Science and Technology Innovation Policy and Next Generation Public Management

International Workshop -Personnel to "Connect" and Their Capacity Development in Science, Technology and Innovation Policy
14 March 2025

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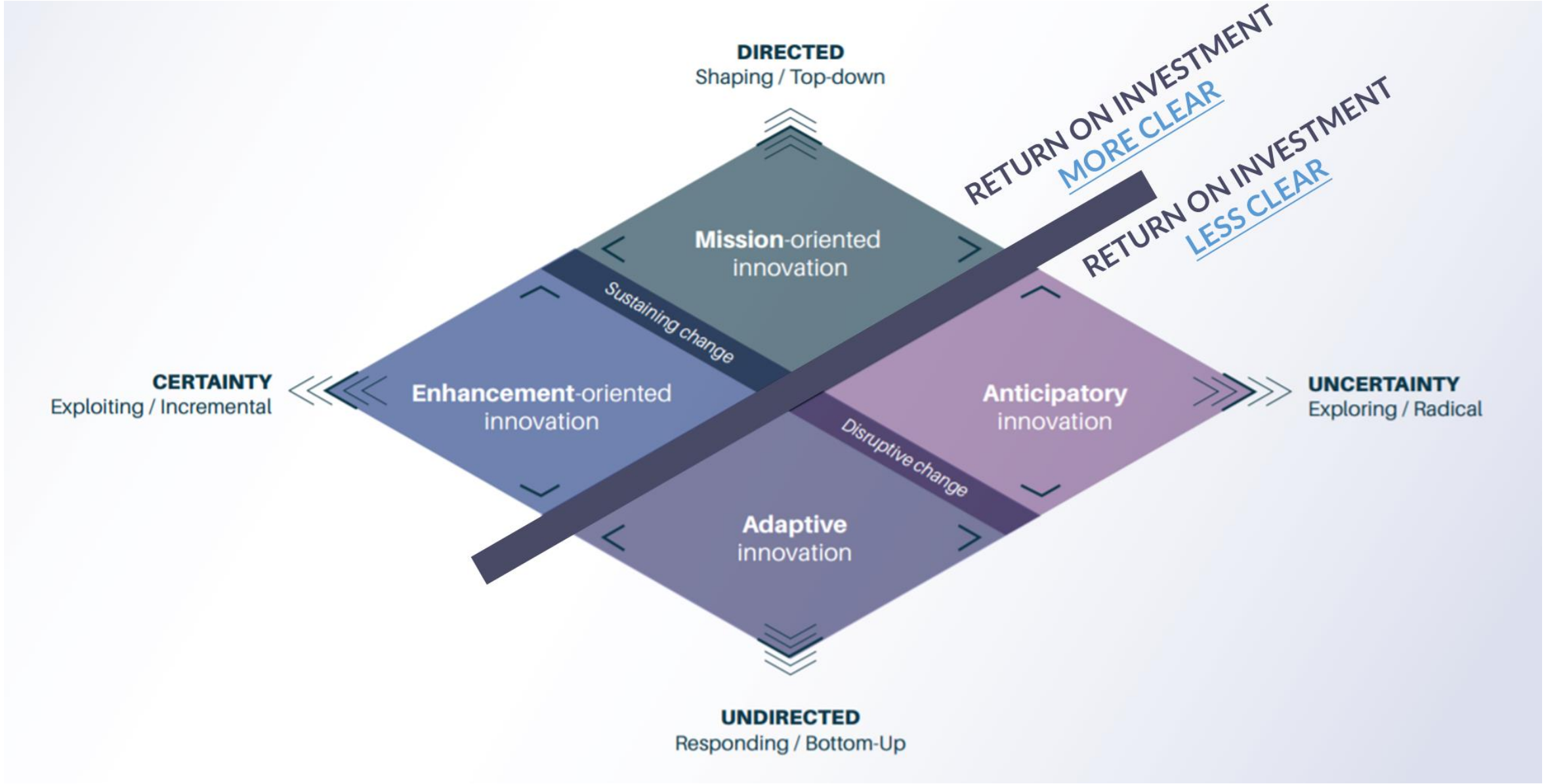


The OECD and the Mission Action Lab

The Organisation for Economic Co-operation and Development (OECD) is an international organization, with 38 member countries, that promotes **better policies for better lives.**

The Mission Action Lab is a cross-directorate OECD initiative that harnesses action-oriented research to **support policy-makers implementing mission-oriented policies**. The Lab provides policy analysis, mission design, and implementation support, and promotes learning and knowledge-sharing between countries.

