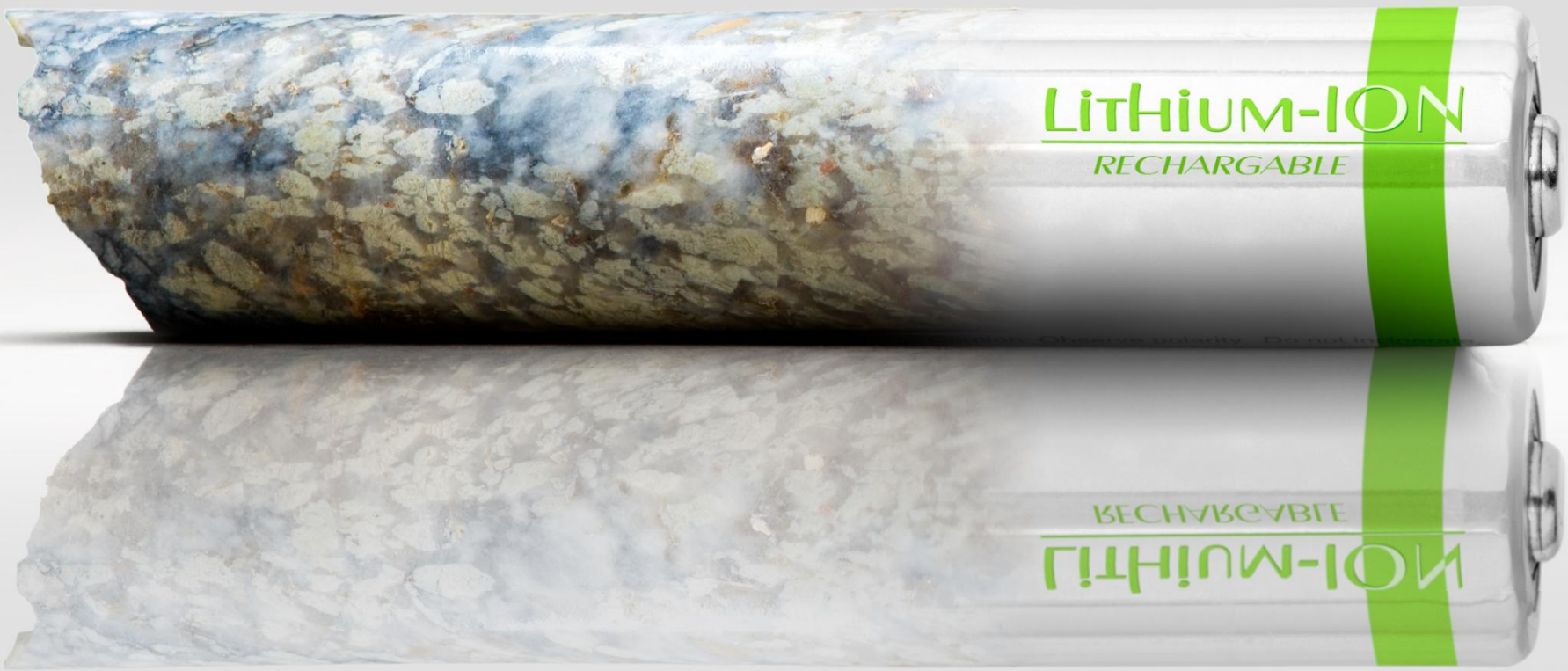
Keliber – Lithium mining for fast growing markets



