



RawMaterials

Connecting matters

# Opportunities and Support for The Arctic University of Norway Within EIT RawMaterials

21 February 2023, Tromsø, Norway

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Co-funded by the  
European Union



# RAW MATERIALS: KEY ENABLERS FOR ENERGY DIVERSIFICATION

## Brown Economy

**Fossil Fuels** for combustion engines, generators and power stations: coal, oil & gas

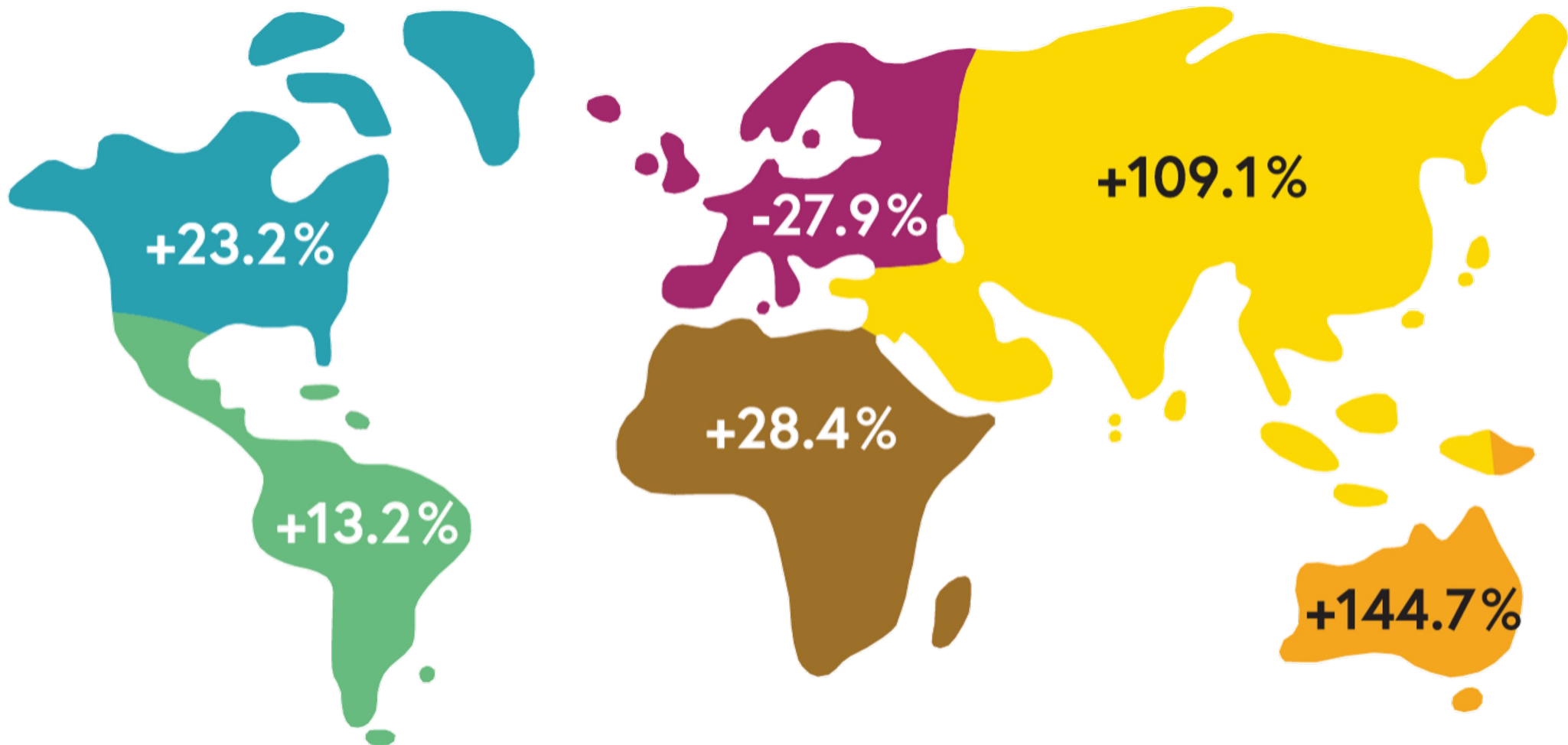
## Transition

## Green Economy

**Functional Materials** in e-motors, energy storage, energy conversion containing, for example, Co, Li, Pt, REE, Ge, Ga, Si, V

