

Swedish Mining (SYSTEM) Innovation Space Innovation Forum Kiruna 20 September, 2023

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SWEDISH
MINING
INNOVATION

Med stöd från

VINNOVA
Sveriges innovationsmyndighet

 **Energimyndigheten**

FORMAS

Strategiska
innovations-
program



241
partners



274
projects



42/58
inclusive
innovation



104
competing
ideas



800 M SEK
financing



20
international
partners



5.7 M SEK
290 M SEK
scaled-up
investments



161
technical innovation
projects



250
events

Swedish Mining Innovation programme management



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Connect with us!

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What is Swedish Mining Innovation?

Public-Private Partnership with financing 50% public/private each

Brings together the Swedish mining and metal industry ecosystem

The goal is to strengthen Swedish competitiveness and sustainability in the mining and metal production sector through research, innovation and education



Scope and challenges

- Exploration
- Resource characterisation
- Mining
- Mineral processing
- Metallurgy and Recycling
- Environmental performance
- Attractive workplaces
- Gender equality and diversity
- Mining and Society





The Innovation Ecosystem

SWEDISH
MINING
INNOVATION



Collaboration industry,
institutes and academia



Research and
innovation strategy



Needs-driven basic and
applied research



- Strategic innovation programs
 - Swedish Mining Innovation
 - SIP PiiA
 - Resource
 - Produktion 2030
 - Metalliska material
- CAMM
- Samverkansprogram
- Batterifordonsprogrammet
- Industrikivet



- Horizon 2020/
Horizon Europe
- EIT RawMaterials
- European Technology
Platform on Sustainable
Mineral Resources
- Battery alliance



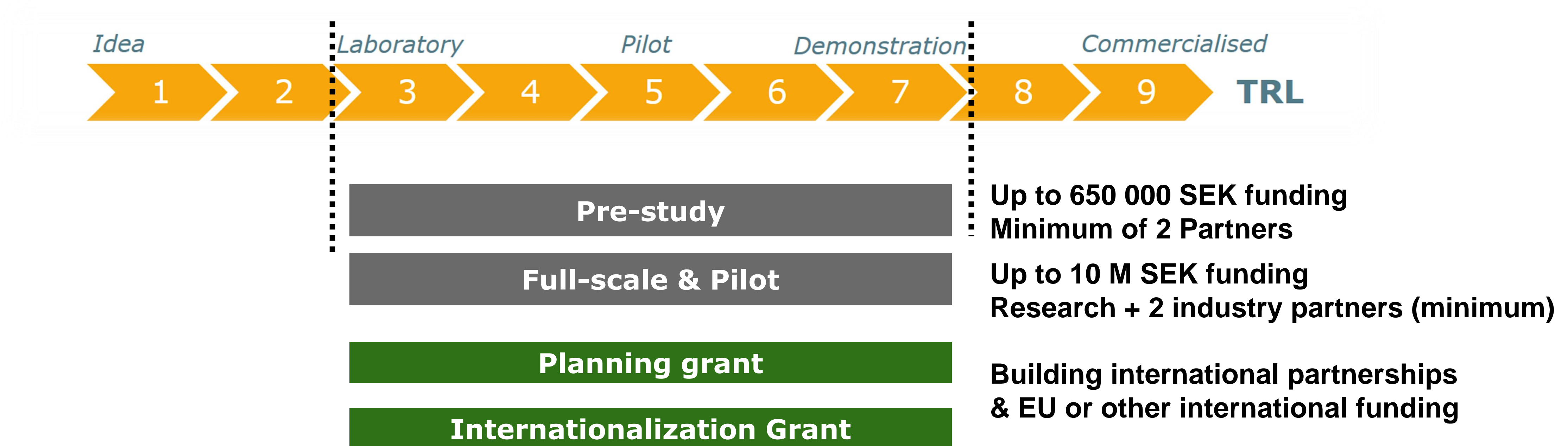
System Innovation

Different aspects of Innovation creates the system

- The eco-system
- A complete system with businesses (small and large) covering all aspects, academia, mining companies, technology suppliers, equipment suppliers, universities, research Institutes, NGOs, authorities
- Joint goal and collaboration
- The sector has a long traditions of collaboration and Sweden is a relatively small country
- Time
- Endurance and stamina, things will take time
- A global/international context
- Maintaining a world-leading position and to find competence and expertise elsewhere
- Funding
- External funding can be an important starting point in collaboration and to create neutral platforms for development



Open Calls



Example Industry Strategic Projects

- **Tracemet** – a pilot for sustainable metals and minerals (*IVL, RISE, Boliden, LKAB, SSAB, ABB, Scania, Elektrokoppar, Volvo Group*)
- **Road Map for Fossil-Free Mining and Minerals Industry** (*Svemin, RISE*)
- **Swedish mining industry's current and future relationship with biodiversity - Mining with Nature** (*Ecogain, Svemin*)



National Strategic Research and Innovation Roadmap for the Swedish Mining, Mineral and Metal producing Industry

