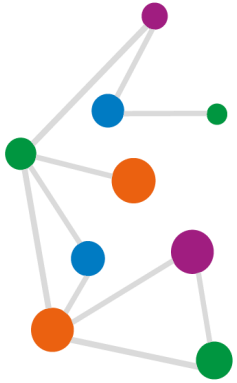


EIS

Exploration
Information
System

# Exploration Information System

## EIS project overview

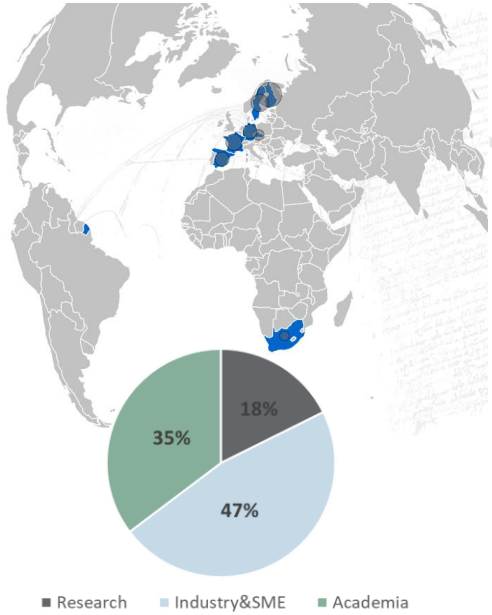
Martin Köhler, Beak Consultants GmbH

Funded by
the European Union

# Exploration Information System

## EIS project in brief

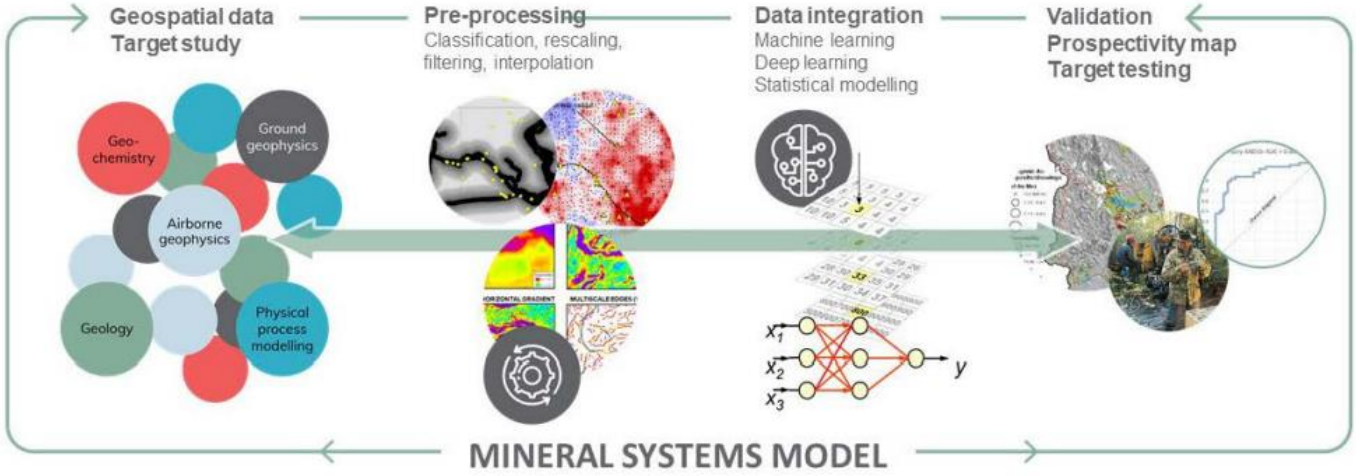
- Funding from European Commission, Horizon Europe, Research and Innovation Action (RIA), Funding rate 100%
- Pan-European consortium, which consists of **17 partners** from research institutes, academia, service providers and industry.
- Partners from 6 EU countries, *2 partners outside EU*: Finland (4), Sweden (3), Spain (2), France (2), Germany (2), Czech Republic (2), *South Africa (1), Brazil (1) (associate partner)*
- Total budget **7.5 M€**, (*GTK 1.4 M€*) 36 months duration (1.5.2022-30.4.2025)
- Aim:
  - EIS will develop **new geomodels** and novel, fast and cost-effective **spatial data analysis tools** for mineral exploration.
- Impact:
  - EIS will bring **CRMs for EU** by new innovative exploration concepts and data analysis tools.
  - The project is **raising the awareness** and trust among the general public **of the importance of raw materials** for a successful transition to a climate-neutral and digitized economy and society.



