

Metals4U+ - Mineraliska råvaror för en grön och digital framtid

Project leader

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Partners

RMG Consulting, Askersunds kommun, Boliden Mineral AB, Epiroc Rock Drills AB, Exploratoriet i Skellefteå AB, GeFo Skåne EF, Georange, LRF, Lovisagruvan AB, Luleå Tekniska Universitet, Malmö kommun, Nordkalk AB, Skellefteå kommun, Stiftelsen Teknikens Hus, SGU, Zinkgruvan Mining AB, Örebro kommun

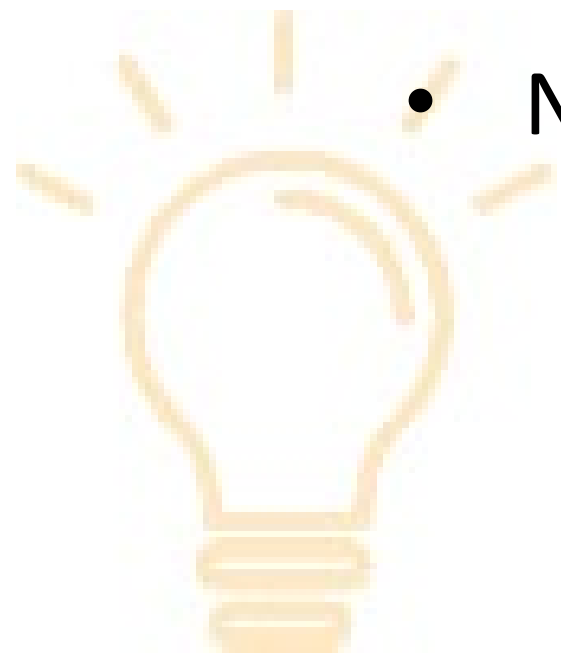
Project duration

2021-03-01—2024-12-31



Background

- Pre study 2020
- Bergskraft, Georange, LRF, SGU, Lovisagruvan, and Teknikens Hus
- Increase awareness and knowledge about mining, permits, land use and how we can use our natural resources in a sustainable way.
- Bridge the gap between our consumption, the products we use and need every day, and the understanding of how mines affect the environment, climate, working and living.
- The conclusion was that we need to work even more with these questions. We need to create a deeper understanding – that these things are for real.
- Needs to be implemented in schools, reach the younger generation.



”We should not teach children the sciences; but give them a taste for them”

Jean-Jacques Rousseau



Örebro Open Art 2019



Örebro Open Art
2019



Full scale project – Metals4U+

Why...

The importance of future generations interest and ability to solve tomorrow's sustainable supply of materials for green energy capable of combatting climate change, and for a safe and efficient extraction of metals and minerals with respect to environment, reclamation and land use.

What...

Create environments that describe the mineral industry, its comprehensiveness and the connection to our everyday lives.

