



MinFuture

Welcome and introduction

Consortium meeting, Brussels 6.-8.06.2018

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6/15/2018



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Programme



09:00 Introduction to MinFuture and workshop goals

10:00 Break

10:15 Framework for monitoring the physical economy

12:00 Lunch

13:00 Challenges, questions, and recommendations

- Framework
- Policy, regulation, finances
- Roles and cooperation

15:00 Roadmap structure

17:00 End

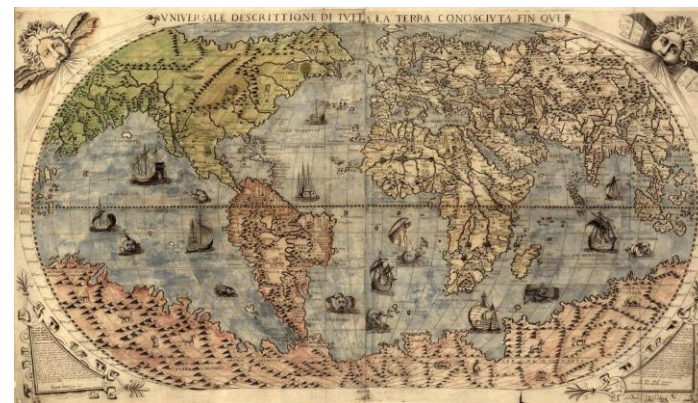
19:00 Dinner

MinFuture: Challenges and objectives



Challenges

1. Ensuring access to raw materials critical for industry
2. Reaching goals for Sustainable Development, Circular Economy, climate change mitigation requires restructuring of global material use
3. Poor understanding of global material cycles (insufficient and fragmented information)



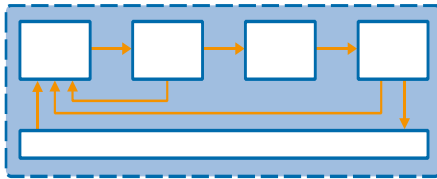
World map from 1565

Objectives

1. Develop a proof of concept for a **“Google Maps” of the global physical economy in 4 dimensions** (stages, international trade, layers, time)
2. Involve governments and industry in the development of a **common framework**
3. Develop a **roadmap** for monitoring the physical economy

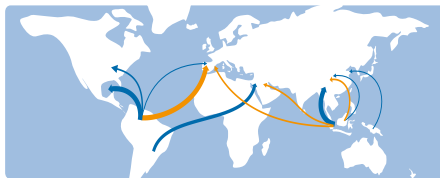


4 dimensions of MFAs



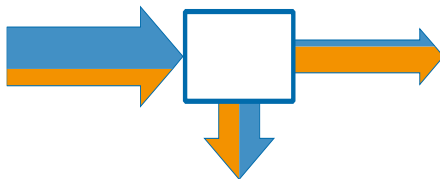
1. Stages

Track material stocks and flows along the supply chain



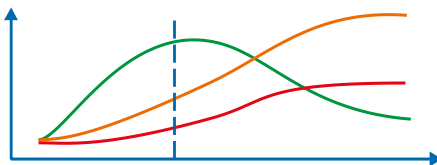
2. Trade

Track material stocks and flows in international trade of goods along the supply chain



3. Layers

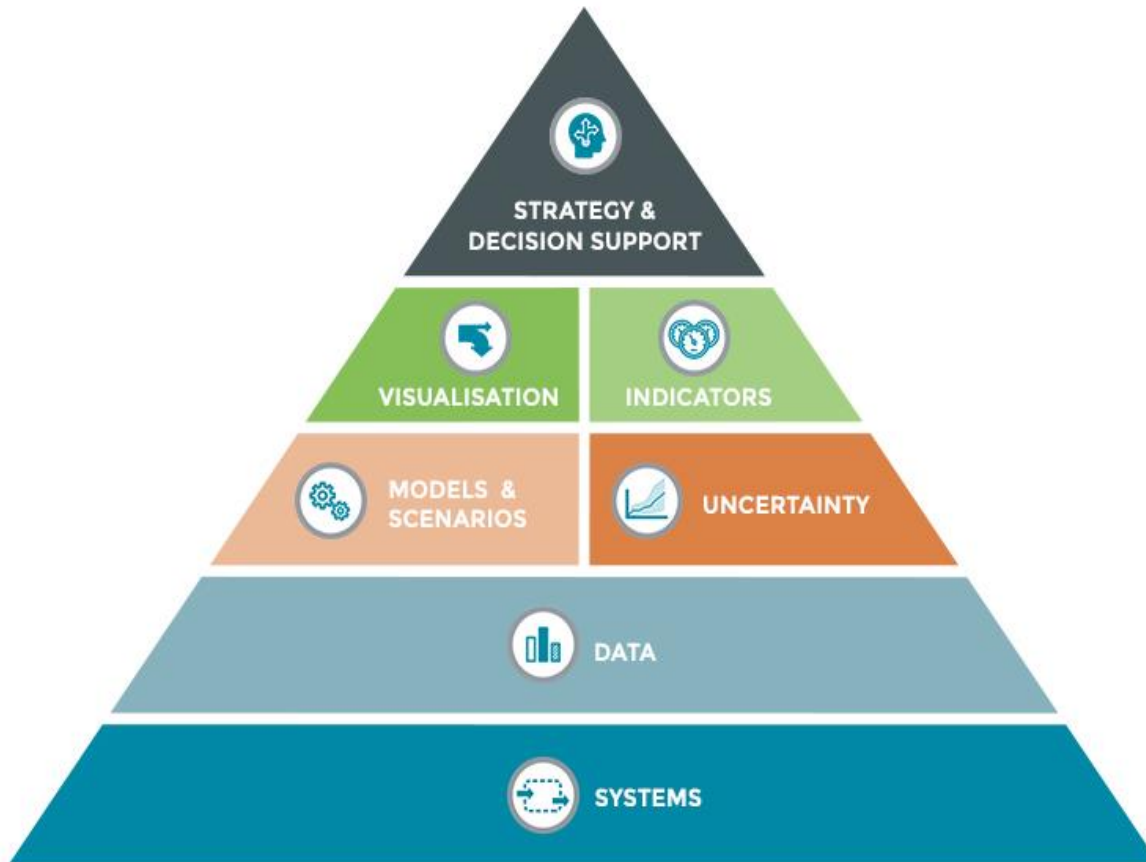
Track individual components of goods and their linkages (materials, energy, value)



