



TraceMet

Tracing Environmental Performance of Steel and Copper Through the Value Chains



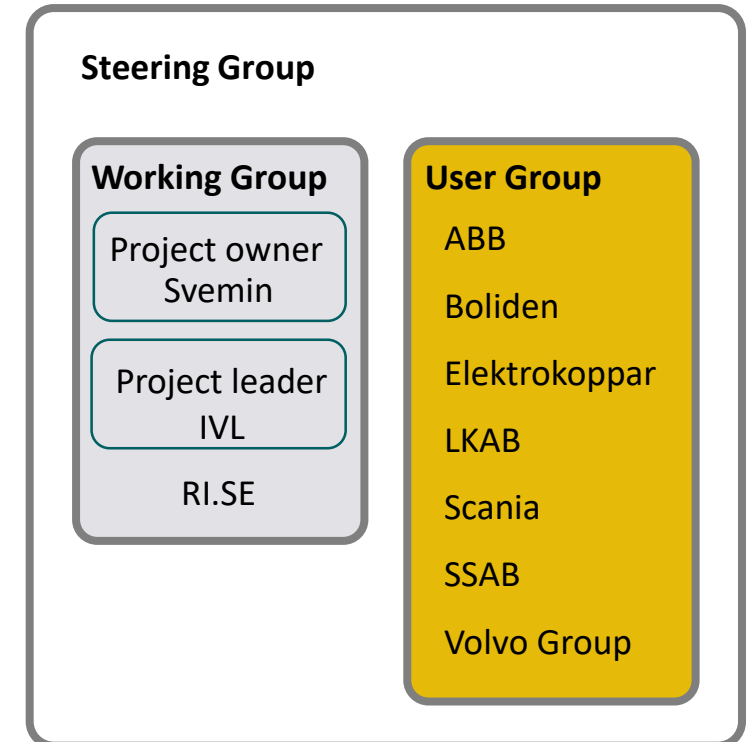
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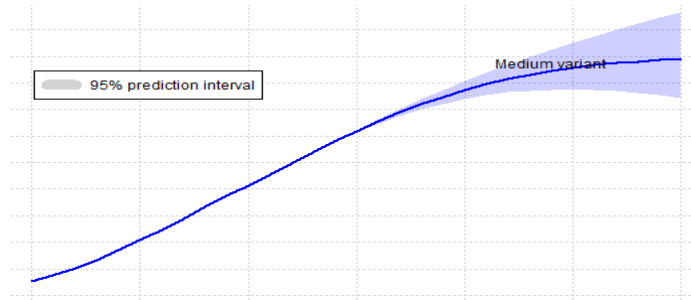
SWEDISH
MINING
INNOVATION

TraceMet – some basic facts

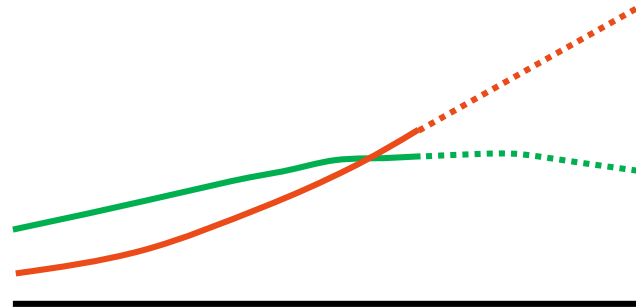
Timetable:	December 2019 to January 2021.
Financier:	The strategic innovation program Swedish Mining Innovation, a joint investment of Vinnova, Formas and the Swedish Energy Agency (SEA).
Project owner and promoter:	Svemin, the Swedish industry association of mines, mineral and metal producers.
Partners:	IVL Swedish Environmental Research Institute, RI.SE, Boliden, LKAB, Elektrokoppar, SSAB, ABB, Scania, Volvo Group. All industrial parties contribute with working time (in-kind).



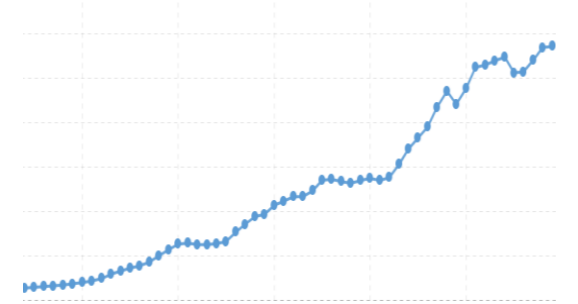
Why do we need TraceMet?