Nordic Mining Invest Conference
Helsinki, April 17, 2018

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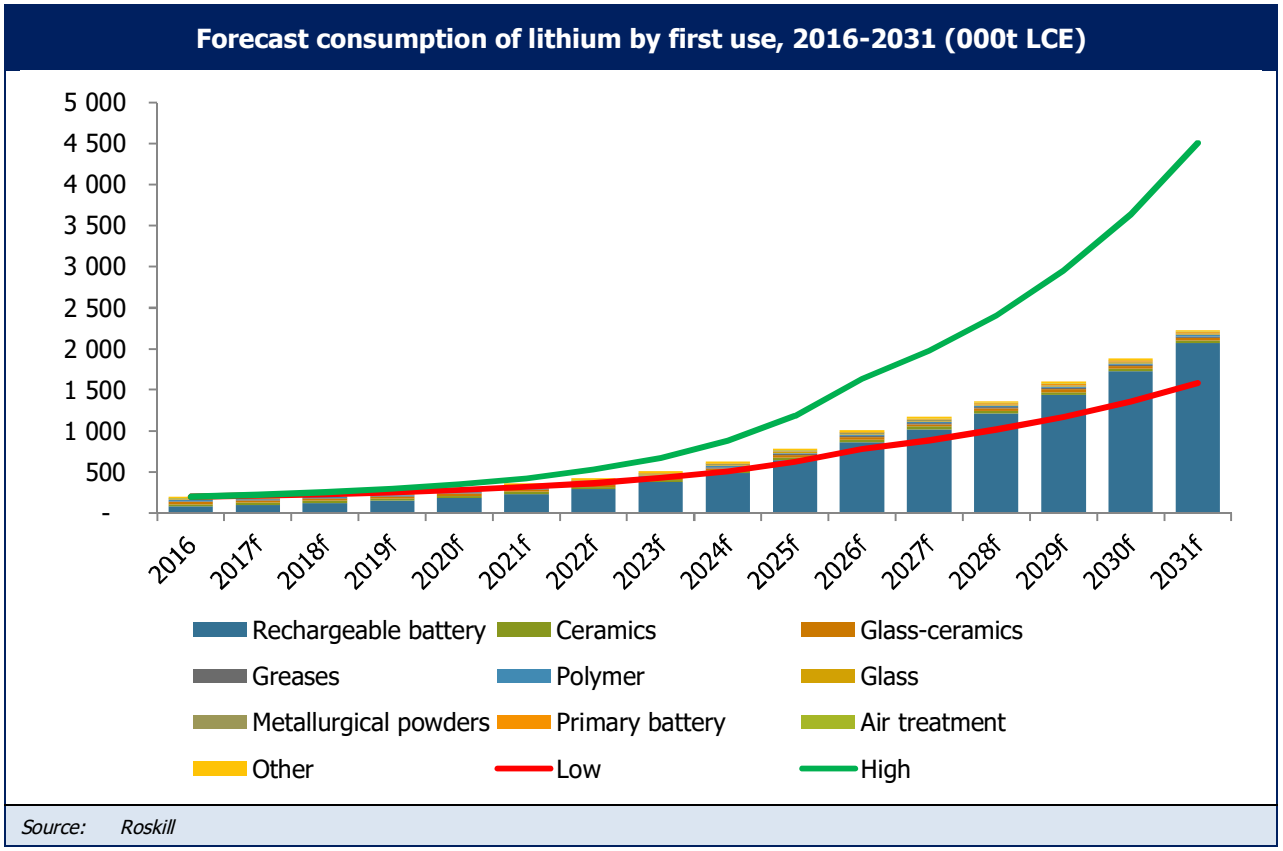
Global demand and production of lithium

Increase in demand for lithium

Rechargeable battery sector driver for growth



Source: Roskill

- Increasing global demand driven by the rechargeable battery sector, which is forecast to register 23.9 % pa growth through to 2031
- Other markets for lithium are also forecasted to provide areas of growth (ceramics and glass-ceramics, polymers, metallurgical powders)
- Annual global demand is forecasted to grow from 197,200 tons in 2016 to 1,008,900 tons in 2026 and 2,231,000 tons in 2031

Source: Roskill Consulting Group Ltd, 2017

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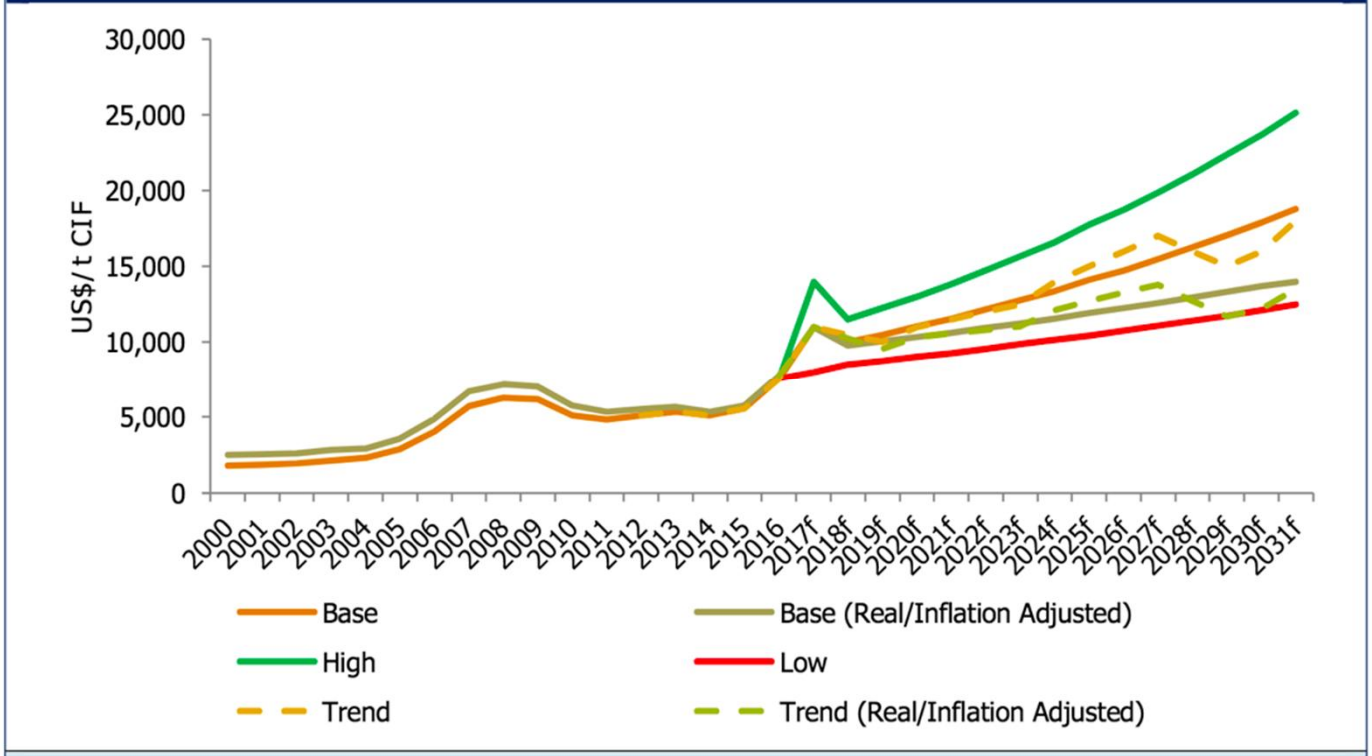
Increase in demand for lithium