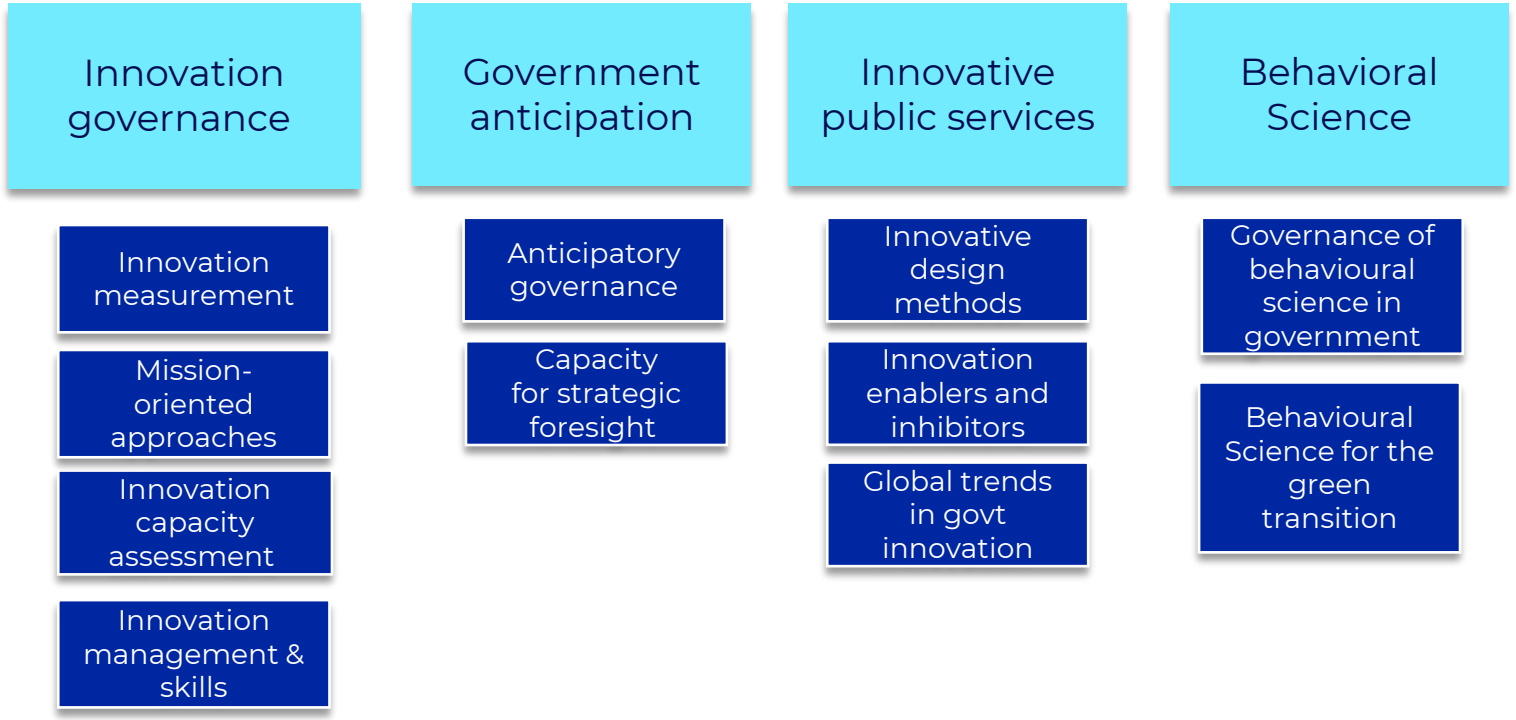
OECD

EXPERTISE

Observatory of Public Sector Innovation

- Research
- Standard setting
- Assessment
  - Implementation support
  - Capacity building
  - Demonstration

Steered by the PGC through the Network of the National Contact Points of the Observatory of Public Sector Innovation



Innovative capacity is essential to deliver on ambitious reform agendas, meet climate targets, respond to global crises and **shape better futures.**

Public Sector Innovation capacity

Research

Since 2017 OPSI has been working on the topic of innovation capacity with numerous country studies and scans. The work has informed the adoption of the Pubic Sector Innovation Declaration and all other public sector innovation workstreams at the OECD. With the topic of public sector innovation professionalizing in member countries, so, has matured also OECD's methodology and work in the area of public sector innovation.

