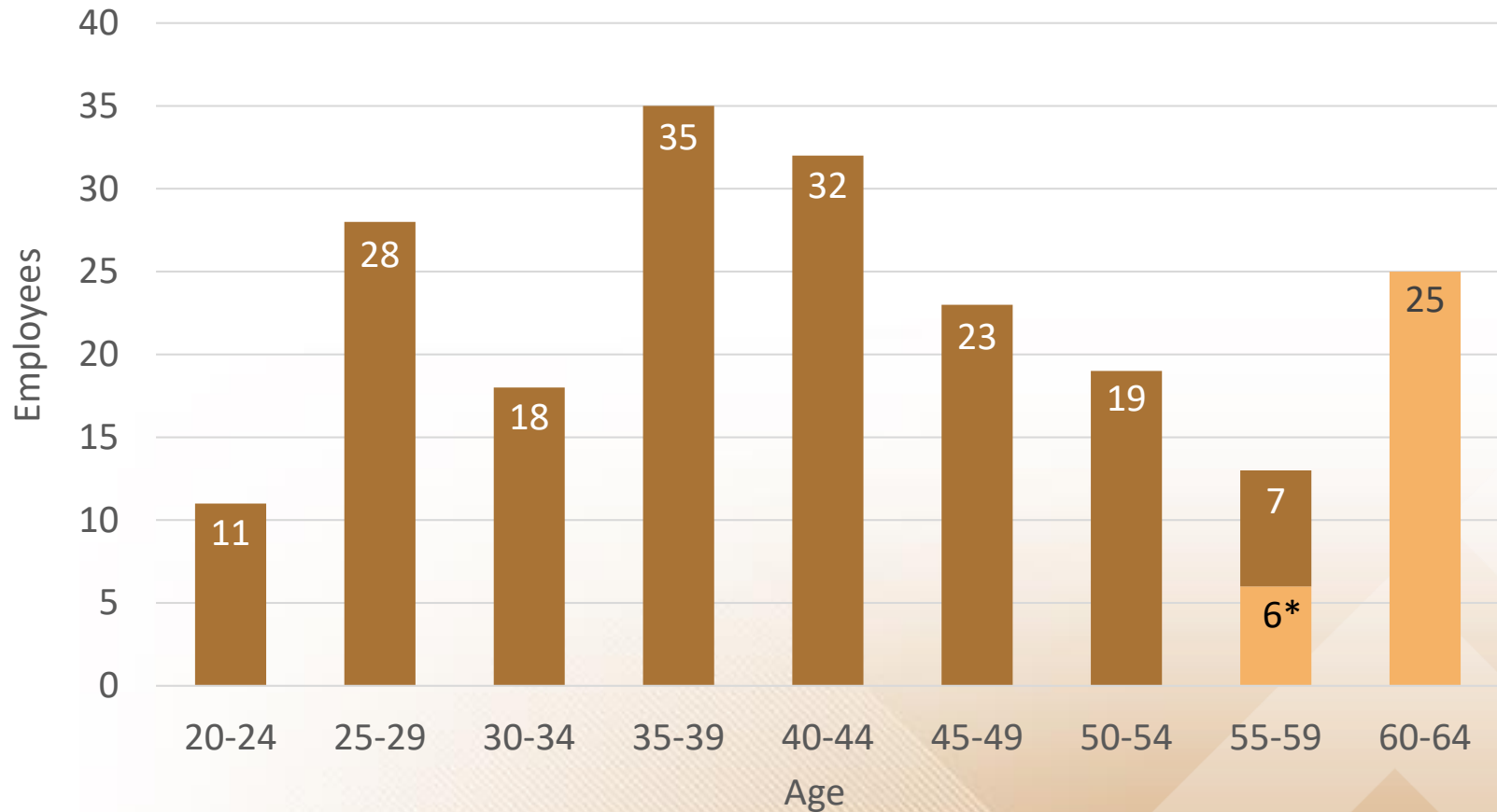
PYHÄJÄRVI, FINLAND

Age Distribution 1.1.2018

Senior employees have a safety network



Pyhäsalmi Mine



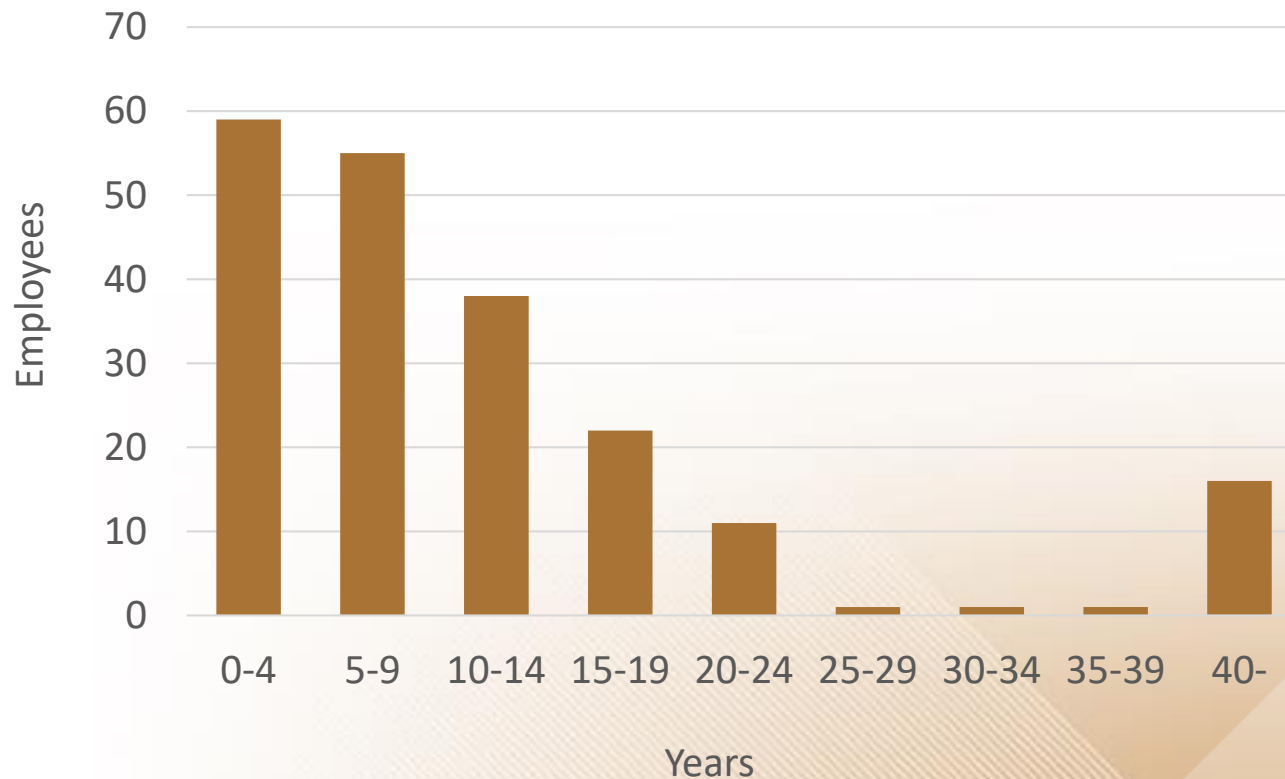
** Current pension benefits*

Length of Employment



Pyhäsalmi Mine

*Most employees recruited
within past 15 years*

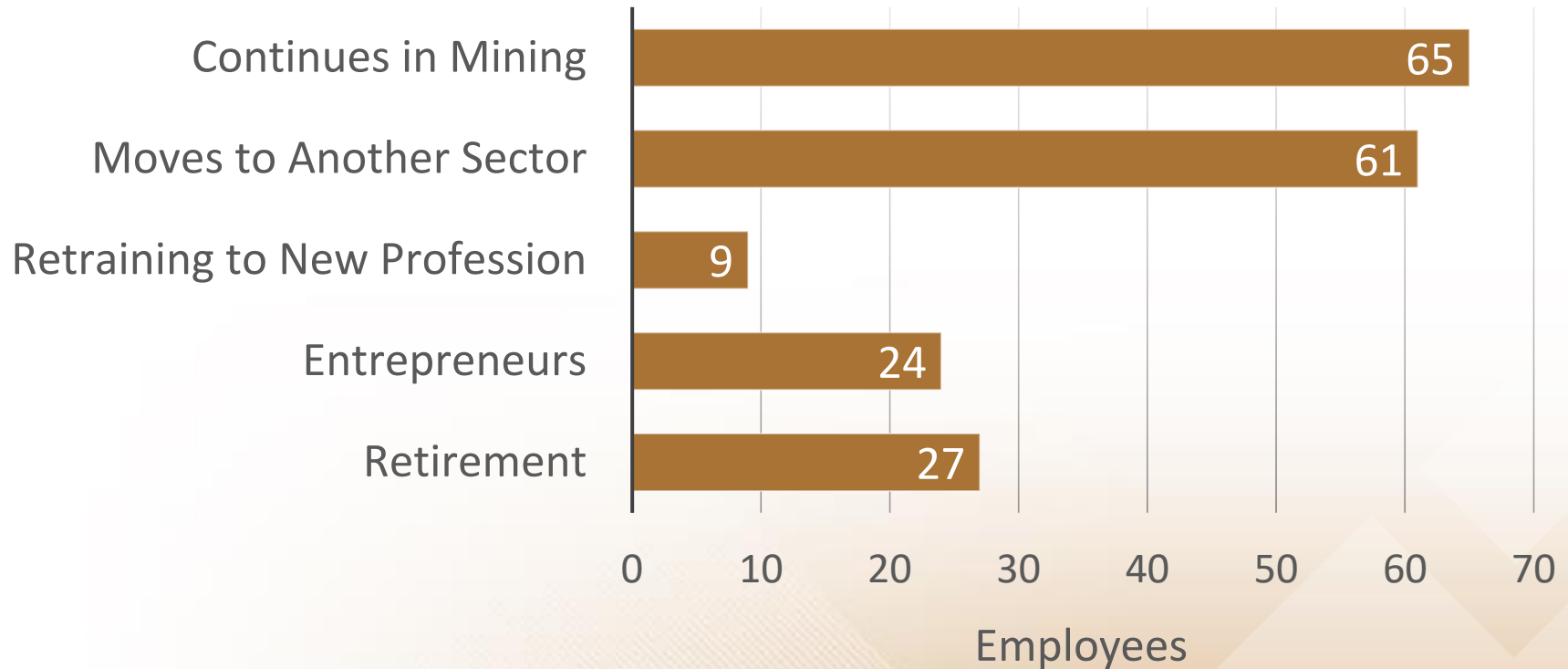


*'Outokumpu
employees'*

Career Paths



Pyhäsalmi Mine



A- pond is already closed



Pyhäsalmi Mine

1999





Impact on Employment

Pyhäsalmi Mine's impact on employment is 1 150 jobs. In addition are corporate taxes paid.

At mine closure will be 400 jobs lost in Town of Pyhäjärvi, 200 jobs lost in the province and another 200 jobs nationwide.

*Source: Kaivostoiminnan lopettamisen aluetaloudelliset vaikutukset - Pyhäsalmen kaivos
Esa Storhammar - Jyväskylän yliopiston kauppakorkeakoulu 2014 - In Finnish*



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