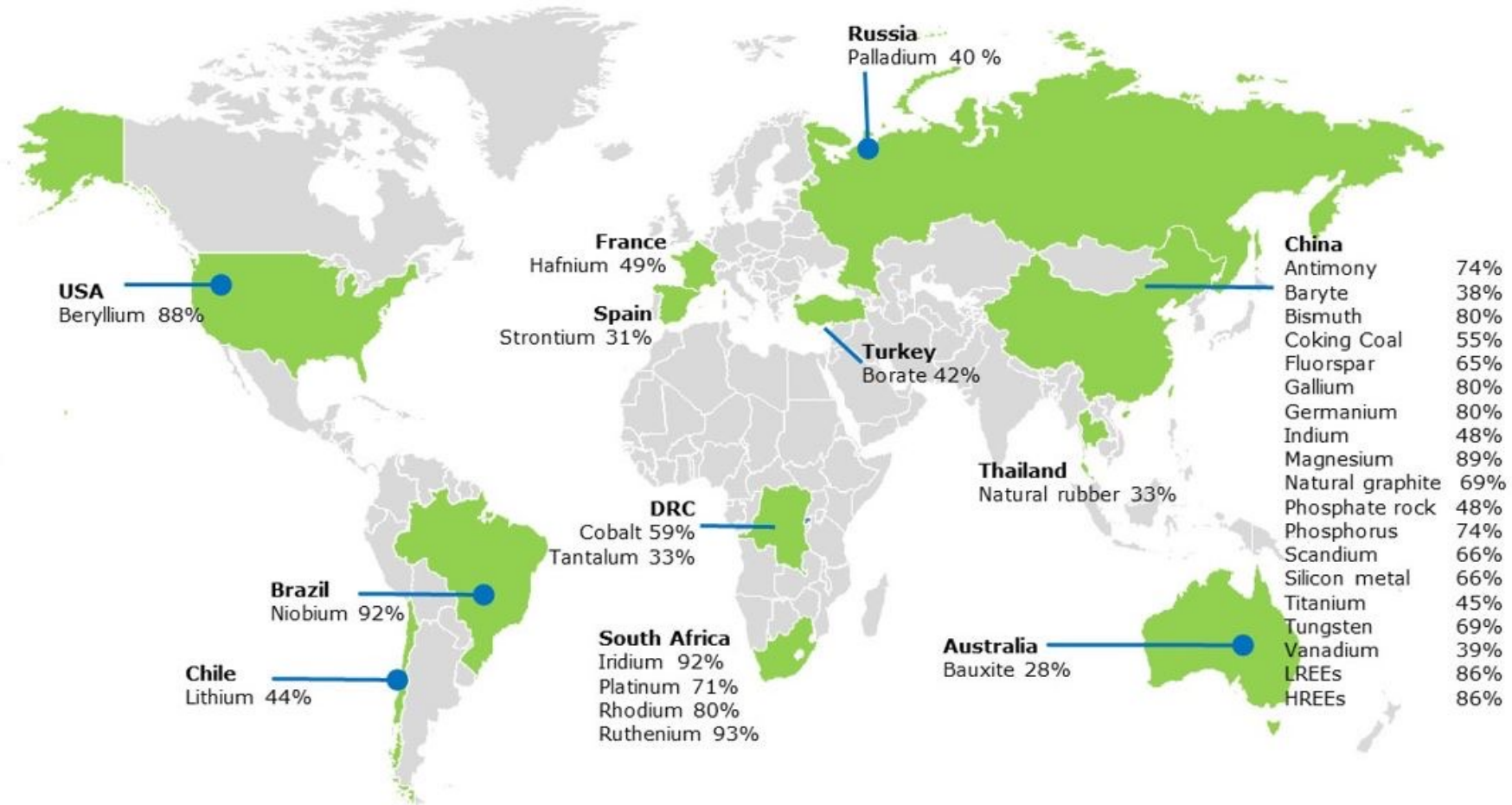


# PRIMARY PRODUCTION RATE BETWEEN 2000 AND 2019



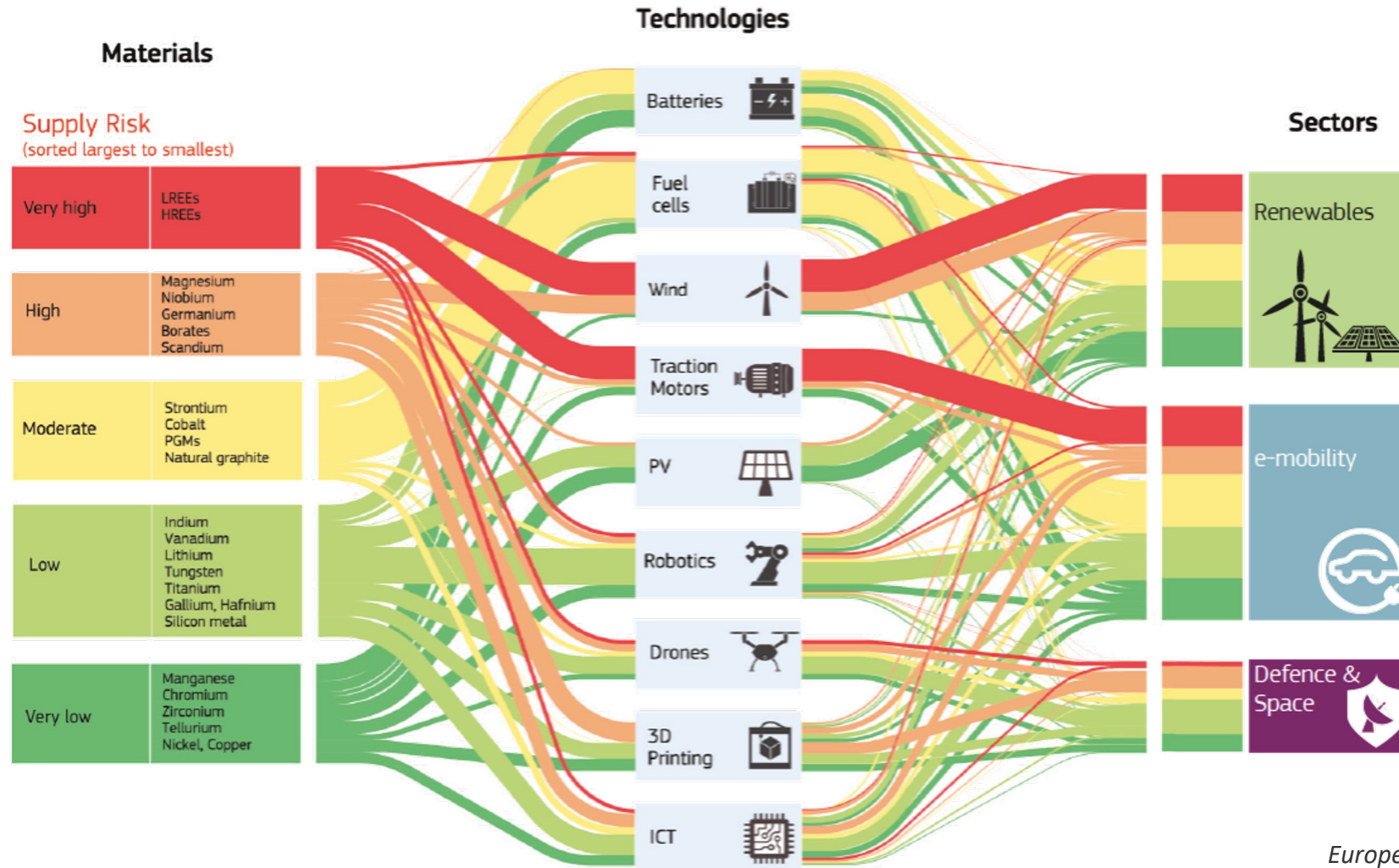
*Data from World Mining Data*

# GLOBAL SUPPLY OF RAW MATERIALS AT RISK



EU Com. report on the 2020 criticality assessment

# RISK FOR EUROPEAN STRATEGIC VALUE CHAINS



European Commission Strategic Foresight

# EIT RAWMATERIALS AT A GLANCE

- World's largest community in raw materials sector
- Coverage of entire raw materials value chain
- 400+ partners (University, RTO & Industry)
- Partners from more than 22 countries
- 16 locations across Europe
- Headquarters in Berlin, Germany