Adoption of the OECD Declaration on Public Sector Innovation
May 2019

2019

Public Sector Innovation Scan of Denmark
March 2021

2022

Innovative Capacity Assessment of Romania
Sept 2022

Forthcoming: Assessments on Armenia & Bulgaria, Chapters on Kazakhstan and Ukraine

2018

Country study of Canada's Innovation System
November 2018

Country study of Brazil's Innovation System
November 2019

2021

Innovative Capacity Framework Launched
April 2022

2023

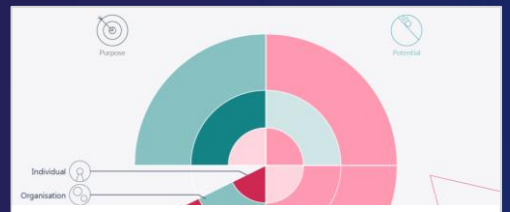
Innovative Capacity Assessment of Latvia
October 2023

How **we do it?**

Building upon extensive OECD work on innovation capacity

International Standards

- Declaration of Public Sector Innovation
- Innovation Playbook
- Recommendation on User-Centric Public Services (Forthcoming)
- Working groups on Innovation Governance and Innovation skills and capabilities



Analytical Frameworks

- Innovation Capacity Framework and Measurement
- Other OECD thematic frameworks

International comparison

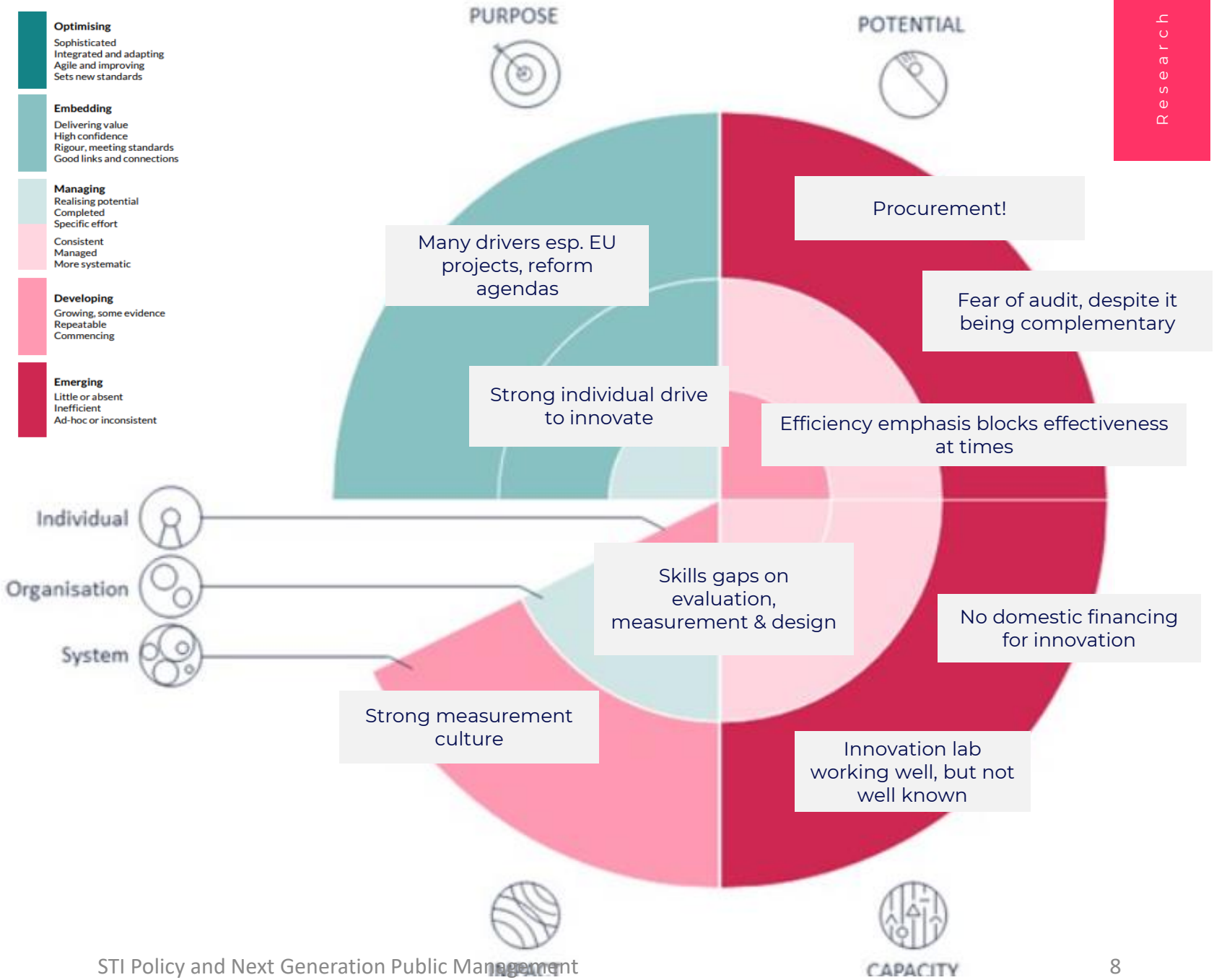
- Worldwide Innovation Trends
- Country-tailored international comparisons
- Country-tailored peer learning

Innovation capacity radar
What we can learn

Benefits

Make smart & financially efficient decisions
- Identify the key systems levers that need to be addressed
- Justify investments in PSI
- Equip countries to build business cases for PSI