Price forecast for battery-grade lithium carbonate

Figure 35: Average annual price forecast for battery-grade lithium carbonate, 2000-2031 (US$/t CIF Asia)



Source: *Global Trade Atlas*

Note: *Real prices adjusted to constant US dollars using World GDP deflator data from the International Monetary Fund's World Economic Outlook Database*

- Lithium carbonate prices started to rise in Chinese spot market in H2 2015
- Contract pricing started to rise in China and elsewhere in Asia in 2016 and have continued to rise world wide in 2017
- US$10 000/t is expected to be the new floor in the base-case scenario for battery grade lithium carbonate

Source: Roskill Consulting Group Ltd, 2017

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Increase in demand for lithium

Towards a more mobile and sustainable world

Increasing demand for lithium-ion batteries

- mobile electronics
- portable hand tools
- hybrid and electric vehicles
- stationary grid batteries
- stationary home batteries

Estimated lithium requirement in batteries	
Mobile phone	1 – 3 g
Smartphone	2 – 3 g
Tablet	20 – 30 g
Laptop	30 – 40 g
Power tool	40 – 60 g
Hybrid vehicle – Plug-in hybrid vehicle	1.6 – 12 kg
Electric car	15 – 50 kg
Source: IM Research, FMC Lithium	

Global megatrend

Global **electrification of transportation** with **continuing political and regulative support** accelerate investment in the lithium value chain

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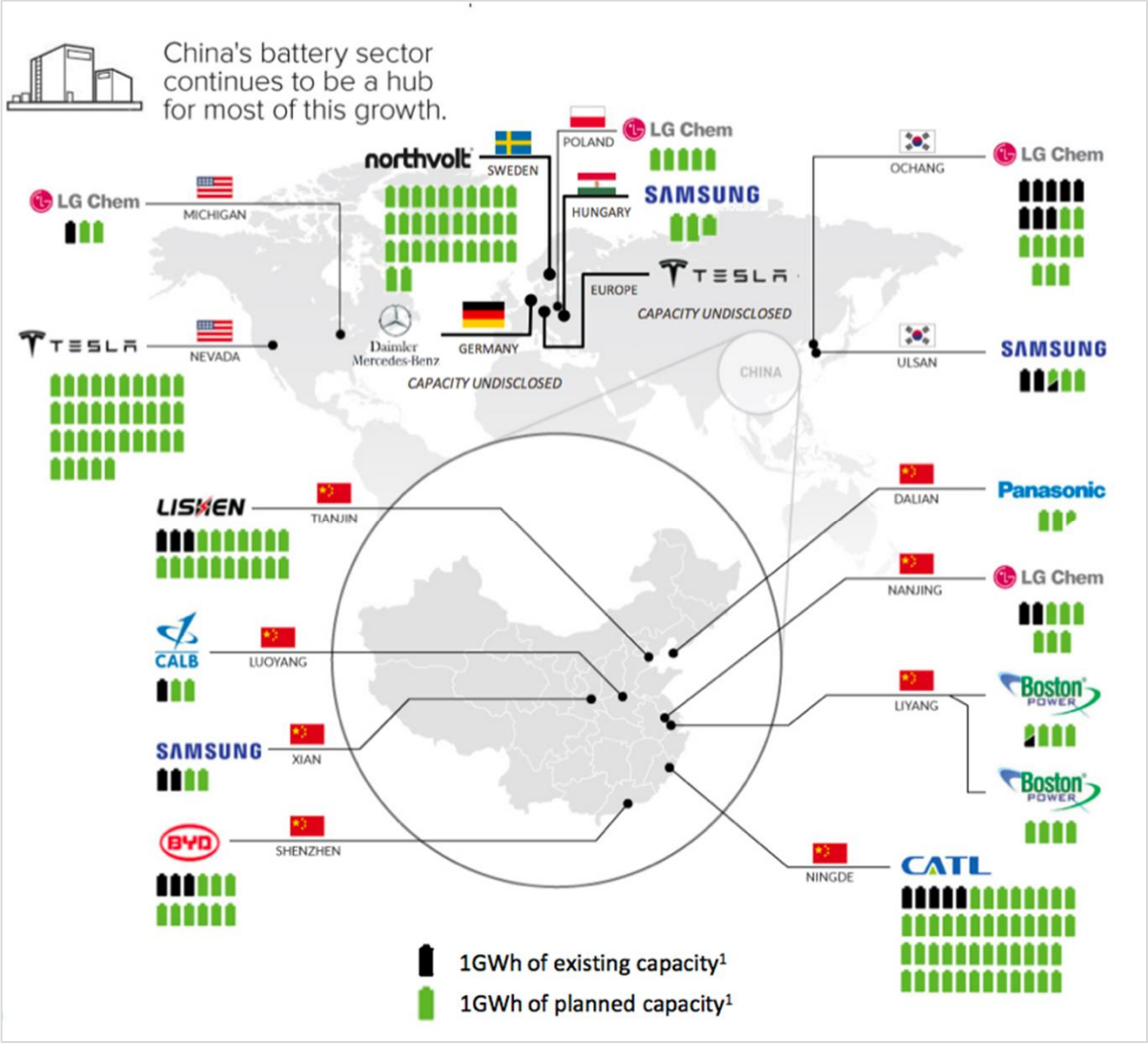
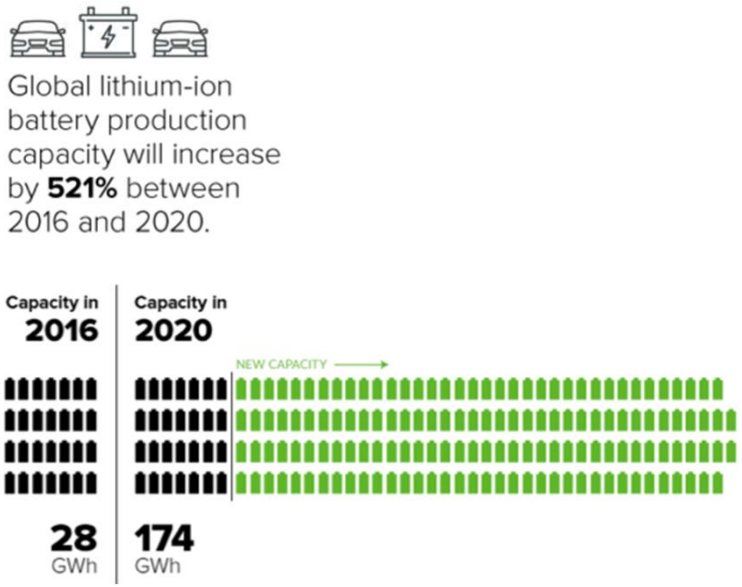
Lithium-ion megafactories