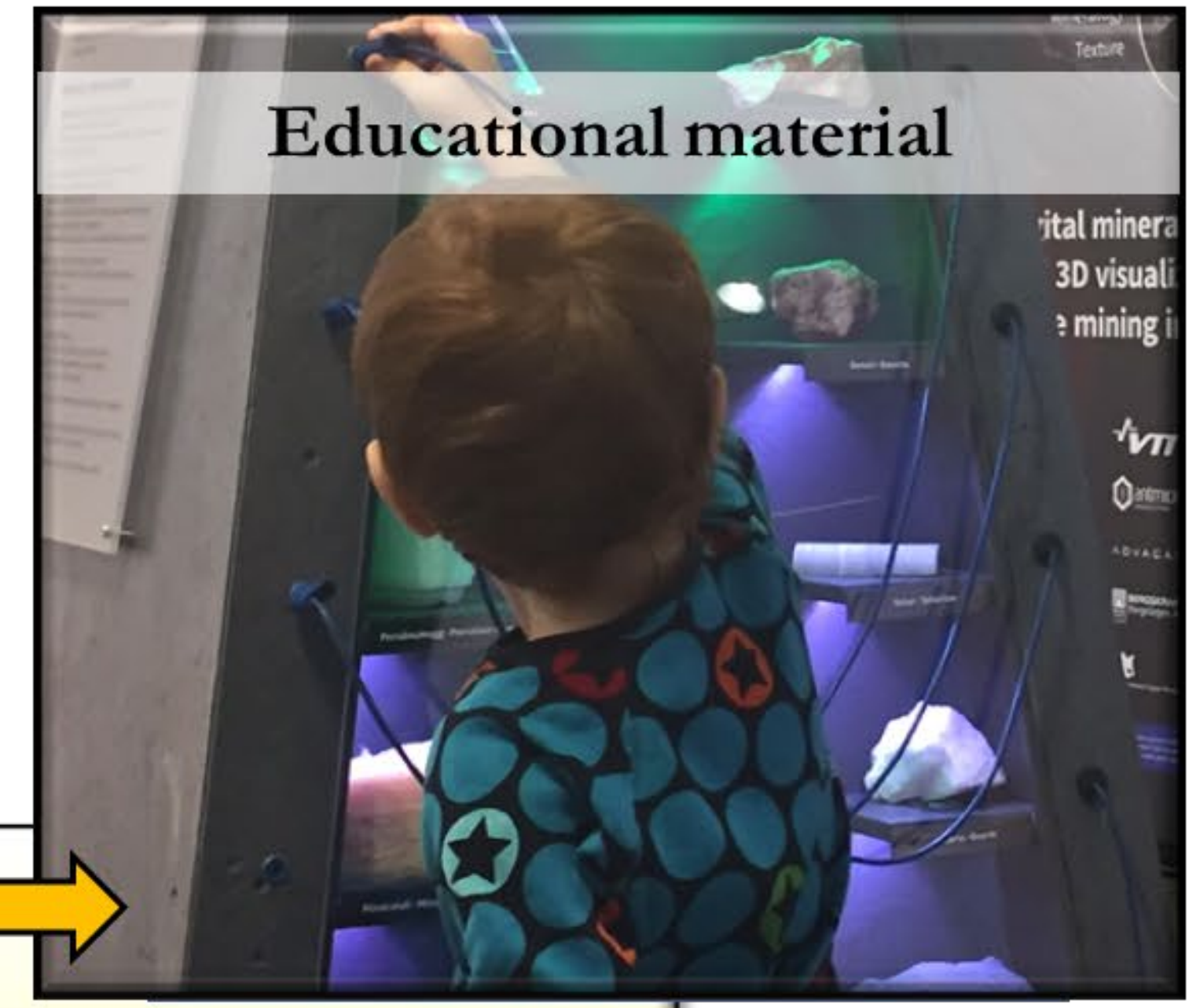
How...

Works of art that have a local connection to mining, to create a stronger understanding of metals and minerals that we use and depend on.

Digital educational tools, as a complement to the works of art and as stand-alone education units, made available via a learning platform, web based and accessible for schools.