Design strategic & impactful interventions
- Support countries approach innovation strategically: Embed in core agendas and leverage innovation to deliver on their priorities
- Provide targeted capacity building on key capacity gap areas (curriculum development, training, strategic and capacity building support to innovation labs and other institutions)



Research

Case study examples

Research

Romania (Norway grants & RRP project)

Innovation strategy

Systemic approach to innovation targeting key issues identified in the assessment:

- Infusing innovative skills and behaviours into human resource management
- Addressing skills gaps
- Financing for innovation (innovation fund)

Latvia (TSI project)

Innovation strategy

Systemic approach to innovation targeting key issues identified in the assessment:

- E.g. Measurement of impact and results of PSI & lab
- E.g. Innovation in human resource management

Bulgaria

Innovation vision, action plan, and capacity-building support

Systemic approach to innovation targeting key issues identified in the assessment:

- Developing a whole-of-government PSI vision and action plan based on assessment report
- Building specific system-level support: measurement, network, competency framework, competition, and training.

OECD transformative agenda starting points

- Sectors like energy, agrifood and transportation need to transition rapidly to become more sustainable and resilient in the face of mounting global challenges. Transitions depend on **scientific knowledge and the development and deployment of enabling technologies**
- Governments must be **more ambitious and act with greater urgency** in their STI policies to meet global challenges. Larger investments and **greater directionality** in research and innovation activities are needed, and these should coincide with a **reappraisal of STI systems and their supporting STI policies** to ensure they are "fit-for-purpose" to contribute to transformative change
- **All aspects of STI policy and governance are affected**, including research and innovation funding, human resources for science and technology, research and technology infrastructures, etc.

10 Key Policy Areas

NEW MODES OF PARTNERSHIP

How to spur and deepen **STI cooperation** between firms, the public research system, governments, and non-profit sectors for transition?

How to **engage society in STI** to further transitions?

How to promote **cross-government coherence** on STI-enabled transitions that depend on several government bodies cooperating?

How to leverage **international STI cooperation** in the interest of transitions?

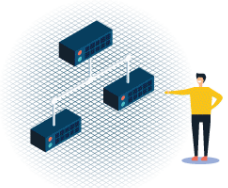
INNOVATION ENABLERS

How to direct **private financing and public funding** to support transitions?

How to **develop and implement emerging technologies** to enable just transitions?

How to **gear research and technical infrastructures** towards transitions?

How to nurture the **skills and capabilities** required for STI-enabled transitions?

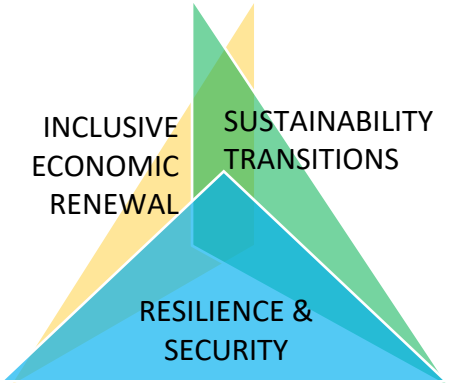


How to ensure various **framework conditions** for STI are conductive to supporting transitions?

How to develop and use **knowledge and evidence** that support transitions?

Transformative Agenda Structures

Transformative goals



Policy orientations

Key policy directions (modules)

ENABLING RESOURCES

- PUBLIC FUNDING & PRIVATE FINANCE
- RESEARCH & TECHNICAL INFRASTRUCTURE
- ENABLING TECHNOLOGIES
- SKILLS & CAPABILITIES
- MARKET & STRUCTURAL CONDITIONS
- STRATEGIC INTELLIGENCE

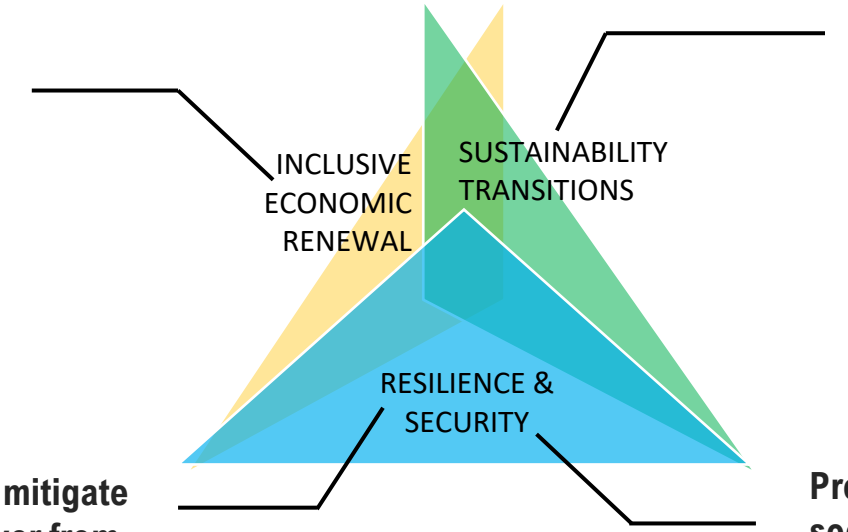
ENABLING RELATIONSHIPS

- SOCIETY-STI ENGAGEMENT
- STI COOPERATION
- CROSS-GOVERNMENT COHERENCE
- INTERNATIONAL STI RELATIONS

Defining Transformative Goals

Prioritising social and economic co-benefits that can come with sustainability transitions

