



**OAX: NOM**

Q2 2018 Presentation  
Oslo, 17 August 2018



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1. Introduction
2. Financial status
3. Update on projects
  - Engebø, rutile and garnet
  - Keliber, lithium
  - Kvinnherad, high purity quartz
4. Q & A



# Developing high-value assets in the Nordic Region



**Engerbø Rutile and Garnet (100%)**



High Purity Quartz



Seabed minerals



Platinum, Palladium



**Keliber Lithium (22%)**



# Board of Directors and Management

## Management team



### **Ivar S. Fossum, CEO**

Fossum has 20 years experience from management positions in Norsk Hydro (oil/gas and fertilizers) and FMC Technologies. He has a broad international experience and has been general manager of Norsk Hydro East Africa Ltd. in Nairobi, Kenya. Fossum holds a Master of Science in Mechanical Engineering from the University of Science and Technology in Trondheim, Norway.



### **Birte Norheim, CFO**

Norheim has broad management experience from various companies in the oil and gas sector i.a. M-I Swaco, Sevan Marine ASA and Njord Gas Infrastructure AS. Norheim has a Bachelor in Business Management and a Master in Applied Finance from Queensland University of Technology, Australia.



### **Mona Schanche, VP Exploration**

Schanche has previously worked as a project geologist in Titania (Kronos Group), a major producer of pigment feedstock. She is a resource geologist from the University of Science and Technology in Trondheim, Norway and has more than 10 years experience from the mining sector.



### **Lars K. Grøndahl, Senior Advisor**

Grøndahl has broad experience from industrial management positions in i.a. Aker, Scancem Group and HeidelbergCement. He holds a Master of Science in Economics and Business Administration from the Norwegian School of Economics in Bergen, Norway.



### **Kenneth Nakken Angedal, Project Manager Engebø**

Nakken has been Vice President, Digital Service in ABB Marine and has broad management and project coordination experience from various management positions in the ABB Group.

## Board of Directors



### **Tarmo Tuominen, Chairman**

Deputy CEO in the Finnish mineral group Nordkalk. Geologist with broad mining experience. Chairman of the Geological Survey of Finland (GTK).



### **Kjell Roland, Deputy chairman**

CEO of Norfund, the Norwegian Investment Fund for Developing Countries. Roland holds a Master of Science in Economics from the University of Oslo, Norway. Roland has been a partner and CEO in ECON Management AS and ECON Analysis.



### **Mari Thjømøe, Board member**

Extensive executive and board experience from oil and gas, finance and investment management (e.g. Statoil, Norsk Hydro and KLP). Thjømøe holds a Master of Science in Business Administration from the Norwegian School of Management (BI) in Oslo, Norway.



### **Eva Kaijser, Board member**

Kaijser has more than 18 years experience in the Swedish mining industry, i.a. 11 years in Boliden. Kaijser holds a Bachelor in Business Administration from the University of Stockholm, Sweden.



### **Kjell Sletsjøe, Board member**

Sletsjøe has comprehensive international management experience from mining, coatings and construction industries as well as consulting. He holds a Master of Science in Civil Engineering from the University of Science and Technology in Trondheim, Norway. and a MBA from Columbia University in New York, USA.



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# Consolidated Income Statements

Q2-2018 Unaudited	Q2-2017 Unaudited	Amounts in NOK million	Acc. 2018 Unaudited	Acc. 2017 Unaudited	2017 Audited
-	-	Sales	-	-	-
(2.7)	(3.8)	Payroll and related costs	(4.6)	(6.3)	(10.9)
-	-	Depreciation and amortisation	(0.1)	(0.1)	(0.2)
(10.9)	(4.5)	Other operating expences	(21.1)	(12.1)	(25.2)
<b>(13.6)</b>	<b>(8.4)</b>	<b>Operating loss</b>	<b>(25.8)</b>	<b>(18.5)</b>	<b>(36.2)</b>
(2.3)	(6.0)	Share of result of an associate	(3.8)	4.2	0.5
0.1	-	Financial items	-	(0.1)	0.1
(15.9)	(14.3)	Profit/(loss) before tax	(29.6)	(14.3)	(35.6)
-	-	Income tax	-	-	-
<b>(15.9)</b>	<b>(14.3)</b>	<b>Profit/(loss) for the period</b>	<b>(29.6)</b>	<b>(14.3)</b>	<b>(35.6)</b>