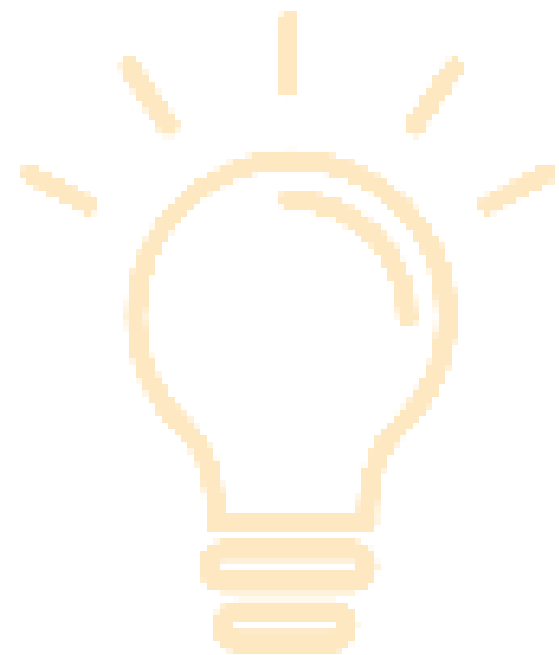


A joint innovation strategy developed by

- Swedish mining companies
- Equipment- and system suppliers
- Institutes and universities

Vision

A world-leading mining and mineral producing industry - in harmony with the world around it



The Mining Innovation Cluster



lundin mining



Universities



Institutes



Industry association of mines, mineral and metal producers



Governmental organisation



NGO:s



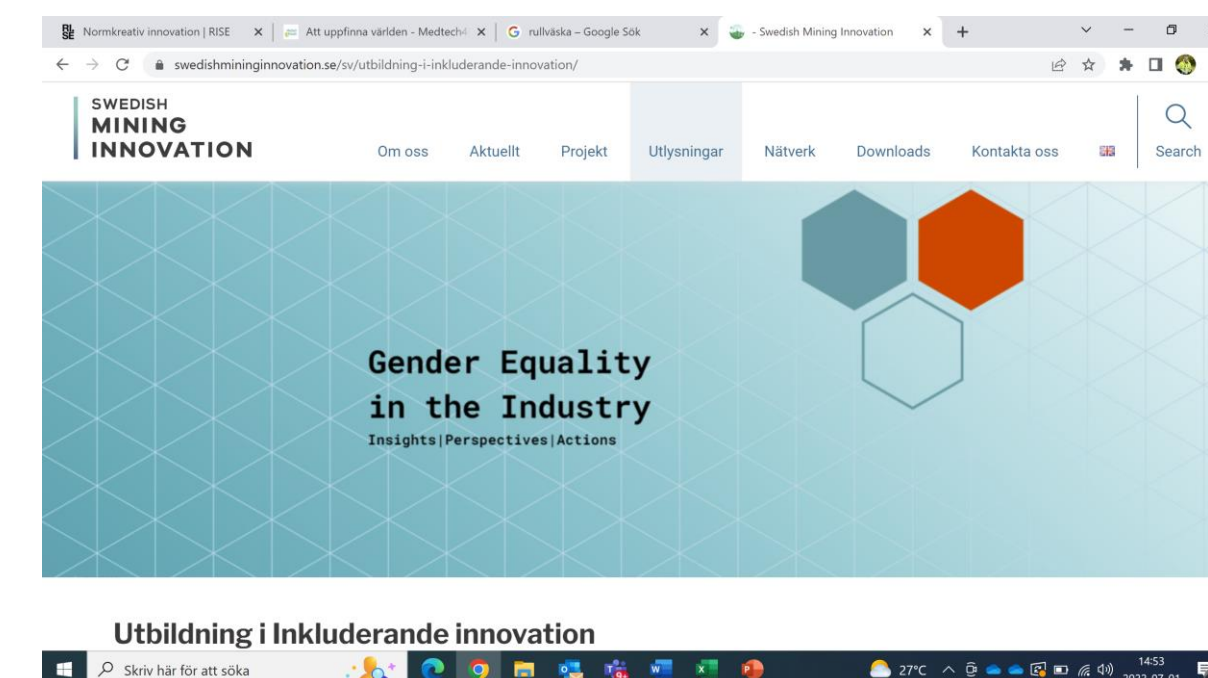


3 examples of our strategic projects

Modern Mines, a project with Swedish Science Centers

Inclusive Innovation

Safe, sustainable transports within reindeer husbandry area



Idea Competition 2023

- For Swedish SMEs
- Top 8 ideas pitched to the Jury and public audience in Luleå, 15 March
- International Jury!
- 600 000 SEK to each of the two winners



Vast Landscape Architecture

Geomorphic Design
site remediation & waste rock handling



MycoMine

mycoremediation (fungi-based concentration)
of Cu and other metals





Status SME network

Swedish Mining Innovation Arena

- SME eco system and too little innovation
 - A number of 100s companies
 - Those we don't know
 - Beyond the mining sector
 - Larger ecosystem of SMEs
-
- Started with
 - Kaunis Iron – 5
 - Zinkgruvan – 5
 - Epiroc – 8
 - Copperstone – 4



The Swedish Mining Innovations SME network exists to create meetings through an

Mining innovation for a sustainable future