New lithium battery projects have been announced in Europe by SDI Samsung (Hungary), Daimler (Germany), Nissan (UK), Northvolt (Sweden), LG (Poland) and Tesla (location TBD)



Source: Benchmark Mineral Intelligence, 2017

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Finland well positioned for battery storage growth

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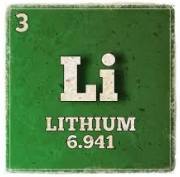

Graphite

Norilsk Nickel words largest Ni producer (30 % of production refined in Finland)

Freeport Cobalt, worlds largest producer of Co chemicals

Terrafame investing MUSD 200 in Ni and Co battery chemicals

BASF announced intention to invest MEUR 400 to battery cathode material production

Valmet Automotive

Valmet Automotive for cars (capability)

Linker for buses

Avant and Rocla for industrial loaders

Kalmar for straddle carriers

Fortum (2 MW) and Helen (1,2 MW) pilots

Source: BUSINESS FINLAND, 2018

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The most advanced lithium project in Europe

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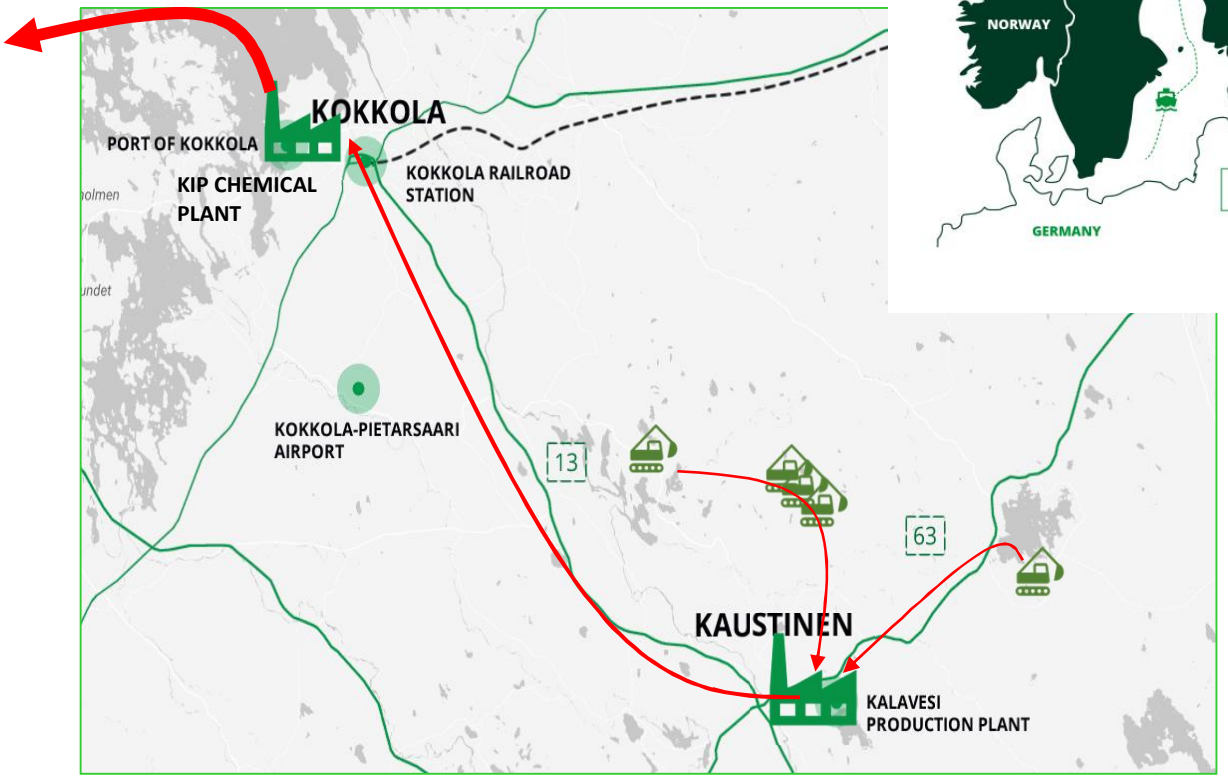
Locating in Central Ostrobothnia, Finland