■ Innovation Hub

■ RC (Regional Center)

■ RIS HUB (Regional Innovation Scheme)

■ Countries covered by EIT RawMaterials

■ Countries covered by EIT RawMaterials and RIS



# INNOVATION HUB NORTH AND BALTIC SEA



**Olli Salmi**

Innovation Hub Director



**Lotta Aalto**

Education Manager



**Mikko Korhonen**

Business Development Manager



**Katja Rahaula**

Finance & Administration Officer



**Catherine Bounsaythip**

Business Development Manager



**Théo Berthet**

Business Development Manager



**Hanna Junttila**

Business Development Manager



**Ulf Orrebrink**

Business Development Manager

# EIT RAWMATERIALS ACTIVITIES TO ACHIEVE THE STRATEGIC OBJECTIVES

## EDUCATION

**Students, Professionals &  
Wider Society**

Entrepreneurial and  
innovation skills

**Knowhow of raw materials  
for new technologies**

## ACCELERATION

**Innovation & Business  
Creation**

Innovation and upscaling of  
technological advances

**Business creation and  
entrepreneurship across  
value chains**

## ECOSYSTEM

**Partnership, Networks &  
Services**

Systemic change through  
synergies and matchmaking

**RawMaterials Summit,  
Expert Fora & Stakeholder  
Days**



# WHAT DO WE OFFER FOR PARTNERS

- World largest Raw Materials ecosystem, become part of a community
- Access to raw materials industries, businesses, RTO's and universities
- Consistently high level of EIT funding
- New alternative funding streams
- Continuity in future calls and guidelines whenever possible
- 2-stage call process with an envisaged minimum success rate of 15%
- Promote partners at highest political levels in the EU
- Support start-ups and spin-offs for the Raw Materials sector.
- Open innovation challenges together with key actors

# THREE INNOVATION PROGRAMS THAT GUIDE YOUR APPLICATIONS



## SUSTAINABLE DISCOVERY AND SUPPLY

Sustainability starts with Europe's  
resource potential



## SUSTAINABLE MATERIALS FOR FUTURE MOBILITY

Innovation in electrification and lightweight  
design enabling green energy transition