- Inclusive growth and social well-being
- Re-distribution for 'just transitions'
- Broader access to and participation in developing knowledge and technology



Addressing environmental challenges posed by climate change, air pollution and resource depletion via technological advancement and broader innovations

- Renewable energy sources
- Electrification
- Circular economy

Fostering systemic capacity to anticipate and mitigate threats; as well as plan and prepare for, recover from, and/or adapt to disruptions posed by rapid onset events and crises

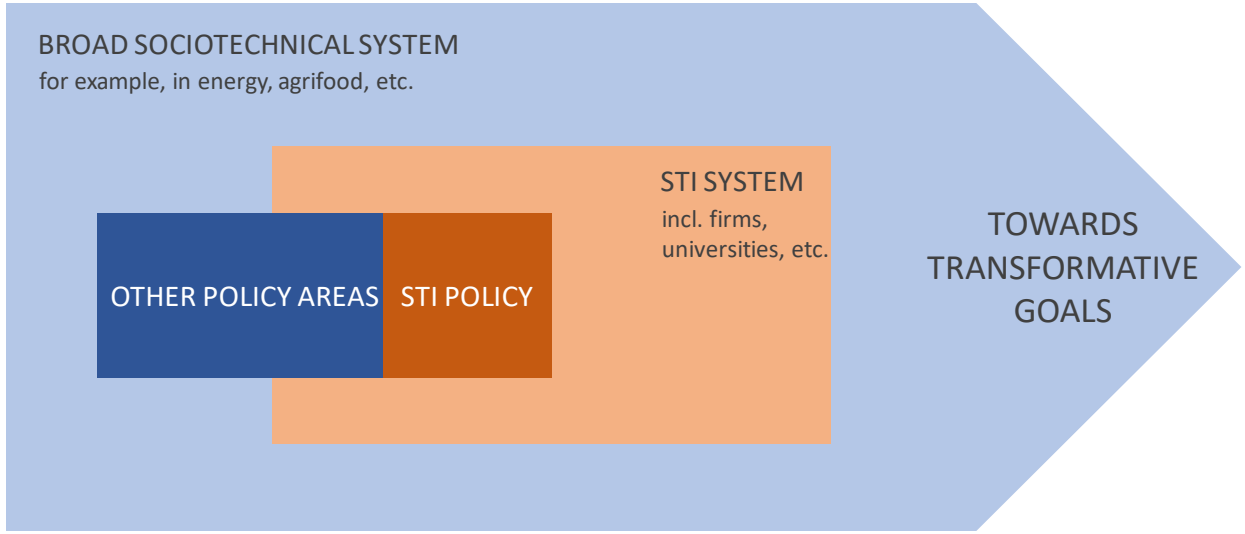
- Threats posed by exceeding planetary/societal boundaries
- Other environmental, economic, geopolitical, societal, technological threats

Promoting transformation can also be about preparing sociotechnical systems to be resilient against risks to security, which can take many forms:

- Research integrity and security
- Issues of national security, e.g., international relations, threats to democracy and government stability
- Secure supply chains
- Energy, food and water security

STI policy and sociotechnical challenges

- WHY?
  - Accelerated pace and scale of sociotechnical transitions => compress innovation cycles in transformation pathways
  - Resilience and preparedness for future challenges / shocks
  - Security 'turn' in STI policy, broadly defined
- WHAT?
  - Directed co-ordination: range of policy instruments, e.g. MOIPs
  - Uncertainty: anticipatory intelligence; mobilising shared visions; critical mass and absorptive capacities



- KEY POLICY DIRECTIONS?
  - **Public STI funding and private financing**, e.g. rebalance the policy mix in support of business R&D and innovation
  - **Emerging technologies**, e.g. diversify and pool investments to search, develop and deploy a portfolio of technologies, including general purpose technologies

