



GTK

**EXPLORATION AND MINING
UPDATE**

ACTIVE MINES IN FINLAND

Metal mines

Industrial minerals

8 in operation

Approx 30 in operation

3 gold mines

Limestone

3 polymetallic mines

Quartz

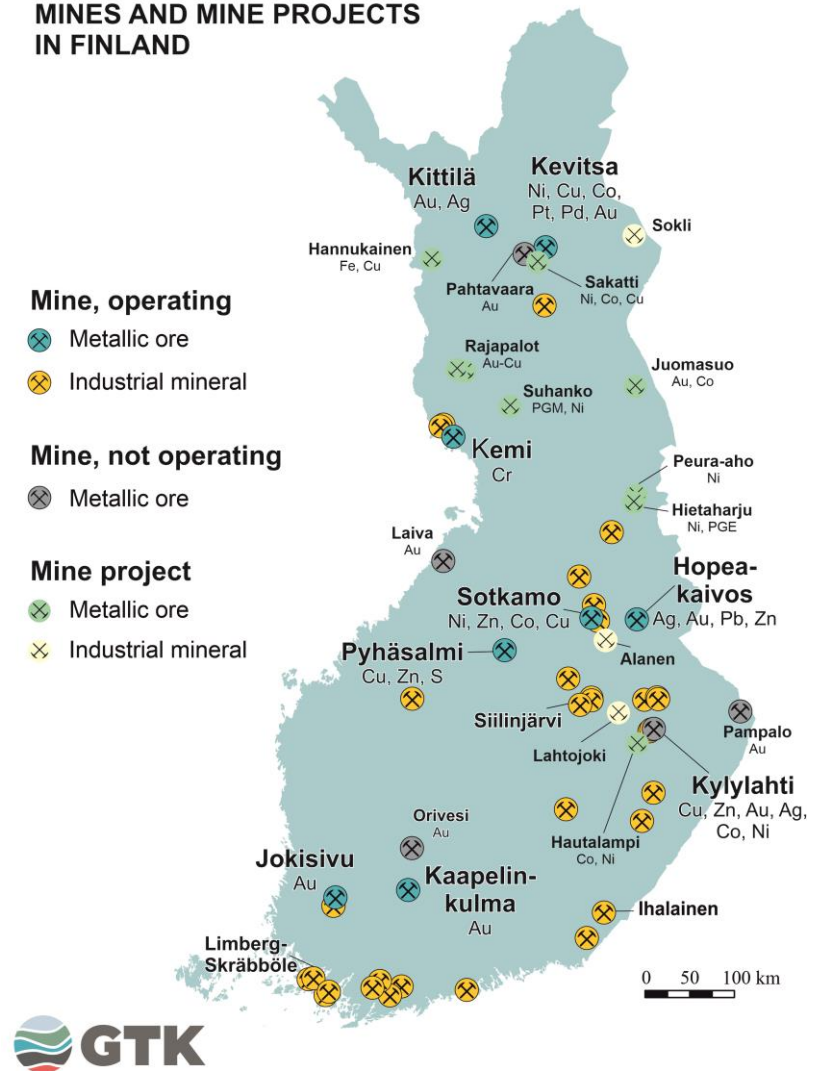
1 chrome mine

Feldspar

Apatite



MINES AND MINE PROJECTS IN FINLAND



OPERATING METAL MINES

Mine name	Company	Commodities	Mt mined in 2019	In operation since
Jokisivu	Dragon Mining	Au	0,3	2009
Kaapelinkulma	Dragon Mining	Au	0,03	2019
Kemi	Outokumpu	Cr	2,4	1967
Kevitsa	Boliden	Cu, Ni, Co, Au, PGM	7,7	2011
Kittilä	Agnico Eagle	Au	1,8	2008
Kylylahti	Boliden	Cu, Ni, Co, Zn, Ag, Au,	0,7	2012
Pyhäsalmi	First Quantum Mines	Cu, Zn, Fe, Au, Ag, S	1,1	1959
Sotkamo Silver	Sotkamo Silver	Ag, Pb, Zn, Au,	0,3	2019
Sotkamo Terrafame	Terrafame	Ni, Zn, Co	14,4	2008