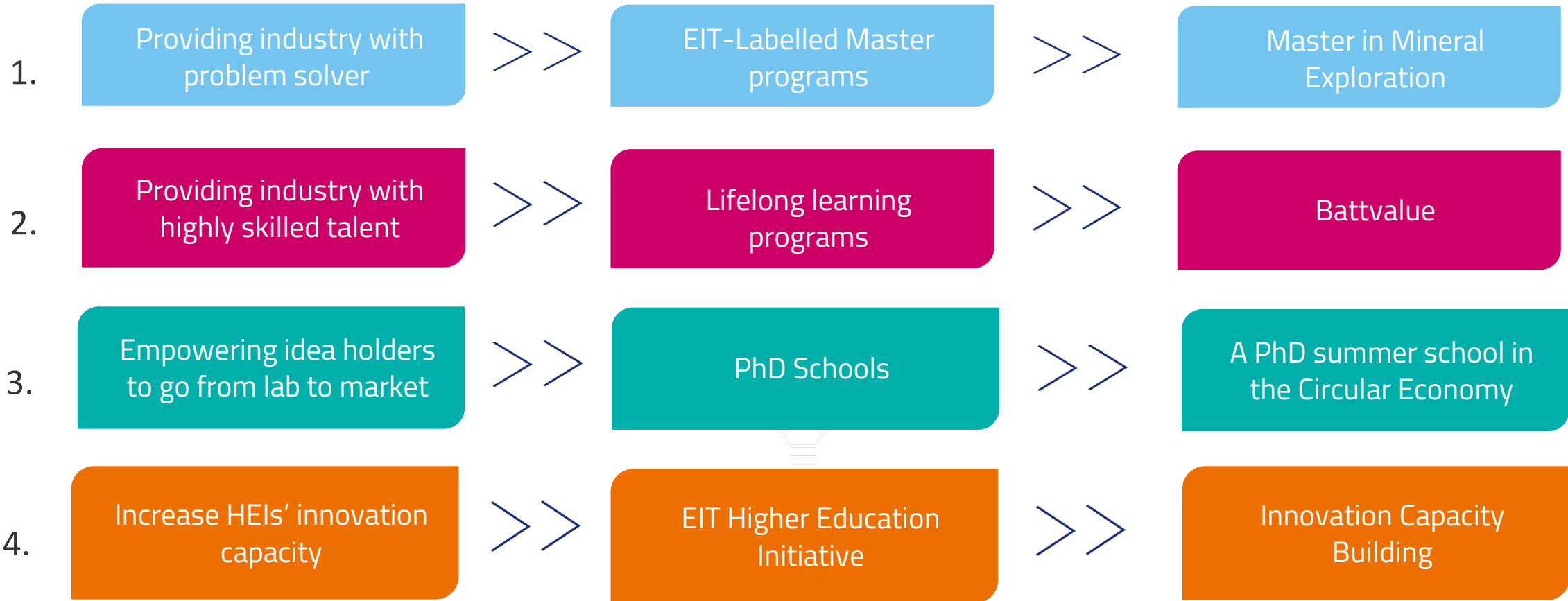
## RAW MATERIALS AND CIRCULAR SOCIETIES

Closing material loops: a radical shift  
from linear to circular thinking



WE POWER  
INNOVATORS AND  
ENTREPRENEURS TO  
DEVELOP SOLUTIONS  
TO GLOBAL  
CHALLENGES AND CREATE  
GROWTH AND JOBS FOR  
EUROPE

# THE 4 DRIVERS FOR INNOVATION IN EDUCATION



# EIT-LABELLED MASTER PROGRAMMES



Master in Mineral Exploration



Master in Entrepreneurship, Innovation & Technology in Mining



Master in Raw Materials Value Chain



Master Programme on Sustainable Materials



Master in Raw Materials Exploration & Sustainability



Master in Sustainable & Innovative Natural Resource Management



Master in Advanced Materials Innovative Recycling



Master in Advanced Materials for Innovation & Sustainability



Master in Resources Engineering



# INVESTMENT IN LIFELONG LEARNING PROGRAMS



- European Battery Business Club (EBBC)
- Battery Value Chain (BattValue)
- International Round Table on Materials Criticality Training Programme (IRTC-Training)
- SusCritMOOC
- iTARG3T
- ExpSkills
- RawMatCop
- RawMatCop Alliance
- Enhance your understanding in SLO
- ALCASIM