- Finland the most attractive jurisdiction for mining investment (Fraser institute survey 2017>)
- Excellent infrastructure
- Good availability for skillfull workforce
- Good exploration potential
- Exceptionally good support from local people and authorities



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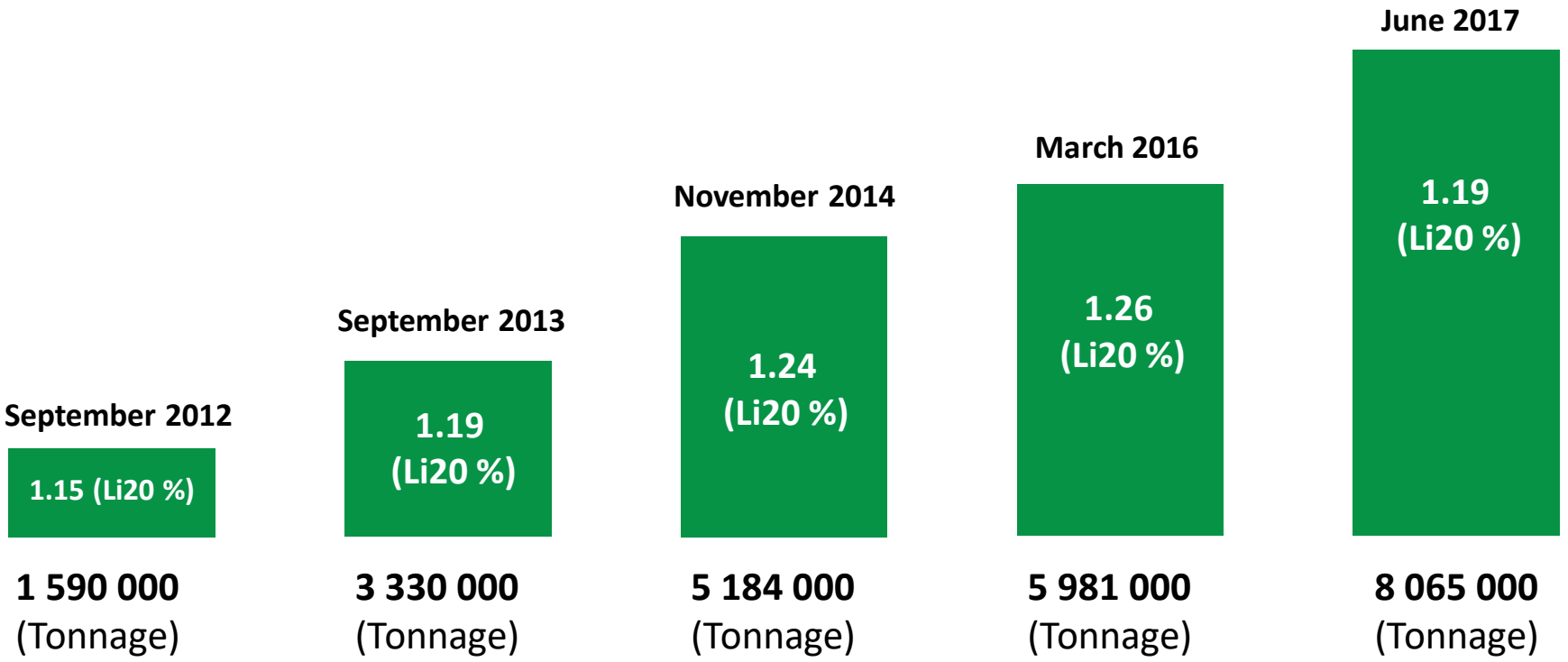
Development of mineral resources

Excellent results with significant future upside potential

Mineral Resources (0.5 % Li2O cut-off)