Global population 1950–2100
United Nations, 2019



Urban and rural population 1950–2050, UN
World Urbanization Prospects 2018



GDP per capita population 1960–2020
Macrotrends, 2020

“Every extra bit of warming matters, especially since warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems.”
(IPCC, 2018)

“Nature is declining globally at rates unprecedented in human history — and the rate of species extinctions is accelerating.” (IPBES, 2019)

Increasing demand for
metals and minerals

Sustainable Supply Chains

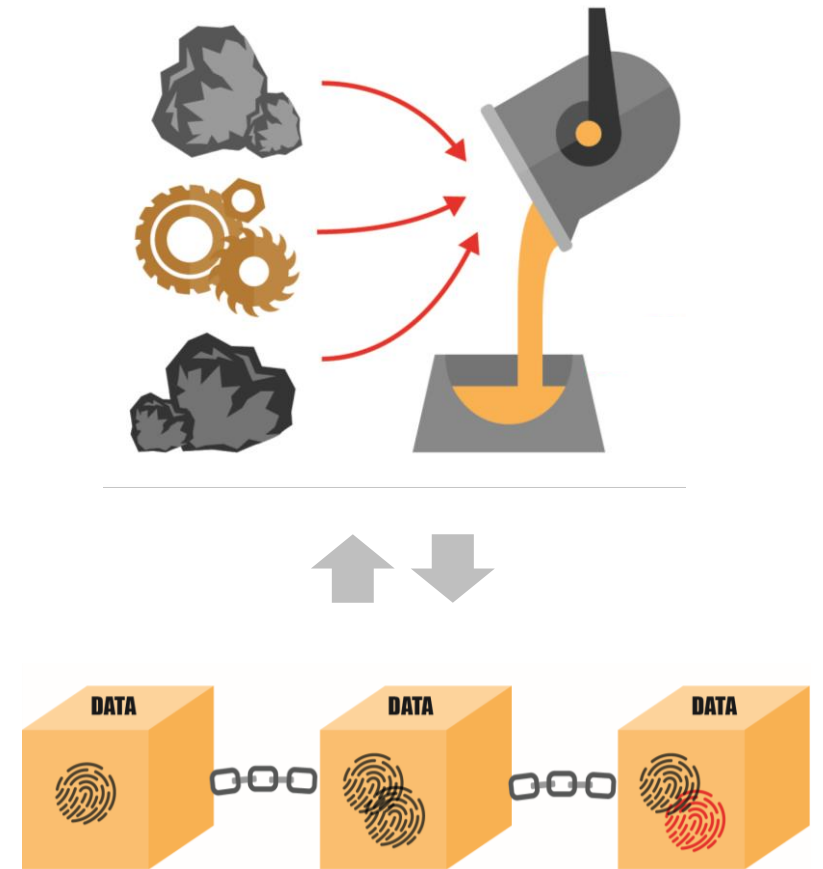


Tracking environmental performance through the value chain is part of the solution

Proactive and responsible actors will gain a competitive advantage

What is TraceMet?

- Mass balance chain of custody accounting on a blockchain database
- Project internal product category rules (PCR) that enables a certified declaration for
 - carbon footprint and
 - recycled content of metals
- Context specific knowledge generation



Environmental Performance

- Carbon footprint (based on EN 15804 modules A1-A3)
- Recycled content (based on SS-EN 45557:2020)
- TraceMet has an attributional approach with some consequential elements (common in LCA, in line with Product Environmental Footprint (PEF) methodology)
- Third party verification