# EIT HIGHER EDUCATION INITIATIVE: CAPACITY BUILDING INITIATIVE



Institutional change



Partnerships



Innovation



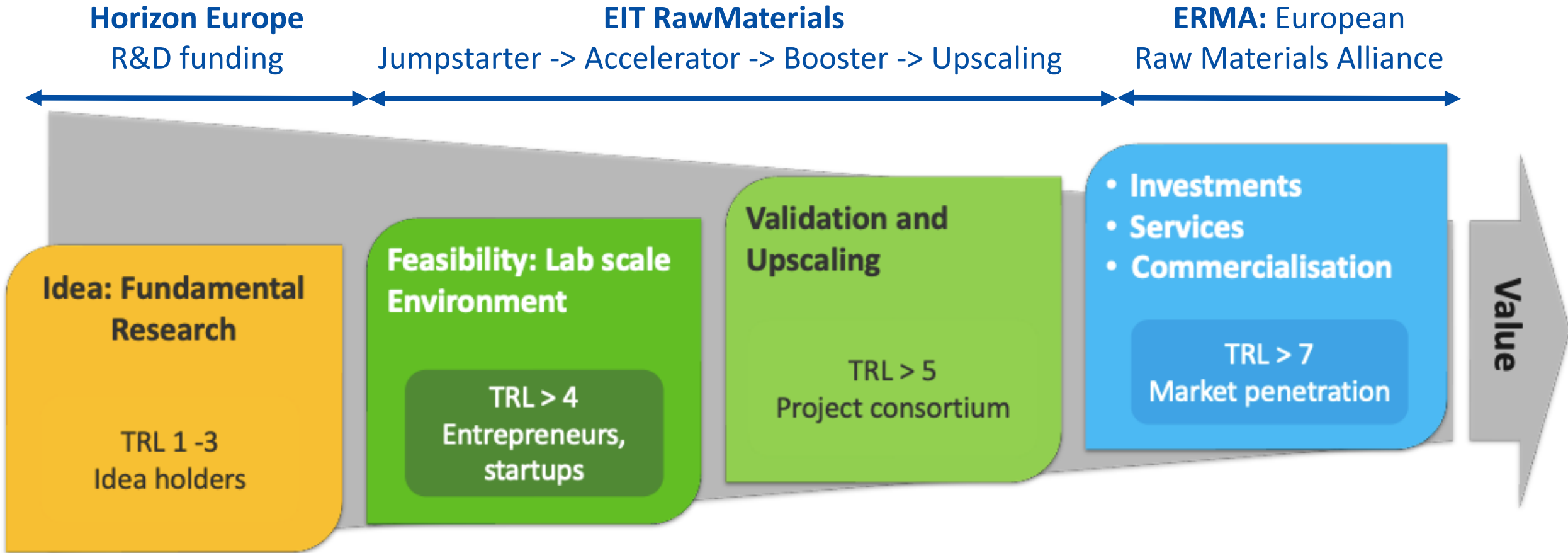
Entrepreneurship



Knowledge sharing

- More than 1,400 participants
- 50 projects selected from 116 applications (Call 1 & 2)
- Call 3 has significant focus on the development of Deep Tech talent at HEIs
- Almost 600 partners (out of which about half HEIs)

# ACCELERATE THE INNOVATION FUNNEL: EU FUNDING OPPORTUNITIES





# EIT RAWMATERIALS SUPPORT FOR BUSINESS CREATION



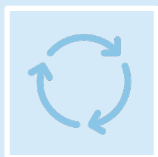
**JUMPSTARTER:** European innovation bootcamp

-> 10k€ prize for winners and cost covered for all | 16 April 2023



**ACCELERATOR:** business school ca. 2 years in 3 stages.

-> 90 k€ investment, 10k€ for pilot | 20 Mars 2023



**BOOSTER:** financial & services support for growth

-> 200 k€ investment | 13 Mars 2023

**BOOSTER**  
CALL FROM PRODUCT  
TO MARKET



# BUSINESS CREATION EXAMPLES ALONG THE VALUE CHAIN



SECURING RAW MATERIALS SUPPLY  
collaborating across the entire  
industrial value chain



- Swedish spin-off from LTU systems and space engineering
- Real time positioning for underground environments
- Accelerator: 100k€ funding and support for go-to-market strategy
- Acquired by Mobilaris in 2022



- Start-up based in Germany and South Africa
- Sustainable dust control for mining sector (ESG)
- Booster: 200k€ funding to support field pilot at mine site
- Winner of Eramet Responsible Mining Challenge 2021

# ACCELERATING MARKET INTRODUCTION THROUGH UPSCALING



**Upscaling projects** are innovation projects based on validated technologies that need additional step(s) for upscaling, demonstration or implementation



The **objective of upscaling** is to bring the technology to market, as a product, service or process – no later than 3 years after the project has ended



**TRL 5** (technology validated in relevant environment) required at the beginning of the project, minimum **TRL 7** (system prototype demonstration in operational environment), at the end of the project



The project consortium must consist of a minimum of 2 EIT RawMaterials Partners, coming from a minimum of 2 different countries; at least one university / RTO in addition to industry needed



Projects may receive up to 70% of their budget as grants, project volumes 1,5M€ - 5M€

# UPSCALING PROJECT EXAMPLES ALONG THE VALUE CHAIN



## DESIGNING SOLUTIONS

for materials innovation, products  
and processes

### RAREGREEN Upscaling

- Innovative flowsheet for REE extraction
- European collaboration around Norwegian deposit
- Industries from raw materials and REE sector + skilled research teams for material processing
- 4.5M€ EIT funding for the sustainable process

### HIPAM Upscaling

- Innovative nickel-free stainless-steel alloy, replacing Cobalt and Titanium
- 2.3M€ EIT funding to develop the alloy