# Consolidated Statements of Financial Position

Amounts in NOK million	30.06.2018 Unaudited	31.12.2017 Audited
<b>ASSETS</b>		
Evaluation and exploration assets	25.0	21.6
Property, plant and equipment	0.1	0.2
Investment in an associate	24.5	29.3
<i>Total non-current assets</i>	<i>49.7</i>	<i>51.1</i>
Cash	48.3	21.5
Other current assets	3.7	4.5
<i>Total current assets</i>	<i>52.0</i>	<i>26.1</i>
<b>Total assets</b>	<b>101.7</b>	<b>77.1</b>
<b>SHAREHOLDERS' EQUITY AND LIABILITIES</b>		
<i>Total equity</i>	<i>95.1</i>	<i>70.2</i>
Non-current liabilities	0.7	0.6
Current liabilities	5.9	6.4
<i>Total liabilities</i>	<i>6.6</i>	<i>7.0</i>
<b>Total equity and liabilities</b>	<b>101.7</b>	<b>77.1</b>





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World class deposit of high grade  
rutile and garnet  
Efficient mining concept with minimal footprint

# Landowner and mining rights

- Agreements with the main landowners at Engebø are signed.  
The agreements regulate acquisition of the area for the planned processing plant, including harbour facility, and compensation to the landowners for mining and sale of minerals.
- The mining area comprised by the agreements covers the open pit production phase of the Engebø project.
- Nordic Mining holds irrevocable mining rights and permits necessary for its current operations on the project.
- Nordic Mining can apply for operational permit based on existing mining rights.



Nordic Mining extraction rights



# Definitive Feasibility Study – progress in multiple areas

## Technical development

### Processing

- Finalizing flow sheet based on process test results
- Commencing bulk sample program

### Mining

- Investigating optimized open-pit access from service area

### Modularization

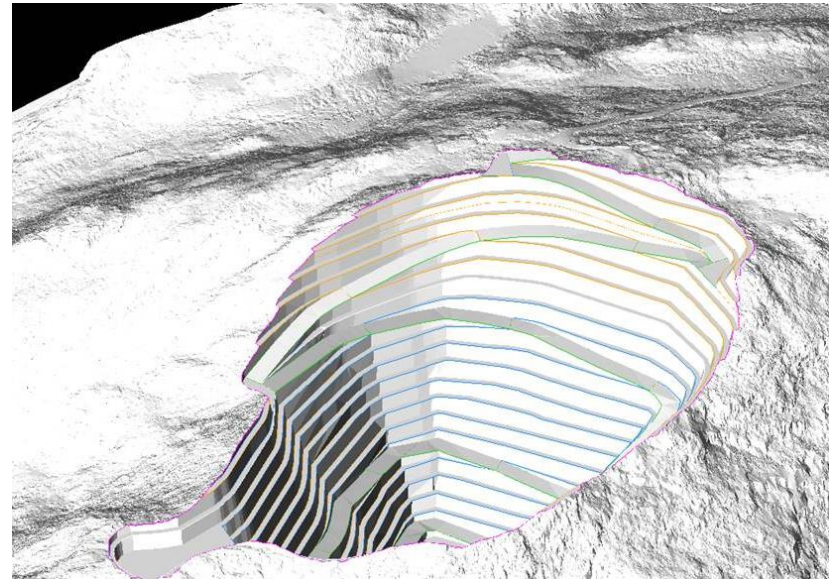
- Draft list of potential module yards and expression of interest documentation