4. Time

Historical development and future scenarios

Framework: 7 hierarchical MFA components



MinFuture project:

- Assess state of the art for all components
- Develop design principles for strengthening individual components
- Identify need for component development for different materials
 - Case studies for Al, Co, Nd, Pt, P, constr. aggr.
- Roadmap for monitoring the physical economy

Hierarchy: Robustness of higher level depends on robustness of lower ones.

MinFuture consortium



Partners



CHARLES UNIVERSITY



NORGES
GEOLOGISKE
UNDERSØKELSE
- NGU -

Advisory Board

Magnus Ericsson, Luleå UoT

Nedal Nassar, USGS

Christian Hagelüken, Umicore

Johannes Drielsma, Euromines

Stefan Bringezu, WI

Karen Hanghøj, KIC EIT RM

Ronald Jansen, UN Statistics

Sigurd Heiberg, Petronavit AS

Constantin Ciupagea, JRC

MinFuture WS3: Enhancing relevance



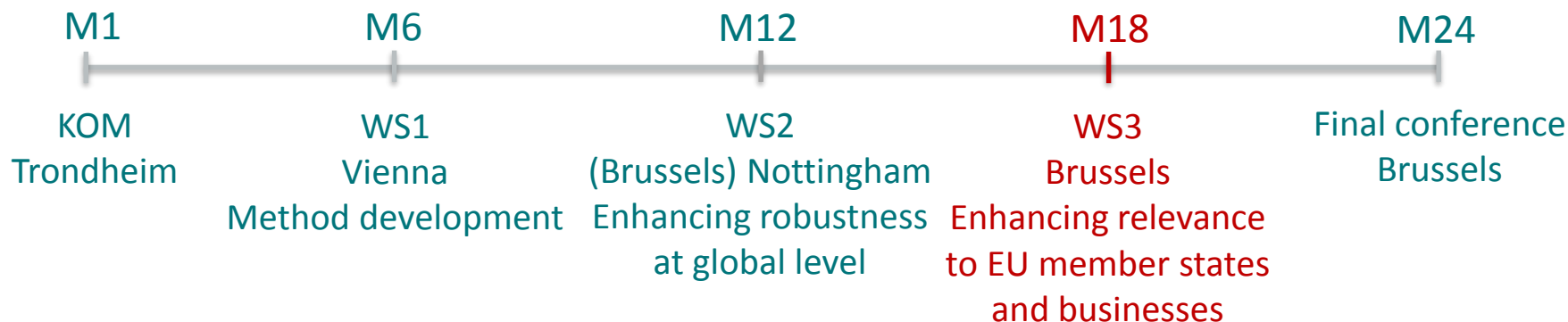
Goal of MinFuture:

Develop a proof of concept for mapping and modelling the global physical economy in 4 dimensions

Approach of MinFuture:

International cooperation with key research institutions, data providers, data users

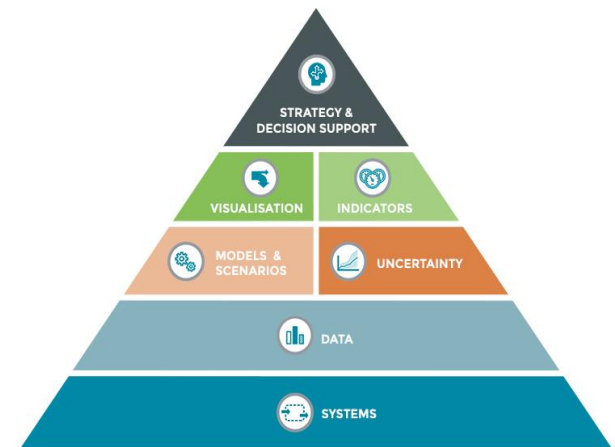
Timeline of MinFuture:



Roadmap for monitoring the physical economy



1. Motivation and purpose
(criticality of supply and beyond)
2. Map: Framework of MFA
 - 4D, pyramid
 - Design principles for pyramid components (WPs 2-3)
 - Current position on the landscape for selected materials (WP4, material-specific workshops)
3. Goals and alternative roads:
 - Challenges and questions
 - Recommendations & questions
 - Policy, regulation, finance
 - Roles and cooperation





Goals for the roadmap

- Report data with system context
 - data harmonization
 - monitoring of systems, not isolated flows
- Develop a common ontology
 - metadata to describe the system context
 - enable data sharing
- Facilitate data sharing
 - between industry, public authorities, IGOs
 - ownership of data