STI Governance assessment

Function	Ideal state	Assessment criteria
Strategic Orientation	Strategic policy directions should clearly define the desired end points at different time horizons to concretely guide public action. They should have strong political backing and their definition should draw on the expertise, interests and values of a broad range of stakeholders, possibly citizens. They also factor in knowledge about possible futures so that alternative directions and their potential impacts are explored. While being flexible to adapt to new conditions and evolving consensus they should be stable and robust, extending beyond political terms to address ambitious and long-term challenges	• Directionality • Clarity and measurability • Political legitimacy • Participatory • Relevance • Continuity • Anticipatory
Policy Coordination and Programming	The high-level directions set through Orientation should be taken up in ministry and agency plans. These plans should be aligned across policy sectors (and therefore administrative boundaries) and levels of government (national, subnational, etc.) in order to minimise duplications and set the ground for joint action of different policy and regulatory authorities. They should also allow the coordination of policy experimentations. Based on the results of monitoring activities and other information (for example, anticipatory knowledge from foresight exercises), the plans should be revised regularly.	• Directionality • Continuity • Intersectoral consistency • Resourced • Accountability
Implementation	The objectives and rationales of the different policy instruments are clearly linked to the high-level strategic frameworks and the different ensuing ministry and agency plans. These instruments realise their respective goals but also, when relevant, contribute together to systemic objectives. In some cases, they can be articulated or even jointly managed and implemented. The results of their monitoring and evaluation feed into decision-making processes. There are mechanisms, regulations and ‘safe spaces’ in place to allow the experimentation of novel approaches.	• Directionality • Integration • Accountability • Reflexivity • Novelty

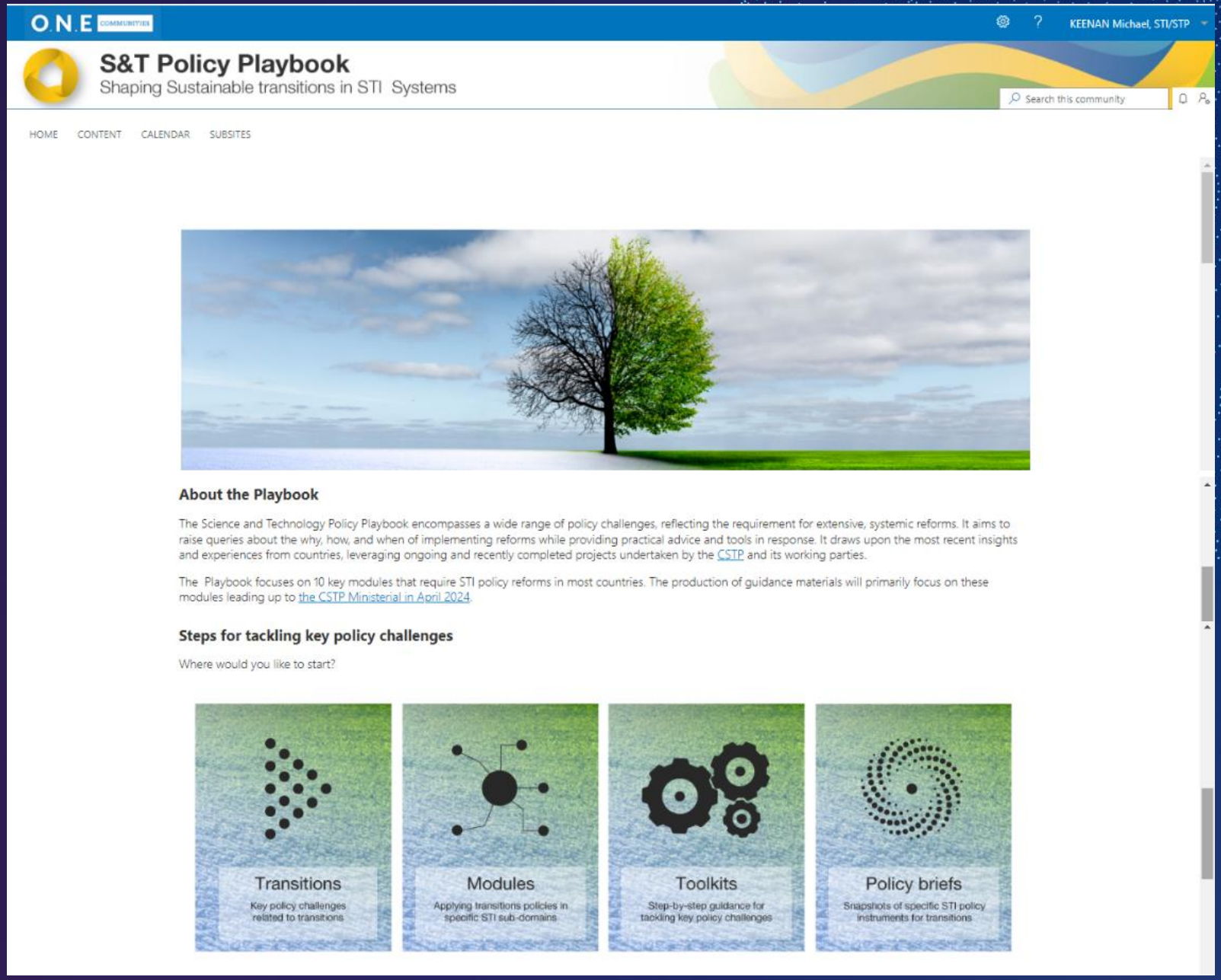
STI Governance: key skills identified in Slovenia