Estimates prepared by Competent Persons in accordance with 2012 JORC code

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Growing reserves

Latest estimate of mineral resources and ore reserves (million metric tonnes)							
Mt	**Länttä**	**Syväjärvi**	**Outovesi**	**Rapasaari**	**Leviäkangas**	**Emmes**	**Total**
RESOURCES (June 2017)							
Measured	0.437	0.810	-	-	-	-	1.247
Indicated	0.910	1.160	0.283	3.456	0.190	0.820	6.818
Total	**1.347**	**1.970**	**0.283**	**3.456**	**0.190**	**0.820**	**8.065**
Ore grade (Li20 %)	*1.06*	*1.24*	*1.43*	*1.15*	*1.14*	*1.40*	*1.19*
Inferred	-	-	-	-	*0.300*	-	
RESERVES (March 2016)							
Proven	*0.470*	-	-	-	-	-	*0.470*
Probable	*0.540*	*1.480*	*0.250*	*1.750*	-	-	*4.020*
Total	**1.010**	**1.480**	**0.250**	**1.750**	**-**	**-**	**4.490**
Ore grade (Li20 %)	*0.94*	*1.19*	*1.20*	*1.09*	-	-	*1.10*

Ore reserves are included in the Mineral Resources

Estimates prepared by Competent Persons in accordance with 2012 JORC code

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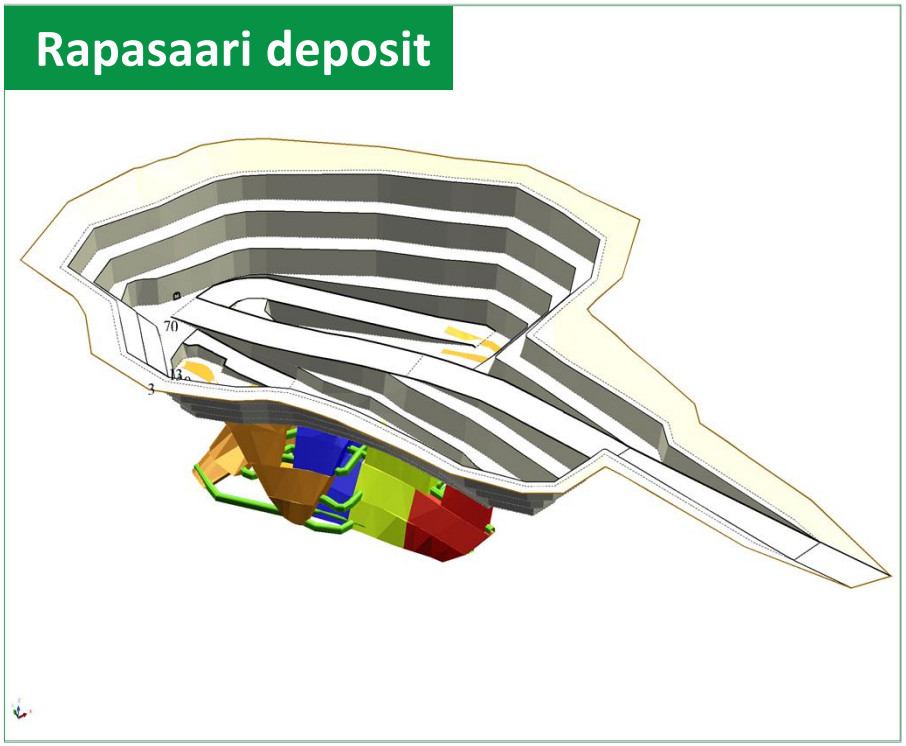
Sizeable deposits

Significant upside potential

Rapasaari deposit



Syväjärvi deposit

Rapasaari deposit - consists of several pegmatite veins -thickness of the veins varies from a few meters to tens of meters

Syväjärvi deposit -consists of a main vein, which is divided into two separate pegmatite veins in places - also parallel veins exists -the maximum thickness of the main vein is about 30 meters