Metals4U+: Mineral raw materials for a green and digital future



Bridging artworks to digital tools

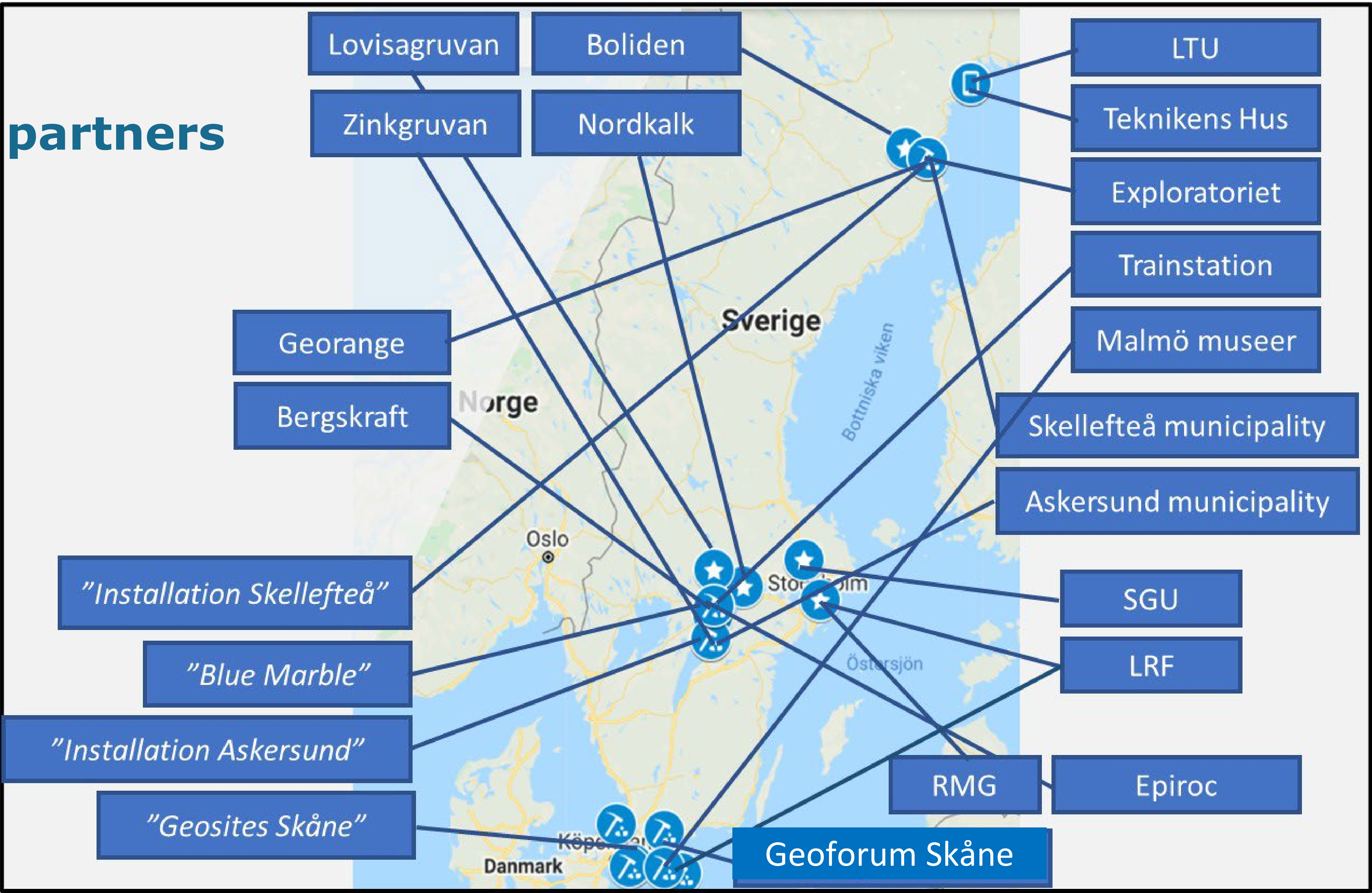
- Development of digital tools to describe, enhance, understand and explore the physical experience.

Bridging digital tools to schools

- Implementation of methods in school environment.
- Development of missions within Testbed Trainstation together with other project partners.



Project partners



Activities (selected)

- Seminars on mining for middle school children together with SGU.
- Planning of art work/physical installation connected with digital tool (AR) in Askersund (together with Zinkgruvan, Askersund municipality, Trainstation, Epiroc).
- Physical installation at Exploratoriet in Skellefteå (together with Georange, Boliden, Skellefteå municipality, Exploratoriet).
- Geo nodes in Skåne together with Geoforum Skåne and Malmö museums (role play, geo days in schools, exhibition this Saturday).
- Exhibition on metals and mining in Långban mining museum (Filipstad), Norberg, Knalla-Zinkgruvan, Stripa and Garpenberg from next week.
- Participation at Comic Con (spring and winter 2024) together with SGU
- Survey on teachers knowledge and interest on teaching about geo resources and mining.
- Interactive mining map
- Animated Pod series with semi familiar characters
- Raw Materials@Schools conference, Bologna, Italy (2023), Skellefteå municipality