### Engineering

- Draft design criteria for mechanical equipment
- Ongoing 3D modelling of the process modules

### Procurement Strategy

- Draft procurement strategy, including equipment packaging and makers list



# Definitive Feasibility Study – progress in multiple areas

## Infrastructure and readiness

### Infrastructure

- Discussion with architects for office buildings and external architecture of process plant modules

### Regulations

- Water supply regulation and detail regulation plan of process and mining area

### County road FV611

- Planning and design for rerouting of FV611  
Municipality approval process

### Power Infrastructure

- Initiating detail engineering of power infrastructure

### Cultural heritage investigations

- Archeological investigations in regulated area for process and waste disposal



# Definitive Feasibility Study – comprehensive test work

- Process test work; repeatability and variability tests and optimization studies are ongoing
- Certain aspects of the mineralogy and texture of the Engebø deposit is complex. Therefore, the ongoing process testwork is comprehensive
- Additional testwork will impact the DFS timeline
- Current timeline for DFS is mid-year 2019



# Extensive environmental monitoring program

## Scope of work

- Proposed measuring program for critical parameters according to the waste disposal permit
- Proposed monitoring program for the surrounding area, onshore and in the fjord and neighbouring riversystems
- Test work related to additives for processing and water recirculation
- DNV GL is engaged as advisor/coordinator

Proposed programs to be submitted to the Directorate of Environment



# Rutile: Supply constraints tighten the feedstock markets

Industrial Minerals Magazine market update 24 July 2018

*"..... means the already tight rutile market, plagued by supply disruptions, will tighten further this year. Iluka also said that demand for high-grade titanium ores remains very strong.*

*Tight market conditions and strong demand meant Iluka has increased its rutile price to around \$1,033 per tonne, up 14% from \$906 per tonne in the first quarter.*

*Industrial Minerals' assessment for rutile concentrate min 95% TiO<sub>2</sub> bulk cif China rose to \$950-1,100 per tonne on July 5 from \$850-950 per tonne a week earlier, while the assessment for the price of rutile concentrate min 95% TiO<sub>2</sub> large volumes for pigment fob Australia increased to \$930-1,020 per tonne on July 5 from \$800-900 per tonne the prior week."*