# Exploration Information System

## Methodology

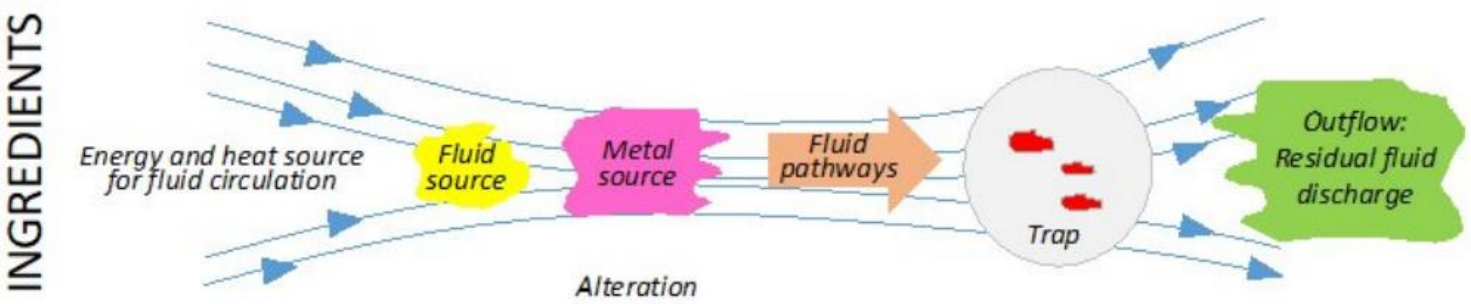
- EIS consists of components for different steps of prospectivity analysis. In the data pre-processing step, data is transformed to represent proxies to critical parameters of the mineral systems. Pre-processed data is then used as input to predictive modelling or other data analysis methods. In the final step of prospectivity analysis, model validation is done to test how well the modelling and prospectivity mapping performed.



# Exploration Information System

## Methodology – Mineral Systems Modelling

- Mineral system models aim at understanding all **controlling factors** that lead to the formation of ore deposits.
- Based on the mineral system approach developed by Knox-Robinson and Wyborn (1997) and refined by others, a mineral system includes ***1) an energy and heat source for fluid circulation, 2) a source for fluids, 3) a source for metals and ligands, 4) pathways for the fluids to circulate, 5) a trap for mineral precipitation, and 6) a fluid outflow forming an alteration halo.***




Ingredients of a mineral system (Knox-Robinson and Wyborn,1997).

# Exploration Information System

## Location of the target study sites

**Cobalt minerals potential VMS system**

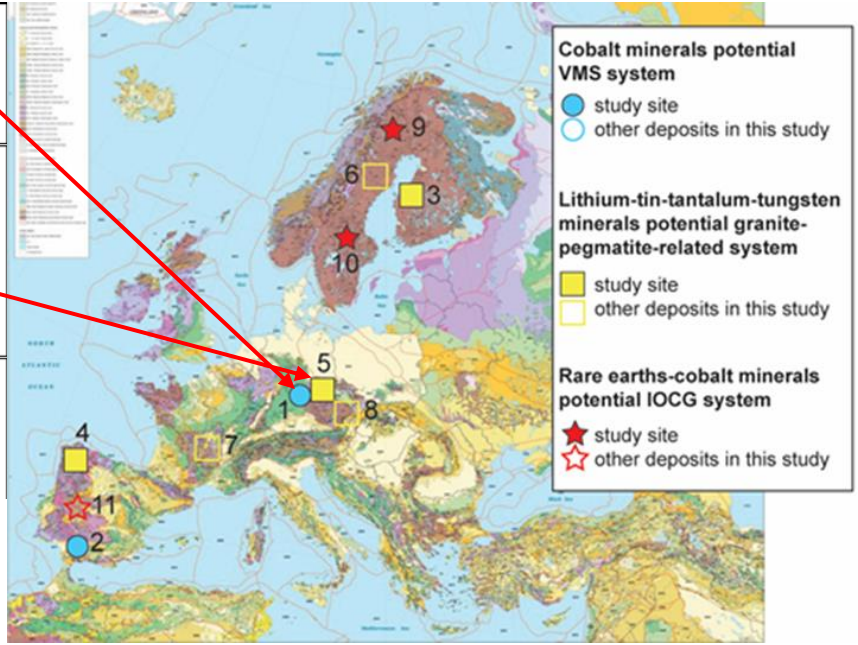
| Nr. | Study site | other deposits to be studied | partners | commodities |
|---|---|---|---|---|
| 1 | Tisová /Klingenthal | | Golden PET, Beak, CU | Co, Cu |
| 2 | Las Cruces | | CSIC, Cobre LC | Cu |

**Lithium-tin-tantalum-tungsten minerals potential granite/pegmatite-related system**

| | Study site | other deposits to be studied | partners | |
|---|---|---|---|---|
| 3 | Keliber | | Keliber, GTK | Li |
| 4 | Granite-related deposits W Iberia | | CSIC | Li, W, Sn, Ta |
| 5 | Zinnwald/Cinovec | | Beak, DLi, LTU | Li |
| 6 | | Järkvisle/Varuträsk | SGU, LTU | |
| 7 | | Li-pegmatites in France | BRGM | |
| 8 | | Li-pegmatite in Czech republic | CU | |

**Rare earths-cobalt minerals potential IOCG system**

| | Study site | other deposits to be studied | partners | |
|---|---|---|---|---|
| 9 | Kiskamavaara/Nunasvaara | | LTU, SGU, Talga | Co, C, Cu, Au |
| 10 | Bastnäs REE | | SGU | REEs |
| 11 | | Burguillos-Alconchel | CSIC, LTU | Co, REE, Cu |




In addition, project also has reference study sites in South Africa and Brazil.

# Thank you!

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www.eis-he.eu

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