**Interactive piece of art
describing the geology,
why these minerals are
here, what we use them
for, ...**



**The metals are always
"hidden", we never see
them. First they are below
our feet, then in the
products we use.**

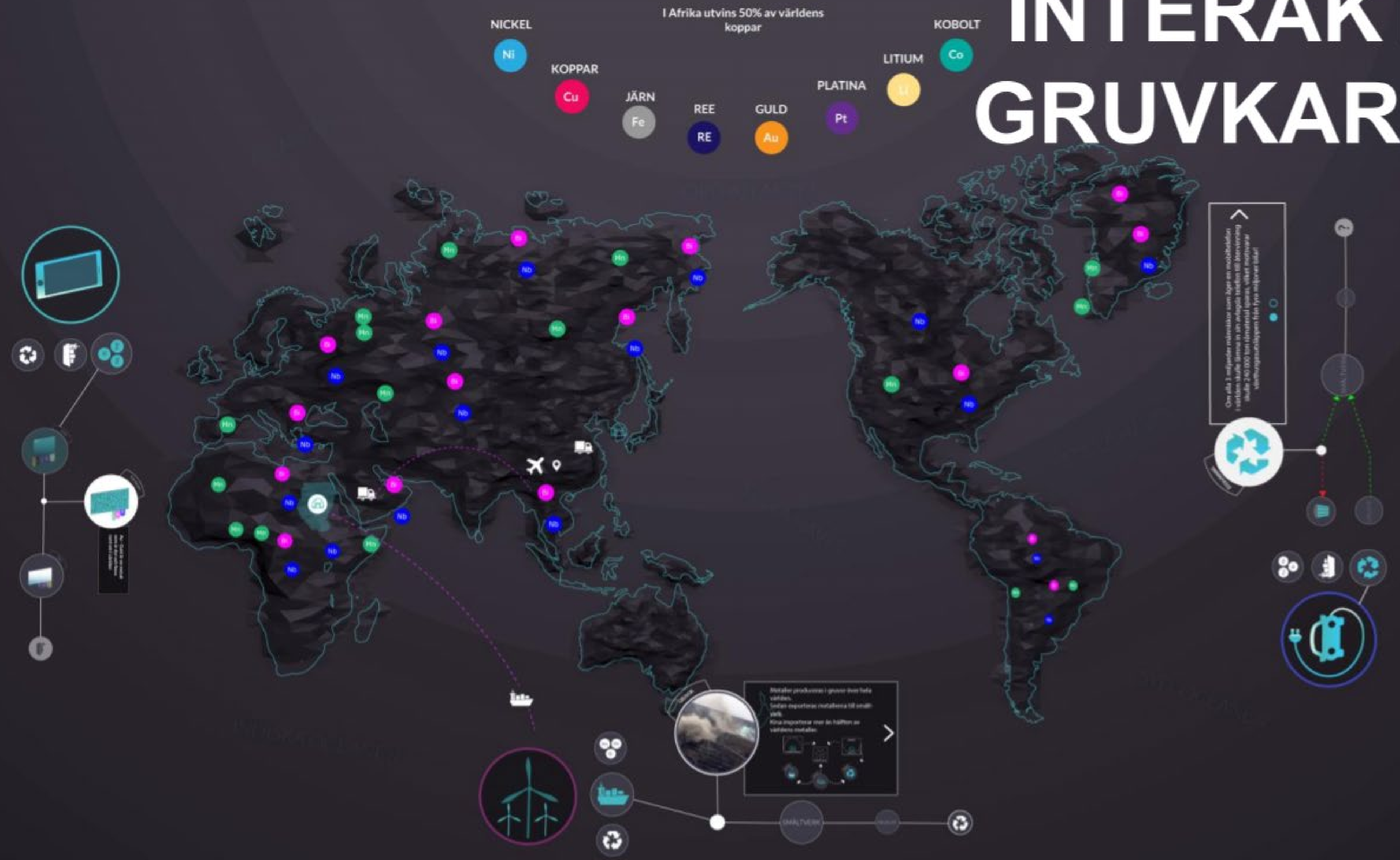




Basically the sculpture is build on the idea of a maze in a loose construction, inspired by the underground tunnelsystem of the Zinkgruvan mine.