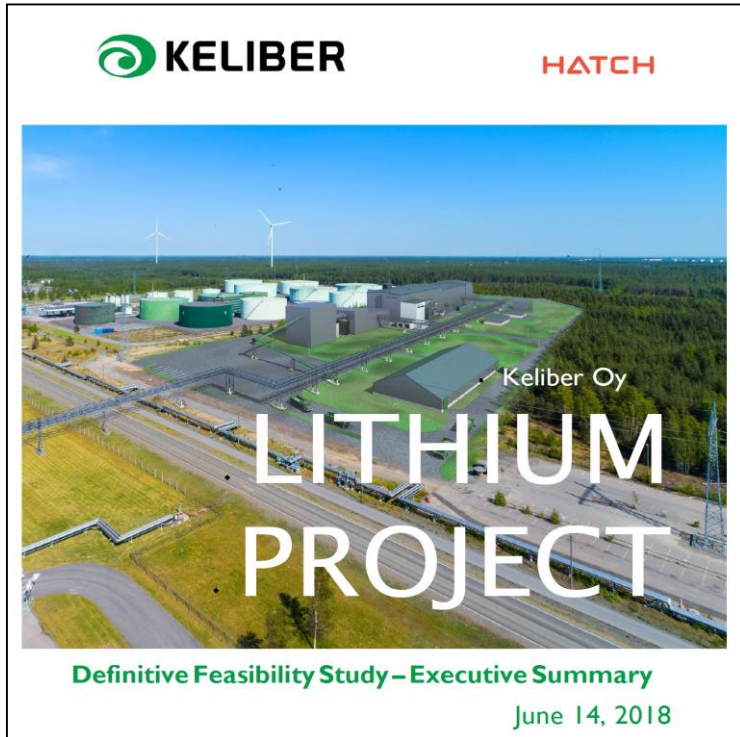


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# Keliber

## Definitive feasibility study confirms profitable lithium project



- Strong project financials:
  - Pre-tax NPV@8% of EUR 295 million
  - Post tax NPV@8% of EUR 225 million
  - Pre-tax IRR 24%
  - Post tax IRR 22%
  - Pay-back period: 5.5 years
- Average battery grade lithium carbonate sales volume of 10,745 tonne/year
- Average lithium carbonate sales price of USD 12,357 per tonne
- 13 years of open pit and underground mining operations followed by 7 years of production based on purchased spodumene concentrate
- Upfront capital cost of EUR 199 million for mines and production facilities; additional capex of EUR 56 million during the production period



# Keliber

Efficient ore production mainly from open pits

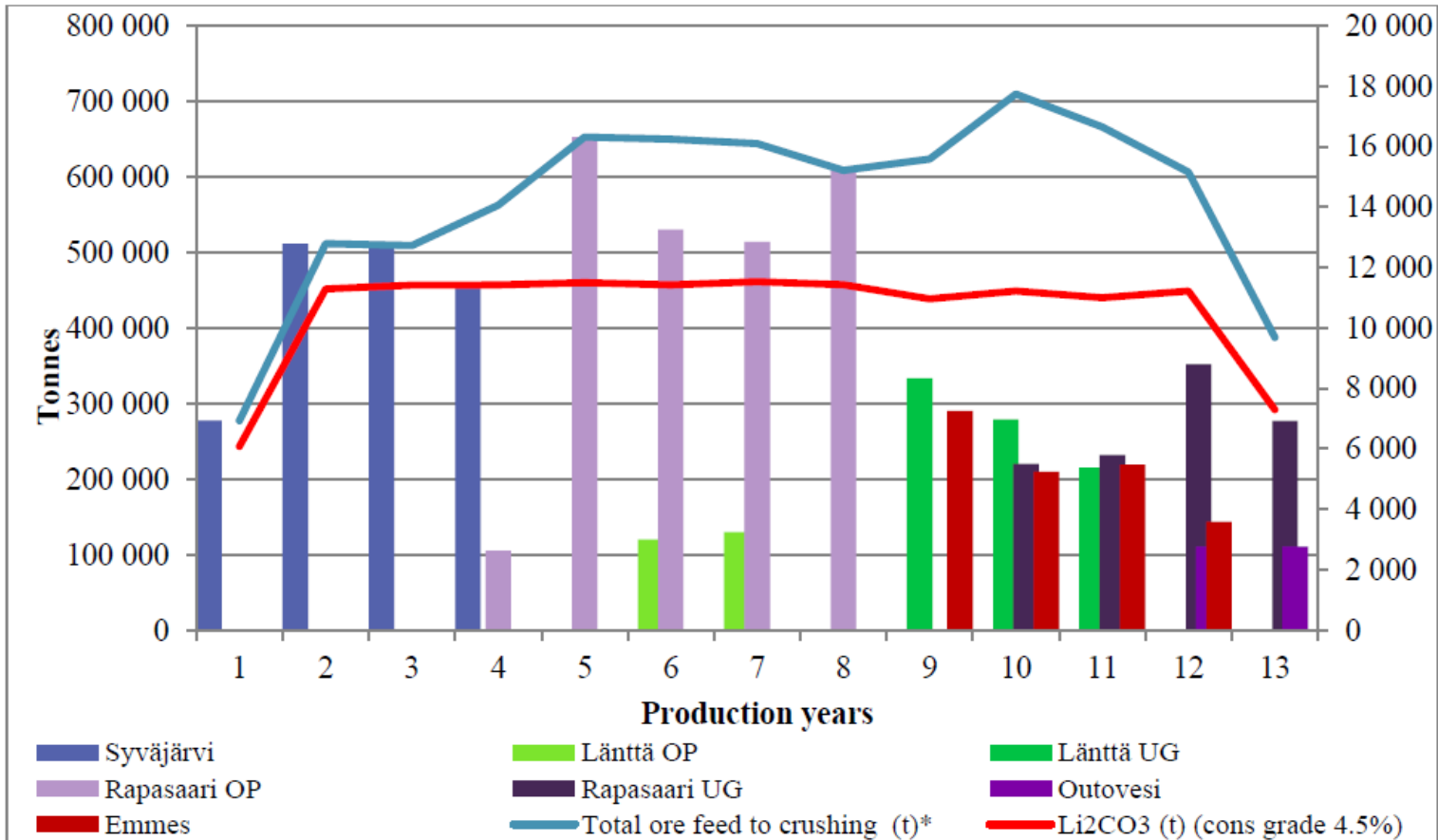
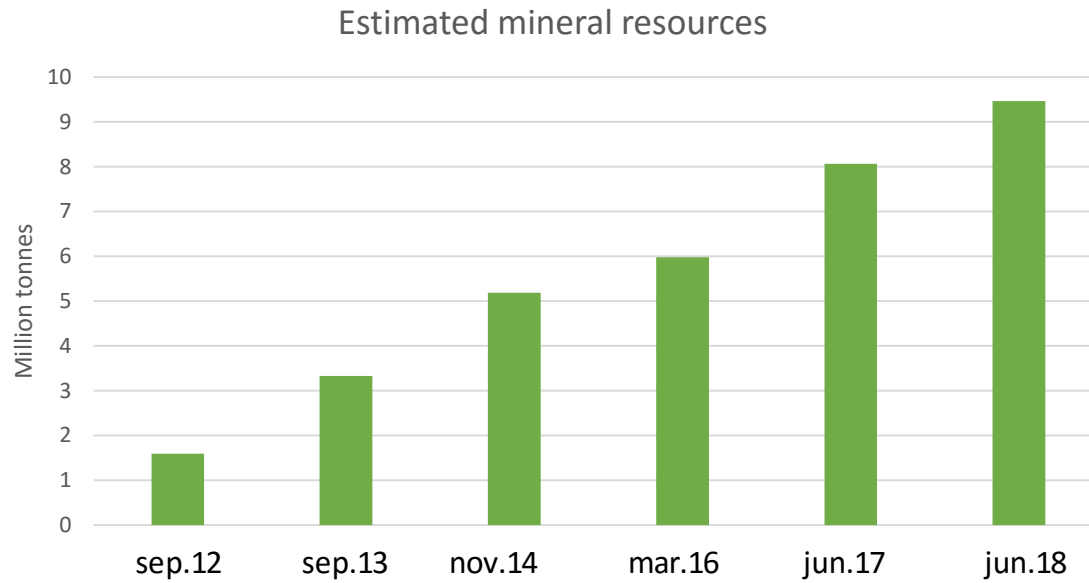


Figure 1-7: Annual Ore Production



# Keliber

Significantly increased resource base



Keliber continues with drilling in the prosperous Ostrobothnia lithium province



# Keliber

Priority to secure offtake agreements and financing to execute the project

- Lithium contract prices have developed positively in the first part of 2018
- Going forward, continued demand growth for batteries for EV/HEV and energy storage is expected to be the main driver for lithium consumption
- Keliber has dialogues with potential customers to secure offtake agreements
- Discussions are ongoing related to financing



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## Kvinnherad, high purity quartz

- Renewed interest for high purity quartz has caused a review of strategy and new development activities in progress
- Additional process testwork on drill cores from the depth is planned
- Complete process tests of selected samples will further document the quality of the deposit
- The Kvinnherad quartz deposit is considered to represent significant value



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Norway: Seabed minerals act proposed to parliament





*Safety – Environment - Innovation*



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MINING**

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