



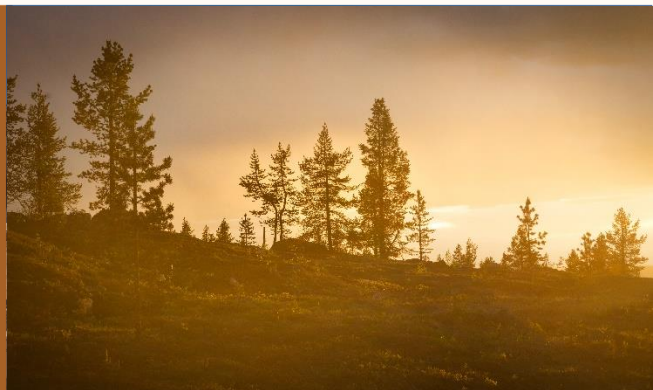
# CIRAN



## Massive Open Online Course (MOOC)

### LECTURE 7 - STRATEGIC PROJECTS: A FINNISH CASE

by Toni Eerola, Nike Luodes, Hannu Panttila



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## Bio: Toni Eerola

PhL, geologist;

Brazil and Finland;

Mineral exploration, mapping, research;

Finland and abroad;

Private companies and universities;

GTK since 2012 (Senior Specialist, Mineral Intelligence);

SLO, mining disputes, CSR, ESG;

EU projects;

PhD thesis in prep. (environmental politics, UEF);

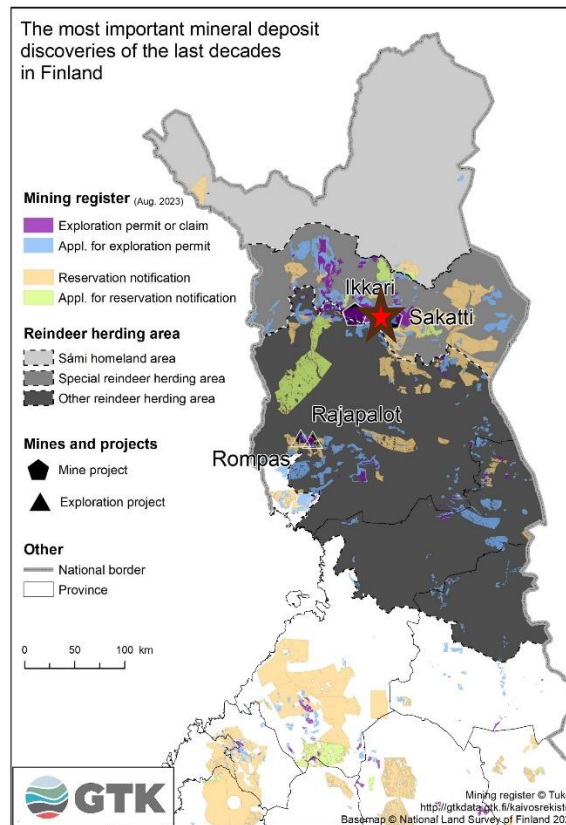
Sociopolitical geology;

Social geologist.



Among three important mineral  
deposit discoveries of last decades:

Ikkari (Au), **Rompas-Rajapalot** (Au-  
Co) and **Sakatti** (Ni-Cu-PGE-Co)  
(Lapland)

