



# Mission-Oriented Policies for Research and Innovation

## COIMBRA Group Research Policy Seminar

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# From Grand challenges to Missions

Assumption: more effective approach to Grand challenges (or Societal challenges):

- GCs are **complex, systemic, cross-sector, cross-border, cross-policy domain** (interconnected) and have a certain degree of **urgency**
- GCs require **directional policies**



*Lamy report (2017)*

Key policy objectives:

- Increase impact
- Facilitate transformative and systemic innovation
- Mobilise all actors towards commonly agreed objectives
- Improve the effectiveness of communication with society at large

# Towards a better understanding of missions



# What are missions?



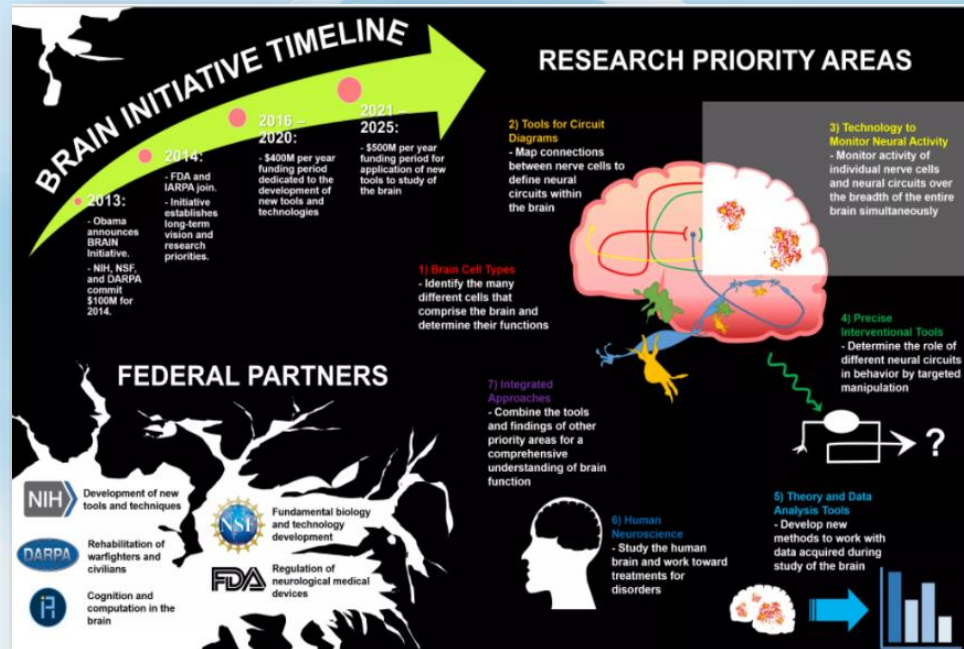
- Missions are **clearly defined, ambitious** but **achievable goals**:
  - Ideally expressed in qualified and/or quantified terms
  - To be achieved within a specific timeframe
  - Possible to be monitored along predefined milestones
  - Often related to a sense of urgency
- Two broad types of missions:
  - **Accelerators** targeting a single well-defined scientific and/or technological objective
  - **Transformers** targeting the transformation of systems to address wicked societal challenges



# Accelerators

Target a single well-defined scientific and/or technological objective

## Scientific accelerator



US Brain Initiative

## Technological accelerator



MoSE project

# Transformers

Target the transformation of systems to address wicked societal challenges



Luxembourg Third Industrial Revolution



Energiewende

# Implications of missions



- In most cases, especially in transformers, solutions **cannot rely exclusively on technological advancements** but require **holistic approach**
- Definition of the missions and their solutions involve **a wide array of stakeholders**, including citizens
- The development of suitable solutions requires **existing capabilities and knowledge base**, and **dynamic and flexible innovative ecosystems**
- Importance of long-term direction setting and public commitment, i.e. **directionality** and **intentionality**

# Implications of mission-oriented approach

## DIRECTIONALITY

Crucial role of policy mixes:

- Mix of R&I and **non-R&I** (e.g. regulations) types of policy instruments
- **Cross-sector** and **cross-disciplinary** mixes of policy instruments
- Promotion of **synergies** via an advanced culture and adequate infrastructure for **knowledge, information and data sharing**
- Importance of actions for **demand articulation**

## INTENTIONALITY

Importance of a hybrid governance model:

Leadership for direction setting  
Ownership and accountability  
Large sufficient funding

TOP-DOWN

Contribution to defining missions  
Identification of solutions  
Purpose-driven selection of instruments

BOTTOM-UP



# What a missions are not (supposed to be)

- Missions are NOT an instrument
- Missions are NOT to pick winners
- Missions are NOT the sole responsibility of the Commission
- Missions are NOT exclusive

# Relevance of mission-oriented approaches

Policy Challenges	Mission-oriented approaches
Increase of the impact of research and innovation activities	<ul style="list-style-type: none"><li>• Long-term and large public (financial) commitment</li><li>• Concentration and orientation of research and innovation efforts and activities</li><li>• Purpose-driven choice of instruments</li></ul>
Stimulate and accelerate transformative and systemic innovations	<ul style="list-style-type: none"><li>• Coherent and directed policy-mix beyond R&amp;I policy</li><li>• Considerations and actions for demand articulation</li><li>• Continuous (portfolio) monitoring</li></ul>
Mobilise all actors	<ul style="list-style-type: none"><li>• Hybrid governance model</li><li>• Breaking silos between policy domains, sectors and academic fields</li></ul>
Improve effectiveness of communication to citizens	<ul style="list-style-type: none"><li>• Direct policy actions to (urgent) societal needs</li><li>• Create easy-to-communication narratives around well-specified missions</li></ul>

# Risks and opportunities

Policy mix insufficiently implemented

Selection of 'fashionable' and easy-to-explain-to-citizens missions

Risk of 'mission-washing': everything becomes a mission, and nothing is a mission...