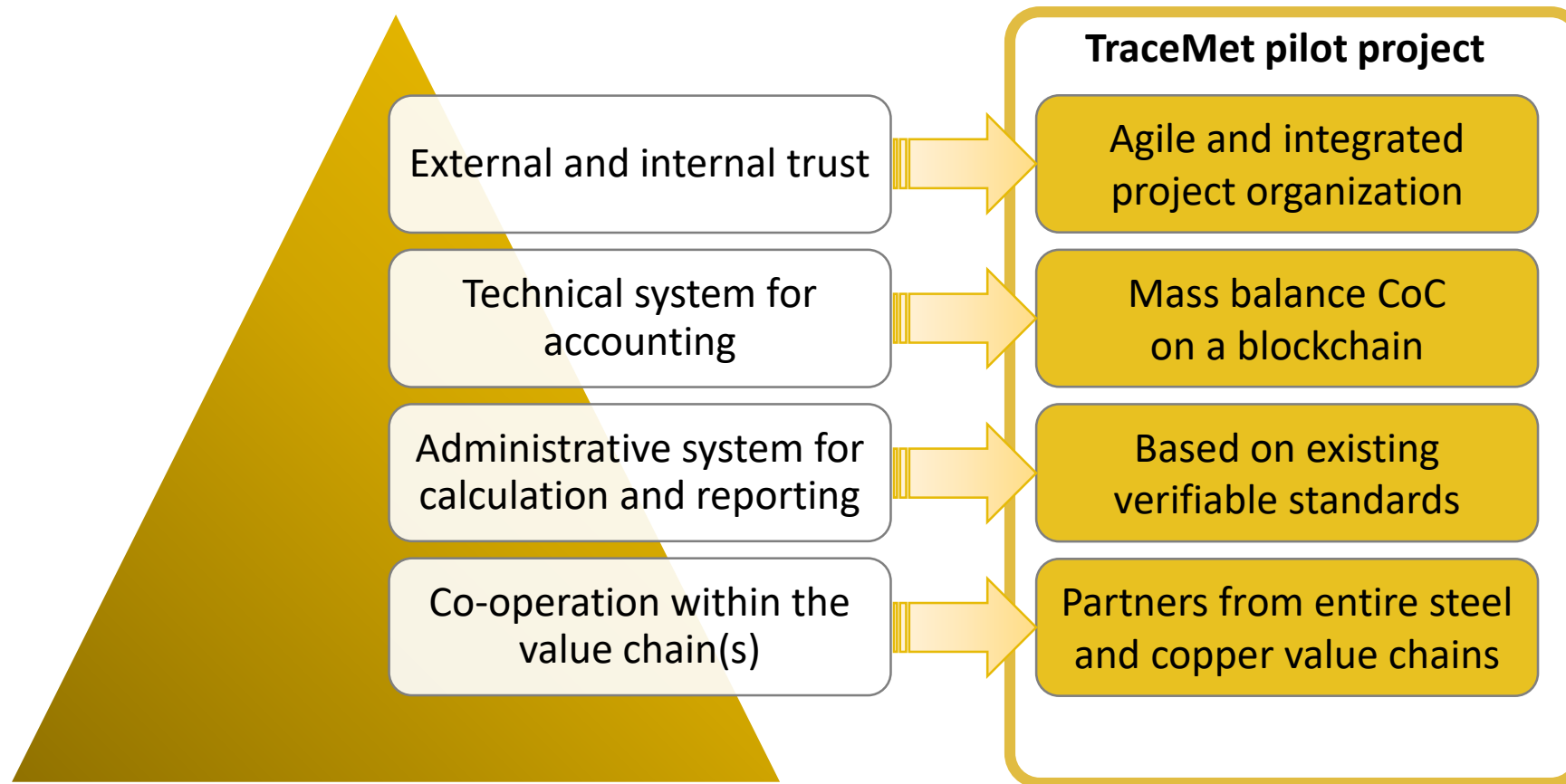
The Devil is in the detail!

Multi-actor, cross-value chain perspectives imperative to identify, explore and solve challenges