The Pyhäsalmi and Kylylahti mines are sheduled to close during 2021



OPERATING MINES UPDATE

Sotkamo Silver, Sotkamo Silver Mine	Mine rampup 2019 successful. Aquisition of additional deposits to increase life of production
Outokumpu, Kemi chrome Mine	250 M€ mine expansion downt to 1,000m ongoing
Terrafame, Sotkamo Mine	240 M€ battery chemical plant construction at final stage. Environmental permit granted
Agnico Eagle, Kittilä Mine	160 M€ investment for 1,000m shaft and 25% increase in production ongoing
Boliden, Kevitsa Mine	80 M€ investment for 20% production increase ongoing

CLOSED MINES AIMING AT RE-OPENING

- Laiva, Pahtavaara and Pampalo formerly opening mines
- All Au mines
- Put on care and maintenance but aim at reproduction due to increased gold price and reserve base



ADVANCED PROJECTS

Sakatti Cu-Ni-Co-PGM-Au - Anglo American

Magmatic, ultramafic hosted. Found in 2009

Disseminated, vein, semi-massive and massive sulphides

Resource estimate released in 2016.

Processing is by standard flotation.

Natura 2000

EIA is in the final stage.

Category:	Indicated and inferred mineral resource
Tonnage (Mt):	44,4
nickel	0,96 %
cobalt	0,046 %
copper	1,90 %
palladium	0,489 ppm
platinum	0,639 ppm
gold	0,33 ppm
Cutoff:	copper 1%



Image by Anglo American



KAUSTINEN LI - KELIBER

6 separate Spodumene pegmatites

Feasibility study completed

Permitting ongoing for open pit mining operations, processing

Plant and manufacturing plant for Li-hydroxide and Na-zeolite

Expected mine life 20 years

Annual mine production 573 ktpa



Image by Keliber



Mineral resources of the Keliber’s lithium project in Kaustinen

	Syväjärvi		Rapasaari		Länttä		Outovesi		Emmes		Leviäkangas		Total	
	Mt	Li ₂ O%	Mt	Li ₂ O%	Mt	Li ₂ O%	Mt	Li ₂ O%	Mt	Li ₂ O%	Mt	Li ₂ O%	Mt	Li ₂ O%
Measured	1.542	1.33	2.011	1.13	0.422	1.09							3.975	1.20
Indicated	1.167	1.07	4.172	0.97	0.906	1.02	0.281	1.43	1.076	1.22	0.19	1.14	7.792	1.05
Total	2.709	1.22	6.183	1.02	1.328	1.04	0.281	1.43	1.076	1.22	0.19	1.14	11.767	1.10
Inferred	0.118	0.79	2.031	1.00							0.278	0.9	2.427	0.98
Total	2.827	1.20	8.214	1.02	1.328	1.04	0.281	1.43	1.076	1.22	0.468	1	14.194	1.08

Suhanko PGM-Cu-Ni - Suhanko Arctic Platinum

Pl, Pt, Cu, Ni in mafic layered intrusive

Project includes Suhanko and several additional deposit

Feasibility studies completed in 2005, 2008 and PFS in 2013 utilising flotation and Platsol

Valid mining license and environmental and water management permit covering the Suhanko, Konttijärvi and Ahmavaara deposits.

A previous project holder, Gold Fields, has in 2016 published total resource of 208.50 Mt on all the deposits combined

An EIA over the Greater Suhanko was completed in 2014.

A DFS is planned to commence in 2021

Arctic Platinum Project: Open Pit Shell Constrained Mineral Resources Reported at 1.0g/t 2PGE+Au cut-off

Class	Tonnes (Mt)	Gold (g/t)	Platinum (g/t)	Palladium (g/t)	Copper (%)	Nickel (%)	Gold (koz)	Platinum (koz)	Palladium (koz)	Copper (Mlb)	Nickel (Mlb)
Measured	46.90	0.16	0.41	1.68	0.24	0.10	237	624	2,527	245	106
Indicated	69.90	0.11	0.31	1.28	0.22	0.09	254	686	2,886	340	139
Inferred	91.70	0.10	0.38	1.50	0.22	0.10	295	1,107	4,429	450	194
Total	208.50	0.12	0.36	1.47	0.22	0.10	786	2,417	9,842	1,034	438

The commodity prices used in the original study are US\$3.90/lb copper, US\$1,670/oz gold, US\$8.90/lb nickel, US\$670/oz palladium and US\$1,650/oz platinum.



Image by Suhanko Arctic platinum



RAJAPALOT AU-CO - MAWSON GOLD

Camp scale exploration prospect

Developed by Mawson Gold since 2010.

