11.00 - 12.15

# Roundtable: Fundamental vs. Mission-driven Science

*Jakob Edler – Fraunhofer Institute for Systems and Innovation Research*
*Philippe Larrue - OECD*

AESIS

Impact of Science

4-6 November, Krakow

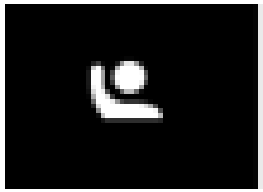
# Roundtable: Fundamental vs. Mission-driven Science

Kościół Mariacki room

AESIS

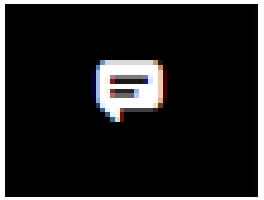
# Impact of Science

**4-6 November, Krakow**



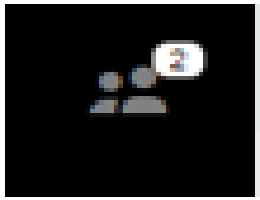
**Broadcast permission**:

- Turn on your microphone and/or camera
- Participate in the discussion



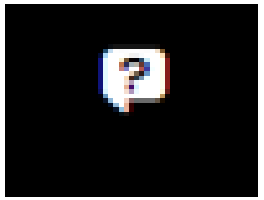
**Conversations**:

- General remarks
- Discussion
- News (links)