Knowledge development, management and use	Design and planning for policies and strategies	Writing and communication	Project and programme management	Stakeholder management
Orient and programme policies through up-to-date evidence, knowledge about possible futures, M&E and experimentation	Set adaptable but robust strategic direction and align plans to address ambitious and long-term challenges	Ensure clarity among stakeholders to support coordination and legitimacy	Effectively plan, resource and implement initiatives	Draw on the expertise, interests and values of a broad range of stakeholders
• Qualitative research • Strategic foresight • Monitoring and evaluation approaches • Quantitative research design for experimentation and evaluation • Identifying biases • Data analysis and data science • Indicator design • Horizon scanning • Forecasting • Systems thinking and complexity • Collective intelligence • Knowledge management • Technology assessment	• Design thinking • Anticipatory innovation governance • Development and application of logic models • Strategic planning • Ethics in experimental policy • Promoting change and innovation • Ethics in RDI policy • Public sector innovation management • Portfolio management • Scenario planning	• Science communication • Written communication • Visual communication	• Project management • Procurement and contract management	• Stakeholder engagement • Group development theory for multi-disciplinary teams • Organisational psychology and change • Facilitation and moderation modalities • Facilitating constructive dialogues • Partnership building • Ecosystem orchestration

Pilot training in Slovenia 2024: learning outcomes

- Understand the challenges and expectations of RDI policy in a volatile, uncertain, complex and ambiguous environment
- Recognise the role of RDI to deliver sustainable development goals and other key priorities
- Understand the value and role of foresight and technology assessment approaches
- Compare data sources and approaches for providing robust and useful evidence for RDI decision-making
- Discuss techniques to set integrated strategic plans that synthesise objectives and activities from across government

Online guidance



Mission-oriented innovation policies, governance, and practices support **directed action** toward achieving **ambitious goals.**

OECD Mission Action Lab

Mission Action Lab

Who we are

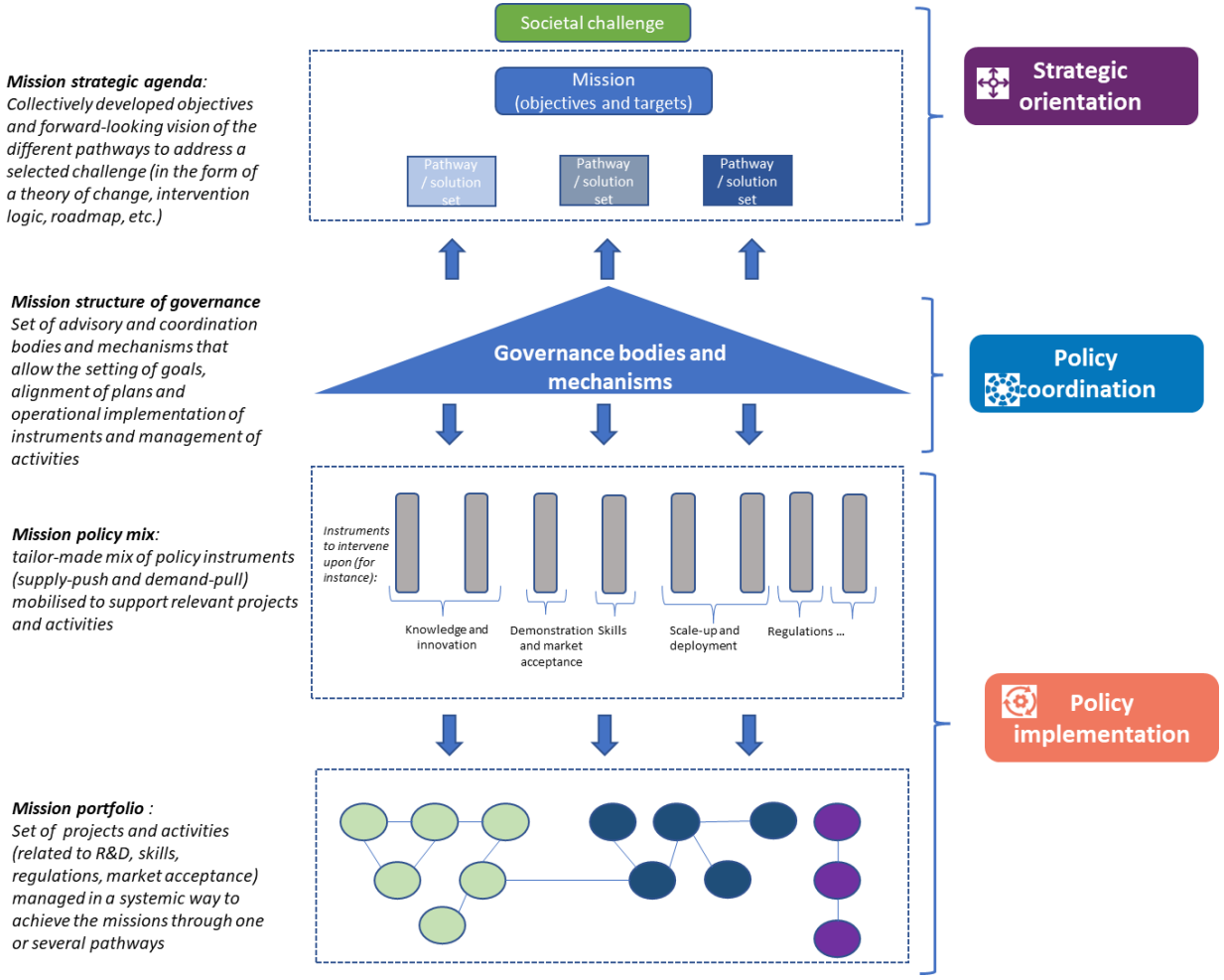
- A joint team of OECD experts from the Observatory of Public Sector Innovation (OPSI), the Directorate for Science, Technology and Innovation, and the Development Co-operation Directorate.