Increased visibility of EU-funded R&I and public policies in the eye of the public

Increase capabilities of public authorities in running funding schemes involving private actors and other types of stakeholders

Missions

Decrease of cohesion among Member States (multi-speed Europe)

Lack of appropriate funding would jeopardise goals achievement and trust in the mission-orientation approach

Increase cohesion and transborder cooperation (e.g. in the field of science and beyond)

Increased role of citizens and not-for-profit actors (e.g. foundations and charities)

# Missions for citizens ... and with citizens?

Mission-oriented approach in **Horizon Europe** to

- Make it easier for citizens to understand the investments in research and innovation
- Increase the impact of investments when addressing global challenges

Policy-makers must ensure that **missions respond to the perceived social demands** and respond to the needs of the citizens

- Decision-making **no more a prerogative** of the establishment
- **New demand for further participation in policy-making** from citizens





# Citizen involvement: identified practices



No citizen involvement in vision-setting  
*E-Estonia, China's New Electric Vehicles*



Information sharing to stimulate buy-in  
*Ocean Cleanup, MoSE*



Participatory involvement in vision-setting  
*Luxembourg 3<sup>rd</sup> Industrial Revolution, Energiewende*

# Citizen involvement: identified challenges

Why should policy-makers involve citizens?

FAVORABLE: to increase legitimacy, strengthen the trust in democratic regimes and learn about policymaking

AGAINST: lack of expertise and knowledge; prefer short-term and easy to long-term and complex missions.

Which individuals (or groups) should be involved?

Experts

Users

Civil society organisations

Which modalities of citizen involvement?

Fully bottom-up approaches are not feasible

Granting new powers to existing bodies

Setting-up multi-stakeholders groups

Adapted from Chicot & Domini (2018)

# Opinion of Academia: mission-orientation

## Concentration and coordination of efforts:

- Lower conviction that **R&I investments should be concentrated** towards missions to improve efficiency than other categories (such as RTOs and industry);
- Clear **preference for national and regional funding instruments** coordinated with Horizon Europe.

## Stakeholder involvement

- **Not particularly positive in involving citizens**, especially in accelerators;
- **Sceptical in involving regional and municipal authorities**;
- **Particularly positive towards the involvement of universities and RTOs**

## Overall expectations regarding mission-oriented

- Support the choice of higher risky R&I investments
- Improve time-to-market
- **Not stimulate job creation**

# Missions and SDGs



**THE GLOBAL GOALS**  
For Sustainable Development

Some SDGs might be the starting point for (R&I) missions:

- Missions require a **broad support** and **buy-in**
- (most) Missions should have a **transformative character**

However, mission-oriented R&I and SDGs are different:

- Not all SDGs are suitable for R&I missions
- Not all R&I missions need to stem from an SDG
- SDGs need to be translated into missions and (sub)missions



# Processes



Different types of actors  
select and prioritise the  
**missions**

**Targets**

**Milestones**

**Roadmap**

Definition of  
the workplan

Monitoring

Bottom-up  
implementation

## **Selection and prioritization**

- Identifying political ownership
- Empowering political owner(s)
- Engaging all relevant policy domains
- Engaging Members States, Regions, local authorities
- Top-down coordination
- Bottom-up consultation involving all stakeholders
- Long term (> 15 years)
- Large scale
- Large funding

## **Definition of the workplan**

- Selection and empowerment of operational owner(s)
- Expert and stakeholder consultation
- Setting targets, not picking winners: competition for best solution(s), with 3-5 years average timespan

## **Bottom-up implementation**

- Choice of approach, solution and instrument:
- Bottom-up cross-sector, cross-stakeholder, cross-discipline, evaluation based on contribution to mission targets

## **Monitoring**

- Monitoring, progress evaluation of all activities
- Contextual check on developments of technology, markets, regulations

# Implementation



Recognition of (societal)  
challenges > setting of the  
vision > **MISSION**

Targets policy drive

Roadmap R&I Driven

Monitoring

*Which approach?*

**Mission in thematic areas:** (e.g. Health, Climate, energy and transport, Security, Digitalization, Circular economy).

Transformer  
missions

Accelerator  
missions

Hybrid  
model  
missions

*Which actions to implement?*

**Policy mix:** R&I, domain policies, regulation, demand side, competition, fiscal, etc.

Horizon  
Europe Work  
Programme

National  
programme

Regional  
programme

# Where we stand: The EC proposal

- Ongoing debate between Member States and the Commission
- Establishment of mission boards and potentially Member State Committees
- Mission areas to be 'hardwired' in the proposal, :
  - Adaptation to climate change
  - Cancer research
  - Healthy waters
  - Smart carbon free cities
  - Soil health and sustainable food systems



# Conclusions

- **No one-size-fits-all solutions**
- Close **interactions with Member States and regional policy makers** for stimulating buy-in and the definition of meaningful
- **Cross-policy domain collaboration** more crucial for transformer missions than for accelerator missions
- Strong **bottom-up** aspects in implementation but strong **top-down** leadership/ownership in overall coordination
- **Less prescriptive implementation:** autonomy in the selection of solutions and policy instruments
- **Citizens** are not just users and should be engaged in different stages



# Studies on missions

Two European Commission Reports

Inventory and Characteristics

Impact Assessment



JiIP's Global R&I Mission-Oriented Policy Observatory



Additional Publications:

Chicot & Domini (2018)  
*The role of citizens in the definition of missions*

Goetheer & van der Zee (2018)  
*The governance of mission-oriented policies*

Kuittinen, Polt & Weber (2018)  
*Definition of mission-oriented policies*

# Thank you



Observatory:  
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