13 Note: Different colors in models used to distinguish separate spodumene pegmatite veins

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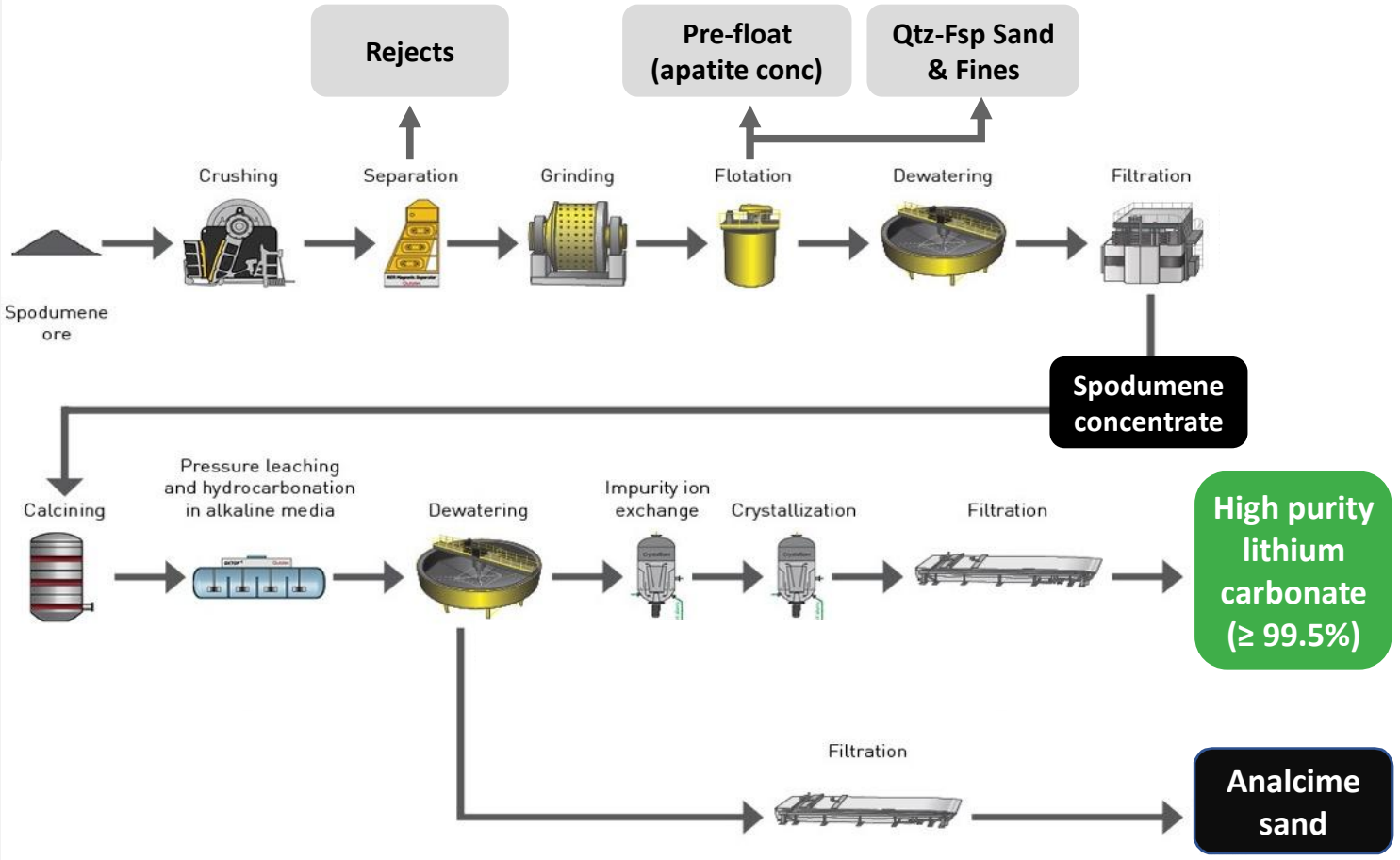
Clean tech process

Efficient and environmentally sound production of high purity lithium carbonate

Soda leaching process developed together with Outotec

- Optical sorting
- Potential for valuable by-products: Analcime sand and quartz-feldspar sand
- Concentrate grade optimization
- Flexible and environment-friendly soda leaching
- Tailings with no heavy metals nor acid generating minerals



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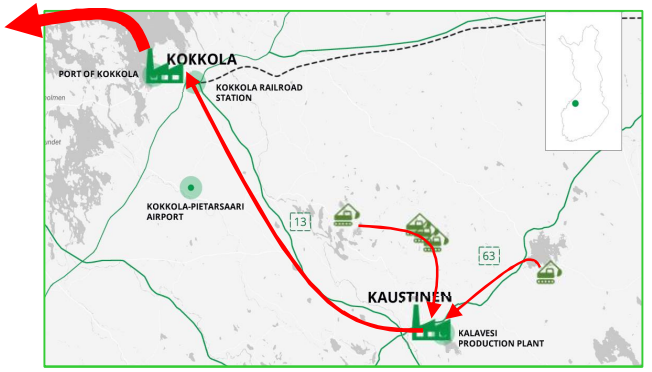
Chemical Plant in Kokkola Industrial Park (KIP)

- Significant concentration of chemical industry in Northern Europe with 15 industrial operators and more than 70 service companies
- 70 hectares of land zoned for use of the heavy chemical industry

- Water, steam, electricity, heat, gas (e.g. CO2) and acids (e.g. sulfuric acid) are all produced in the area
- The Port of Kokkola, the third largest general port and largest port serving the mining industry in Finland, located only 2 km from the Keliber's Chemical plant



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Battery-grade lithium carbonate

9 000 tonnes per year

- Battery grade lithium carbonate (Li_2CO_3 min. 99.5 %) can be used in the manufacturing of batteries intended for
  - portable electronics,
  - electric tools,
  - electric means of transport
- Lithium carbonate from Länttä spodumene pegmatite ore test program
  - 99,61- 99.91 % Li2CO3
- Lithium carbonate from Syväjärvi spodumene pegmatite ore test program
  - 99,5 % Li2CO3

Strong commitment to sustainability

Sustainable production process and proactive environmental actions

- Production process designed to be efficient and environmentally friendly simultaneously enabling superior quality end-product
  - Optical sorting reduces the amount of waste rock going through the process
  - Hydrometallurgical leaching is conducted with soda -an environmentally neutral alternative to sulphuric acid typically used in hard rock lithium production
  - Production process designed to exploit the potential of the possible future by-products
- Proactive environmental actions e.g. protection of moor frogs and golden eagle
- Committed to transparent communication with surrounding community and society at large
- Keliber is a member of the Finnish Network for Sustainable Mining