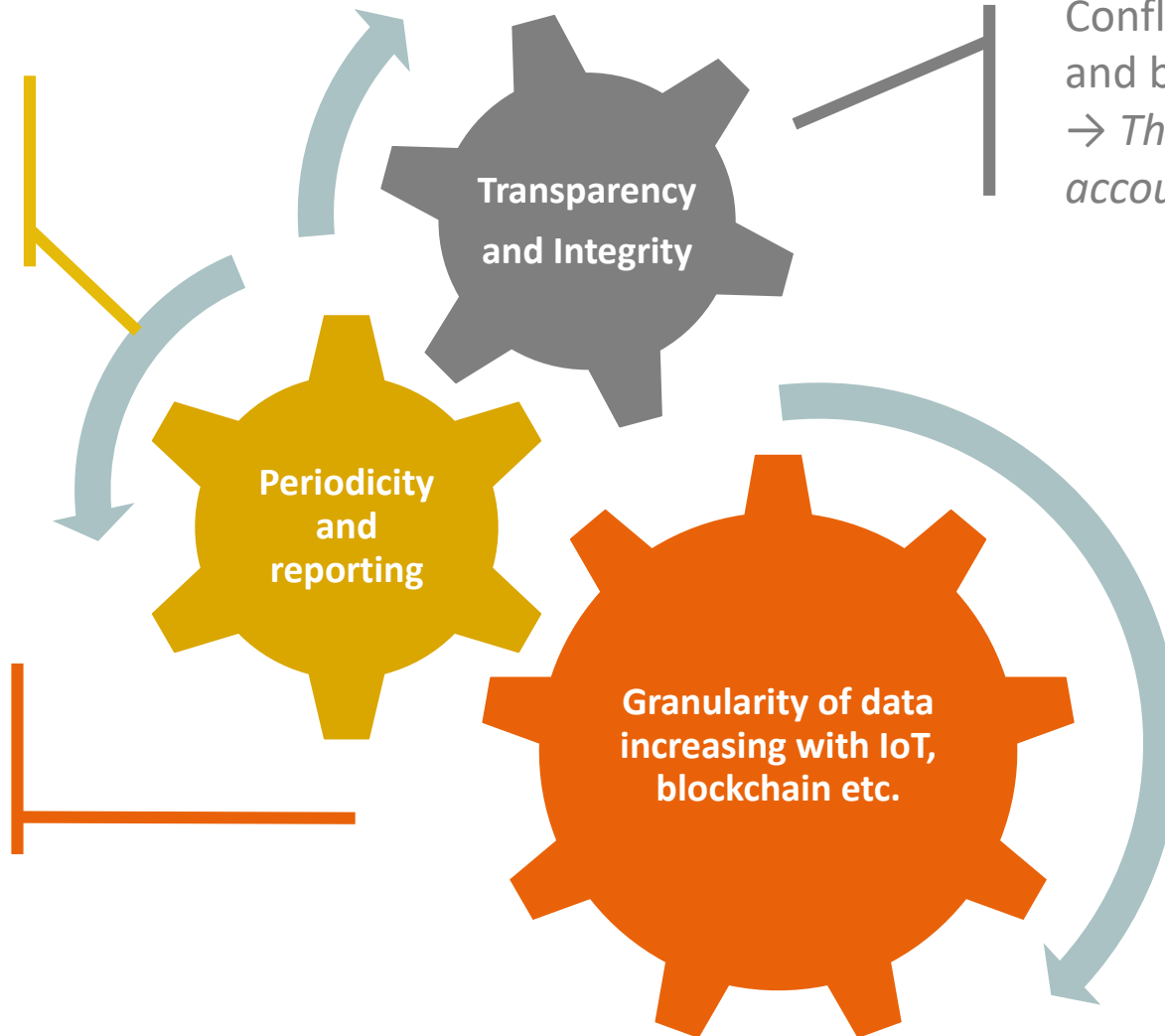
Planning for success

Building the blockchain and carbon solution in two real, but controlled value chain environments!



Challenges & Opportunities

Actor-specific reporting periods
→ *Asynchronous reporting and computation functionality*



Conflict between mass balance and business confidentiality
→ *Third party service provider to account for data reliability*

Large-scale transformation relying on – and restricted by? – existing routines and standards



TRACEMET

Traceability for sustainable metals and minerals

For more info and sign-up for newsletter, see:

www.ivl.se/tracemet

Or contact directly (PM):