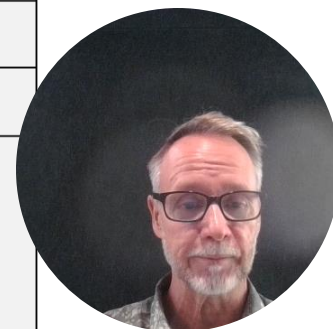


# CIRAN Facts



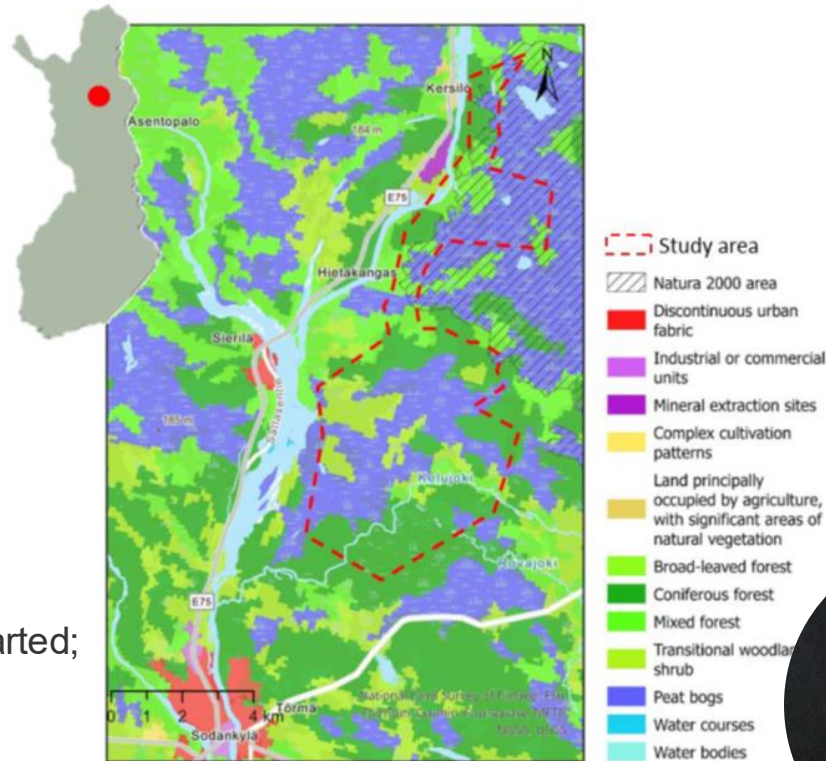
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Name	Sakatti
Country	Finland
Region	Lapland
Type of mineral resources? (primary raw materials, particularly critical raw materials, commodities, and associated commodities)	Ni-Cu-PGE-Co
Open pit or underground mine	Underground
Stage of life cycle (exploration, planning/design, development/operation, closure/rehabilitation)	Planning
Period of activity	2004-
Companies involved	Sakatti Mining Oy, subsidiary of Anglo-American plc.
Environmental protected area designation: International (e.g. world heritage site, RAMSAR; EU (e.g. SAC, SPA); National (e.g. biodiversity areas, nature reserves)	Natura 2000



# CIRAN Location

- Sodankylä, Lapland, Northern Finland;
- Special reindeer herding area;
- Important local livelihood;
- 4 km from Sodankylä;
- Beside a road to north from Sodankylä;
- Margin of Natura 2000 area;
- Based on mire protection programme;
- Established in 1990s, before exploration started;
- Recreation and reindeer herding area;



- Paleoproterozoic Central Lapland Greenstone Belt;
- Important Ni-Cu-Co-PGE deposit;
- Main deposit located ~500 m below the surface;
- Minor satellite deposit at a depth of 300 m;
- Quaternary cover by till and peat;
- Exploration by boulder tracing, geochemistry, geophysics, drilling;
- Sodankylä is an important mining district (Kevitsa Ni-Cu-Co and Pahtavaara Au mines);
- Intense mineral exploration with a recent discovery of the Ikkari Au deposit;



## **Innovative technique and measurements adopted in exploration**

- Low-impact exploration technologies;
  - Closed circuit drilling;
  - Full Tensor Gradiometry (geophysical method);

## **Innovative technique and measurements adopted in extraction**

- Underground mine with a tunnel from outside of the Natura 2000 area;
- Satellite deposit closer to the surface excluded;
- Ecological compensation (old forest area acquired from Inari);





## Social and community aspects

- Active stakeholder engagement and communication;
- Local acceptance high;
- Municipality favorable;
- Local opposition (reindeer herders, local NGOs: Save Viiankiaapa, Sompio Friends of Nature;
- Finnish Association for Nature Conservation (FANC);
- Extinction Rebellion (non-violent direct action to stop drilling);
- Company recognises opposition and operation in a sensitive context

## Social investments

- Sponsoring:
  - Local cultural and sport events;
  - Local cultural and soport associations;
- Scholarships for mining-related studies;



# CIRAN Current situation and challenges

Environmental permit application declined;

Uncertainty regarding water level stability in a protected mire;

Needs change in legislation (dismantling of the mire protection programme status);

Permit decided by the government, EU consulted;

Municipality has the right to land use planning of a mine;

Community contract has been in preparation by the municipality;

Selected as a **strategic project** (CRMA);



# CIRAN Summary of Characteristics

Project and its holder	Commodities	Issues/ context	Contentious actors	Low-impact exploration technologies	Strategies	Current situation	Status (CRMA)
Sakatti AA Sakatti Mining Oy (Anglo American plc, British)	Ni-Cu-PGE	Natura 2000	FANC	Closed circuit drilling	Underground mine	EIA approved, permit declined	Strategic project
		Recreation	Save Viiankiaapa movement;	Full Tensor Gradiometry	Ecological compensation	Needs legislation change for environmental permit	
			Extinction Rebellion		Stakeholder engagement, communication		
		Reindeer herding	Reindeer herders				

FANC: Finnish Association for Nature Conservation

EIA: Environmental Impact Assessment

CRMA: Critical Raw Materials Act



# CIRAN Conclusions

- Project within Natura 2000 (mire protection programme);
- Important discovery;
- Advanced exploration/mine project;
- Restrictions by Natura 2000 and opposition;
- Adaptation strategies;
- Local acceptance and favorable municipality;
- Opposition by reindeer herders, NGOs;
- Constraints by legislation;
- Strategic Raw Material project (CRMA);
- Subject to government approval
- Municipality's role.



1. How to avoid impact on Natura 2000 in exploration and extraction?
2. Who are the important stakeholders?
3. What livelihoods and activities need to be taken into account?



# Thank you



# Thank you!



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