Kuusamo type Au-Co deposits

Resource estimate 2020. 716,000 ounces gold equivalent

EIA being commenced

Natura2000



Image by Mawson Gold

Zone	Cut-off (AuEq)	Tonnes (kt)	Au (g/t)	Co (ppm)	AuEq (g/t)	Au (koz)	Co (tonnes)	AuEq (koz)
Raja Pit	0.3	3,055	2.5	474	2.8	247	1,448	278
Raja UG	1.1	641	1.6	1293	2.5	33	829	52
Raja Total		3,696	2.4	616	2.8	280	2,277	330
Palokas Pit	0.3	3,218	1.8	531	2.1	182	1,709	224
Palokas UG	1.1	1,729	2.3	572	2.7	128	989	150
Palokas Total		4,947	2.0	545	2.3	311	2,698	374
Rumajärvi Pit	0.3	289	0.8	397	1.1	7	115	10
Rumajärvi UG	1.1	35	1.2	476	1.6	1	17	2
Rumajärvi Total		292	0.8	398	1.1	7	131	12
Total Pit	0.3	6,562	2.1	499	2.4	436	3,273	512
Total UG	1.1	2,405	2.1	763	2.6	163	1,834	204
Total		8,967	2.1	570	2.5	600	5,107	716



SOKLI – FINNISH MINERALS GROUP

Carbonatite hosted phosphate deposit with Nb, Ta, Zr, REE and U.
Discovery in 1967

Project ownership recently changed

Mining consession, EIA completed, Environmental permit ongoing.

Previous feasibility study currently evaluated and updated

Published resource and reserve calculations includes only phosphorous pentoxide



LESS ADVANCED PROJECTS

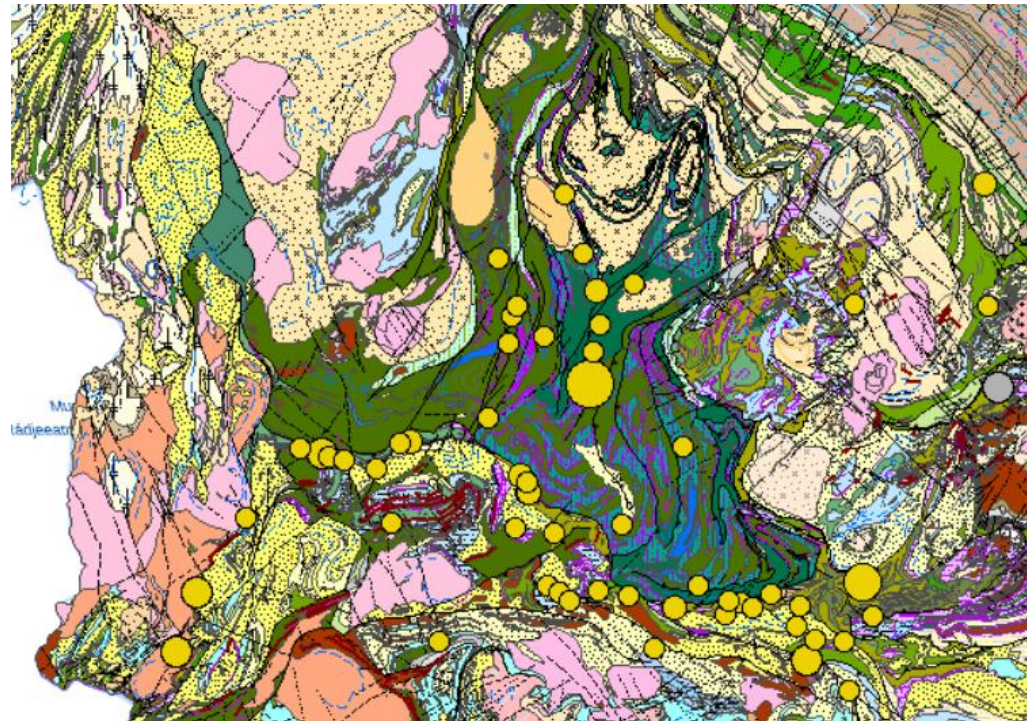
OTHER PROJECTS – LAPLAND AU

Lapland Greenstone Belt

Exploration very active

Impressive drill intersections

Results include 4.3 g/t gold over 158 m



Central Lapland Greenstone belt with precious metal deposits. GTK

Central lapland
Greenstone Belt



OTHER PROJECTS

Au-Co projects and Au projects elsewhere in Finland

Graphite projects

PGM and nickel

Titanium from ilmenite in minetailings

Vanadium from steel industry slag

Battery precursor material and battery manufacture

THANK YOU