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PROJECT OWNER

Svemin

PROJECT LEADER

IVL Swedish
Environmental
Research Institute

PROJECT PARTNERS

ABB, Boliden,
Elektrokoppar AB,
LKAB, Rise,
Scania, SSAB,
Volvo Group

FINANCIER

SWEDISH
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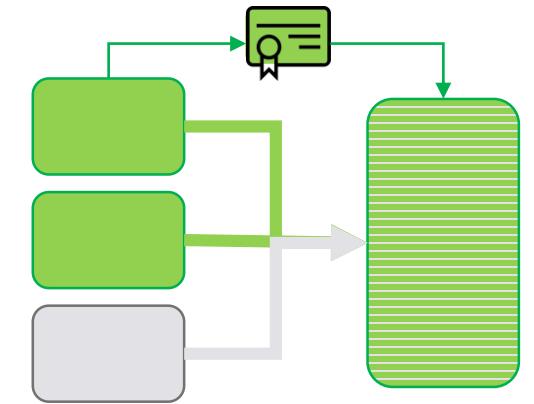
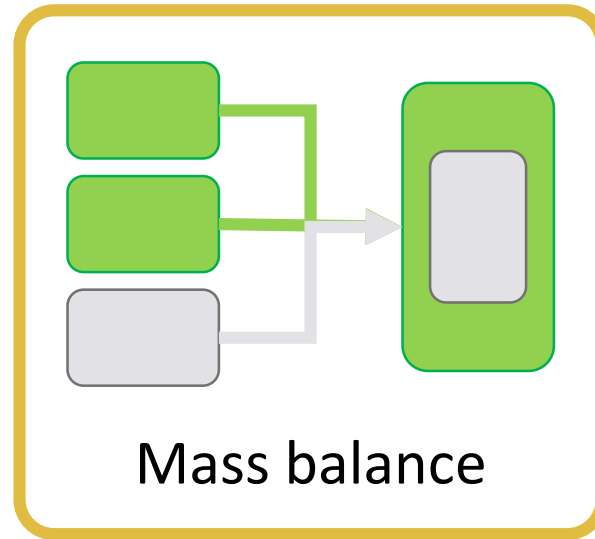
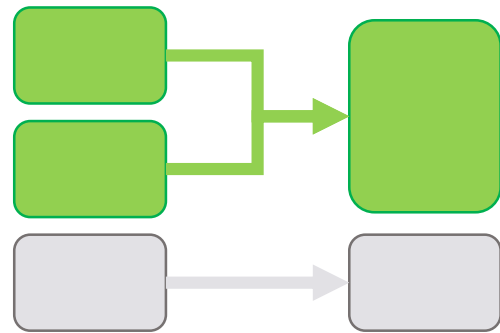
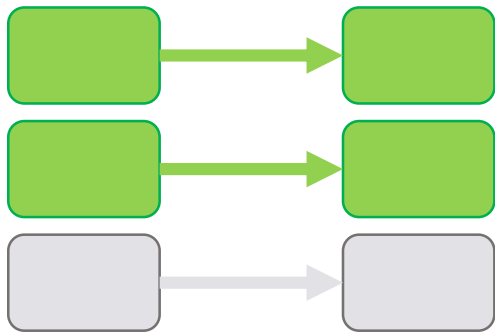
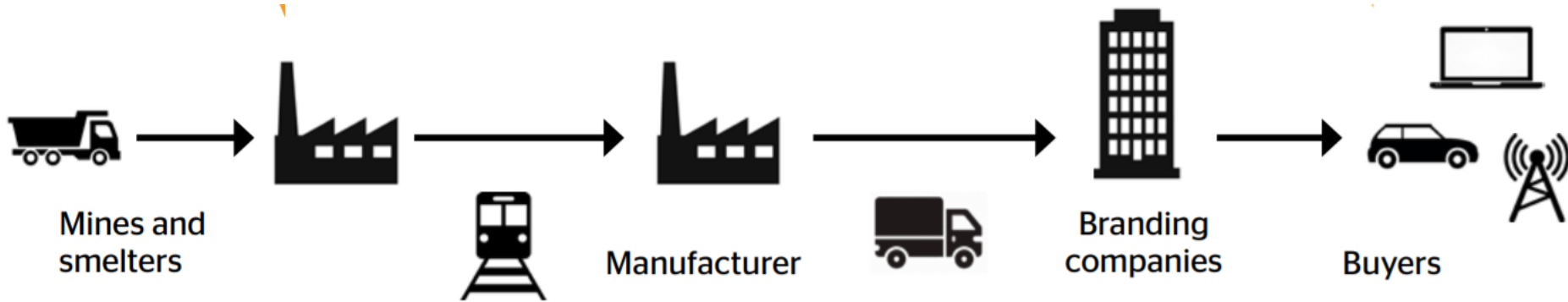


FORMAS

Strategic
innovation
programmes

Back-up explaining mass-balance

Chain of Custody and Traceability



Identity preservation

Segregation

Mass balance

Certificate trading