**Who are the attendees?**

- Speakers
- Participants



**Q&A**:

- (Targeted) questions
- Speakers answer the questions live

**Lay out view**:
Full screen, Tiled, Thumbnail

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#IoS20

# “FUNDAMENTAL VS MISSION-DRIVEN SCIENCE”


- Jakob Edler, Director, ISI Fraunhofer
- Philippe Larrue, Policy Analyst, OECD


**Impact of Science Conference**

**November 5th**

OECD

Fraunhofer ISI

# WHAT ARE MOIPS AND HOW DO THEY CONNECT TO SCIENCE?

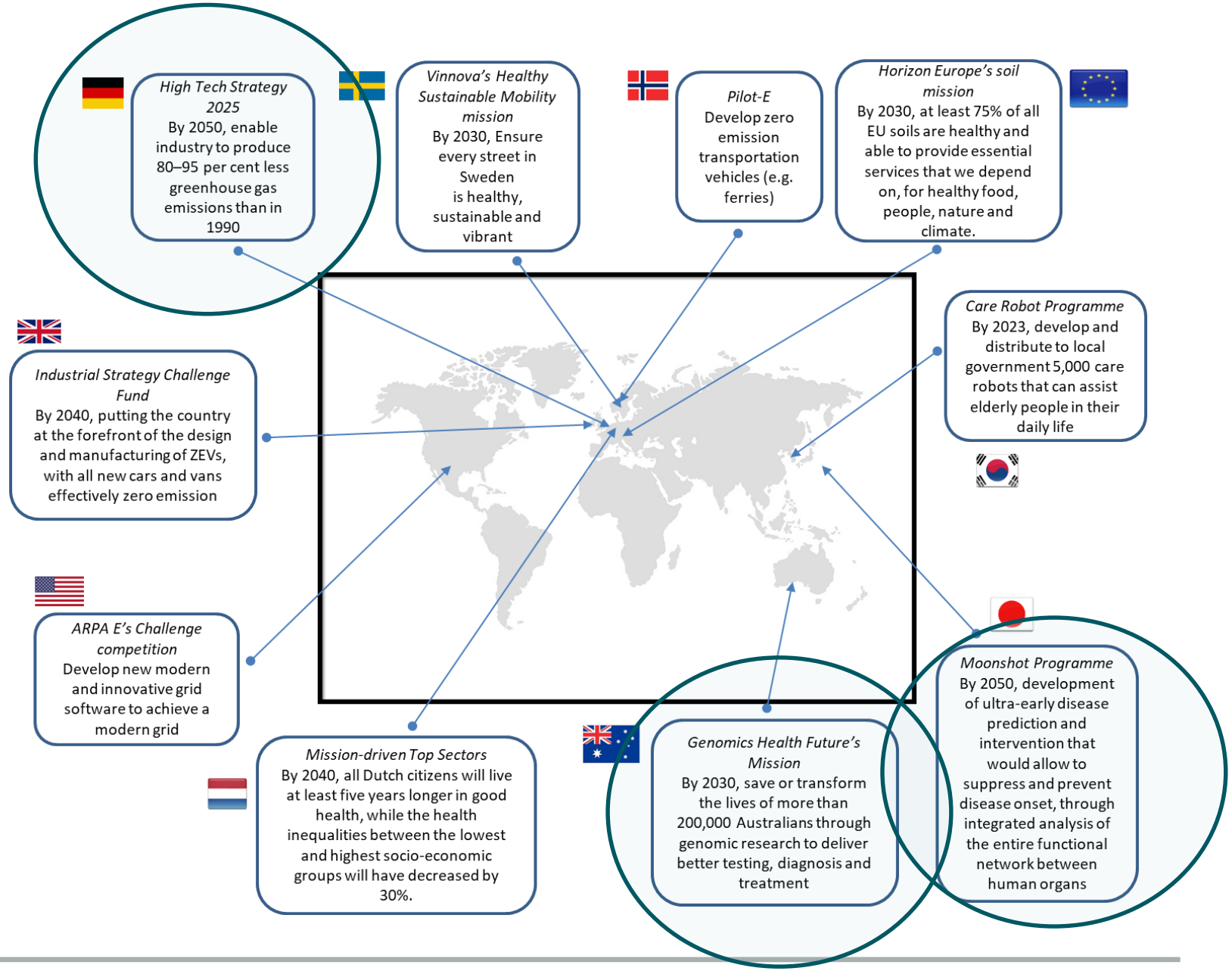
- Philippe Larrue

# WHAT ARE MOIPS?

**Coordinated package of research and innovation policy measures aiming to address societal challenges**

- spanning several stages of the innovation cycle from basic research to demonstration and market launch
- using various instruments (supply-side and demand-side; top-down and bottom-up)
- crossing various policy fields, sectors and disciplines
- targeted towards ambitious and concrete goals
- in a defined time-frame

# A DIVERSITY OF MISSIONS THAT CALLS ON SCIENCE…



# …TACKLED BY DIFFERENT TYPES OF MOIPS…

| Type | Leadership | Missions | Examples | Relation to science |
|---|---|---|---|---|
| **National mission-oriented strategic frameworks** | • Center of government<br>• High-level committee | • Multiple missions or mission areas<br>• **Pursuing ambitious challenges, including transformative change**<br>• Long-term horizon | • Horizon Europe [EU]<br>• Mission-driven Top Sectors policy [NL]<br>• High Tech Strategy 2025 [DE] | • Deeply involved in the MOIP's governance (including definition of the STI agendas)<br>➢ 'mission-embedded science' |

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| **Challenge-based programmes** | • Ministry<br>• Agency | • Focused<br>• Seeking incremental or breakthrough results<br>• **Better fit for 'accelerator' missions**<br>• Mid- to long-term horizon | • Pilot-E [NO]<br>• Moonshot R&D Program [JP]<br>• Industrial Strategy Challenge Fund [UK] | • Linkages mainly at project level, on demand + indirect connections via agencies<br>➢ 'mission-oriented science' |

# RESULTS FROM A REVIEW OF MOIP INITIATIVES

- MOIPs have intrinsic features that allow **deeper and broader exploration** of the set of potential solutions to the challenge they address
  - mobilisation of all actors, including science, towards **bolder objectives**
  - the challenge-based approach of MOIP creates a **'pull effect' that is conducive to interdisciplinary research**, which is key to devise novel solutions to address societal challenges.
  - MOIPs allows broader exploration through the implementation of **coordinated portfolio strategies**

- The balance between 'science towards missions' and 'curiosity-driven science' should remain the same. The key issues are:
  - How to best connect MOIP with curiosity-driven science?
  - How to best integrate oriented research in MOIPs?

# WHAT WE KNOW AND WANTS TO KNOW ABOUT SCIENCE AND MISSIONS?

- Jakob Edler

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# TO KICK OFF THE DISCUSSION
# SOME IMPRESSIONS FROM A DEBATE WITH SCIENTISTS

- Despite long term trends in science towards more relevance and impact, MOIP is seen as something new, a qualitative leap
- Overall it is seen as an opportunity, while all the benefits come with challenges and threats, but the overall balance is slightly in favour of the benefits
- Benefits were stressed in particular:
  - Normative: a better role of science in society, to be part of positive transformations, and be better understood as well in society
  - Positive repercussions on the practice of science in particular inter-disciplinarity
  - Another source of legitimacy (for funding)
  - Challenging the science system more basically, addressing long term structural issues (silos, evaluation and decision making, impact…)

# TO KICK OFF THE DISCUSSION
# SOME IMPRESSIONS FROM A DEBATE WITH SCIENTISTS

- **Threats and challenges**
  - Problematic governance of mission definition and implementation, and what can be, should be the role of science?
  - Evaluation, notion of scientific excellence: how to assess what is best for a mission
  - Legitimacy of science under pressure because of expectation management: can “science” deliver, and what is the attribution of impact of science on missions as there are so many actors that need to be mobilized
  - Safeguarding funds for blue sky research (but this was much less of an issue than one could have expected)

# Up Next

| | |
|---|---|
| 12.15-12.45 | Break |
| 12.45-13.45 | Interactive Debate: Implementing Impact Policies |