CHALMERS



# RAW MATERIALS SUMMIT

15 - 17 MAY 2023, BRUSSELS  
(AND STAKEHOLDER DAY IN STOCKHOLM ON 13 JUNE 2023)



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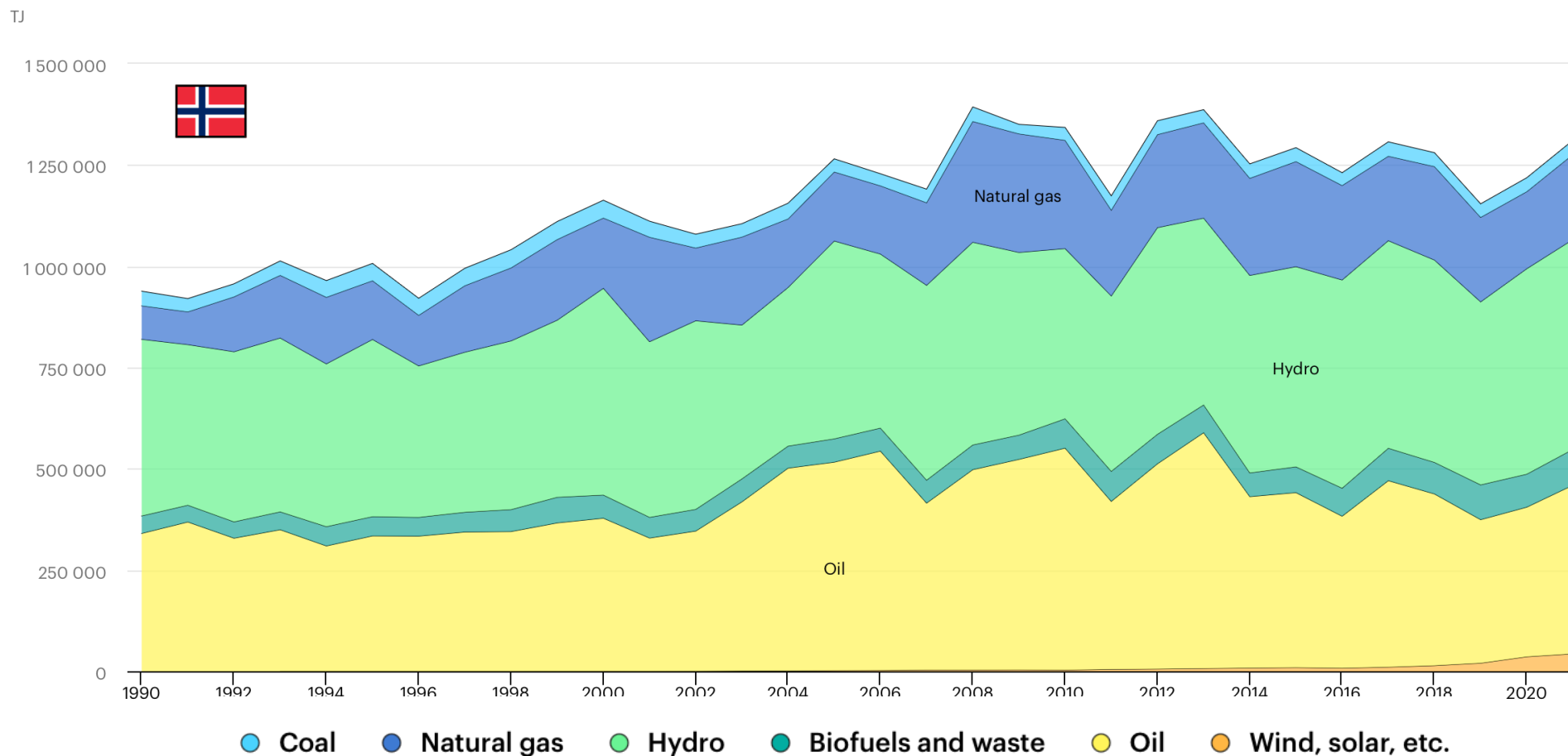
[eitrawmaterials.eu](http://eitrawmaterials.eu)



EITRawMaterials

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# NORWAY ENERGY MIX



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