Size: 10 * 10 m²

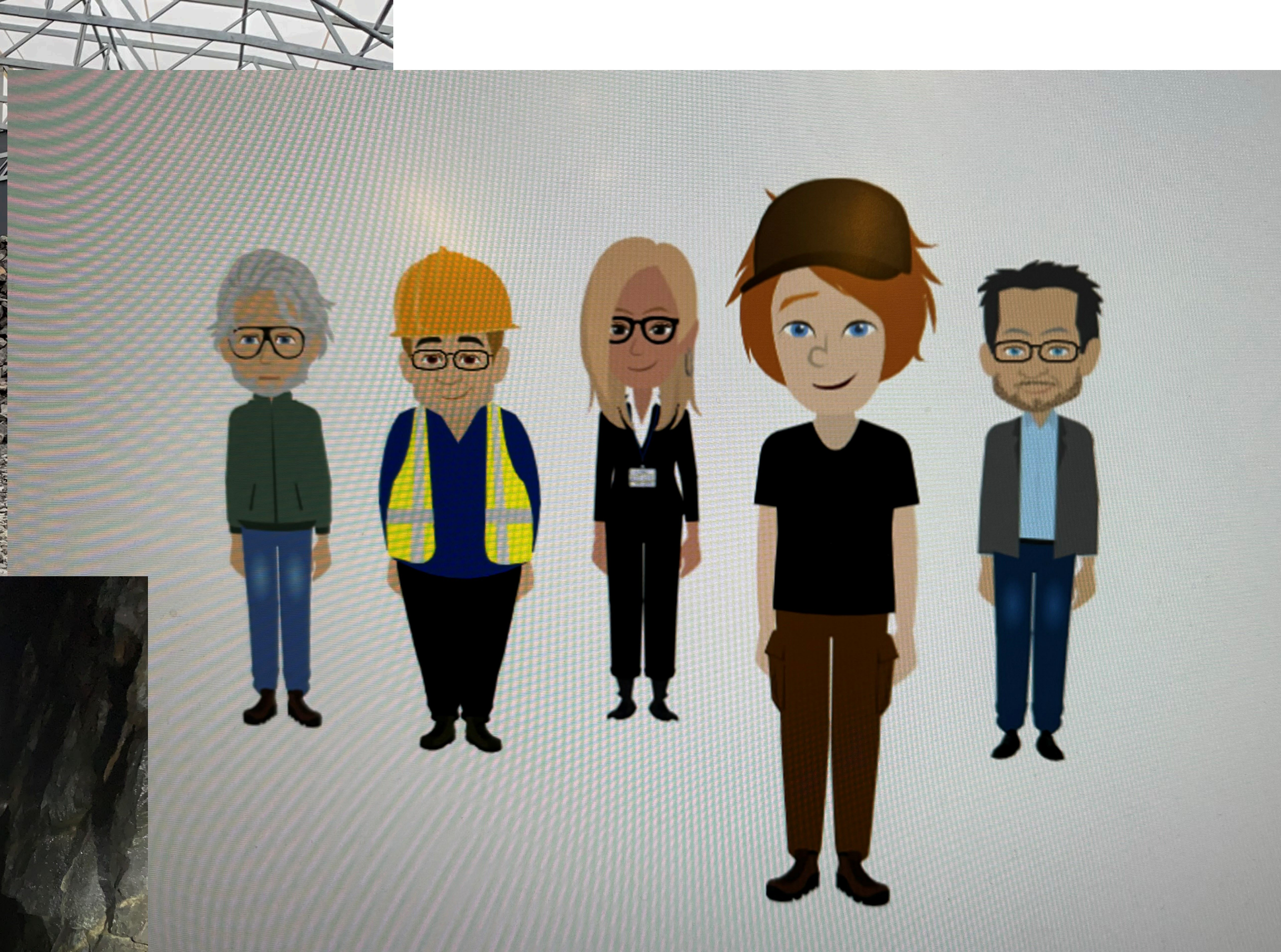
INTERAKTIV GRUVKARTA



INTERAKTIV GRUVKARTA

- Interactive map with information on mines and metal production in Sweden and globally (english version ongoing).
- Follow a product or application to see what it is made of, export/import, environmental impact etc.
- Connected with digital tools which in turn are connected to learning modules and physical installations.
- The mining map have been tested during summer 2022, via bergskraftmetals4u.rocks, at Euro Mine Expo in June 2022, Almedalsveckan in July 2022, at an exhibition in Långban mining museum 2022, Norberg 2023, Zinkgruvan Knalla museum 2024 and Comic Con (spring and winter) 2024. Planned for Boliden Garpenberg winter 2024.







Norberg mining museum 2023

Comic Con winter 2024



Mining innovation for a sustainable future