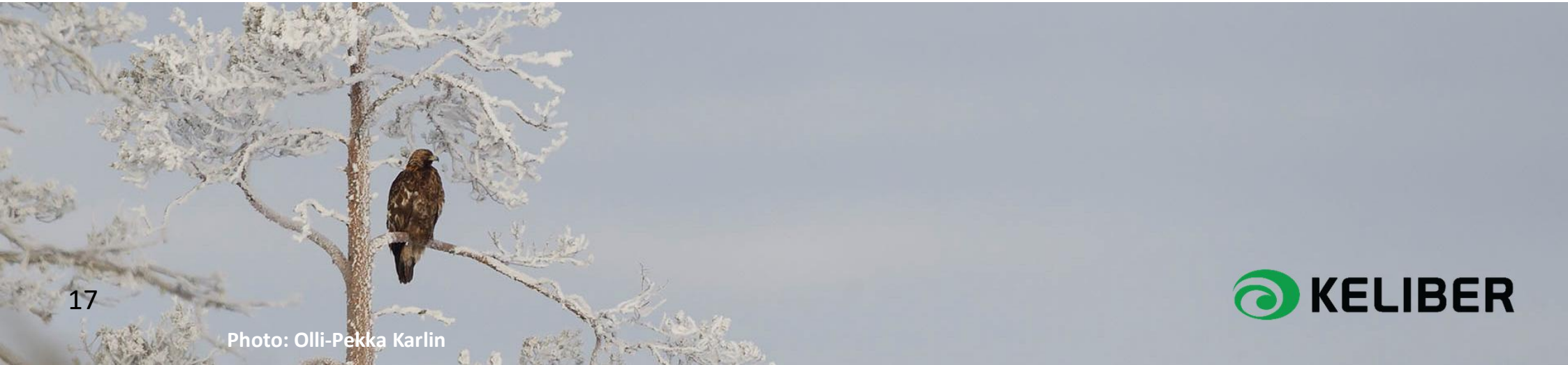

Photo: Olli-Pekka Karlin

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From a project to production
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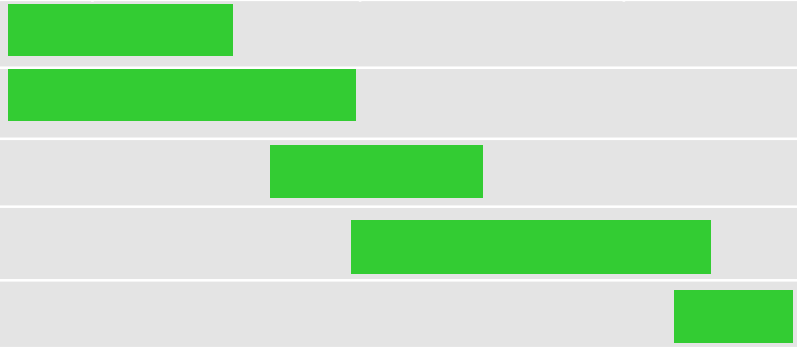
Way to production

Definitive feasibility study and preparation for production

Tentative timeline for the next stages	2017	2018	2019	2020
Basic Engineering – Definite Feasiblity Study				
Permitting (environmental, mining and other)				
Detailed Engineering				
Construction				
Commissioning and testing				



Production estimated to start 2020

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Committed and skillfull management

Management team

Pertti Lamberg

- CEO since 2016
- Chair of the management team

Jaakko Vilponen

- Chief Financial Officer since 2016

Manu Myllymäki

- Chief Production Officer since 2017

Pentti Grönholm

- Chief Geologist since 2017

Olle Sirén

- COO since 2016
- Member of the board since 2016

Kari Wiikinkoski

- Environmental Manager since 2012

Jarmo Finnilä

- Communication and Administration Manager since 2013

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Finnish majority ownership

Largest shareholders

- The company is owned by Finnish investment companies, private investors and the Norwegian Nordic Mining ASA

	Total number of shares	Percentage
Nordic Mining ASA	239,044	22.0
Tesi Industrial Management Oy	190,662	17.6
Ab Mine Invest Oy	97,527	9.0
Keskinäinen Eläkevakuutusyhtiö Ilmarinen	70,929	6.5
Thominvest Oy	68,683	6.3
Jorma Takanen	63,123	5.8
Osuuskunta PPO	60,000	5.5
Case Invest Oy	59,547	5.5
Jussi Capital Oy	35,010	3.2
Eero Halonen	20,000	1.8

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The most advanced lithium project in Europe

- DFS completed in Q2 2018
- First mining company in Finland accepted in the prior consultation procedure already in 2017
- Environmental Impact Assessments (EIA) processes completed during Q2 2018
- Environmental and other permits under preparation
- Negotiations with potential clients to obtain end-product supply agreements ongoing

Project in a nutshell

Lithium carbonate production with high value creation potential

1 Innovative clean tech process	• Efficient and environmentally sound production • Potential for recovery of valuable by-products
2 Production of high purity lithium carbonate	• 9 000 tonnes of lithium carbonate per annum for +10 years • Attractive market driven by Electric Vehicle industry
3 Position in the lithium value chain	• Production strategy enables competitive advantage in the lithium value chain
4 Growing resources and excellent location	• Deposits with excellent upside potential located in one of the most significant lithium-bearing areas in Europe • Operations near existing infrastructure close to harbor

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