What we do

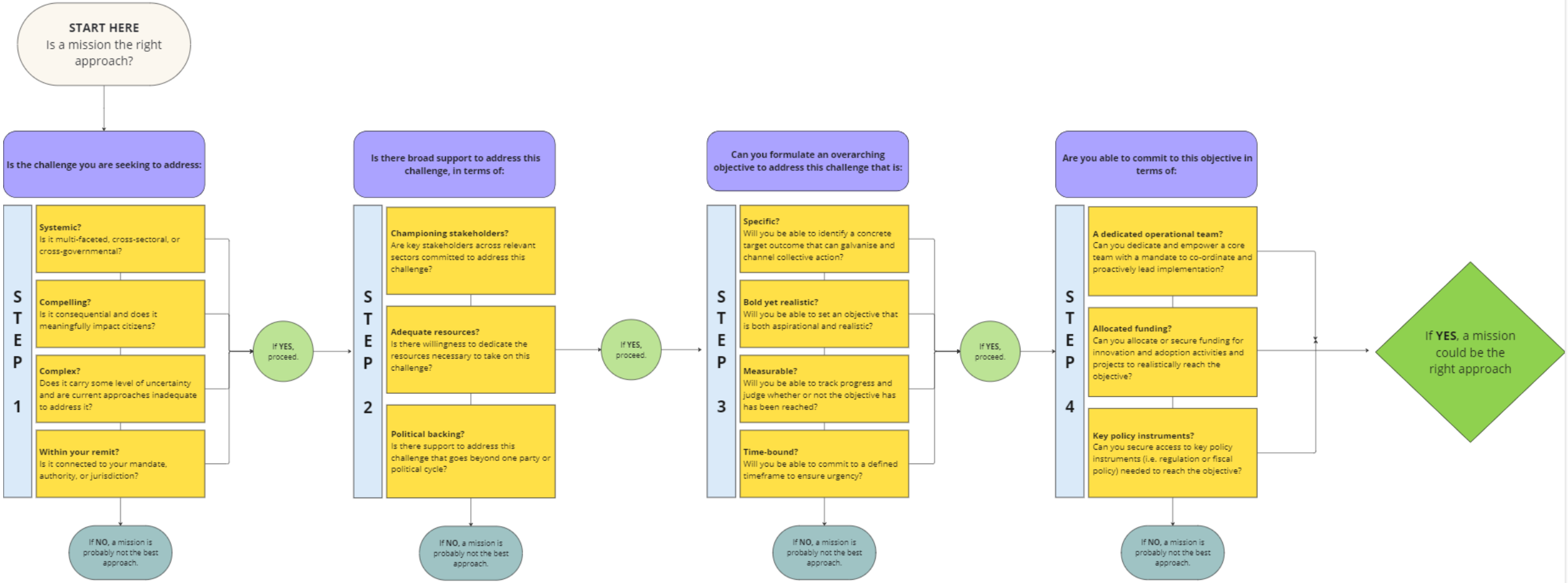
- Identify and analyse mission-oriented innovation practices, and advise public sector organisations and their partners on designing, refining, implementing, and governing effective missions

How it works

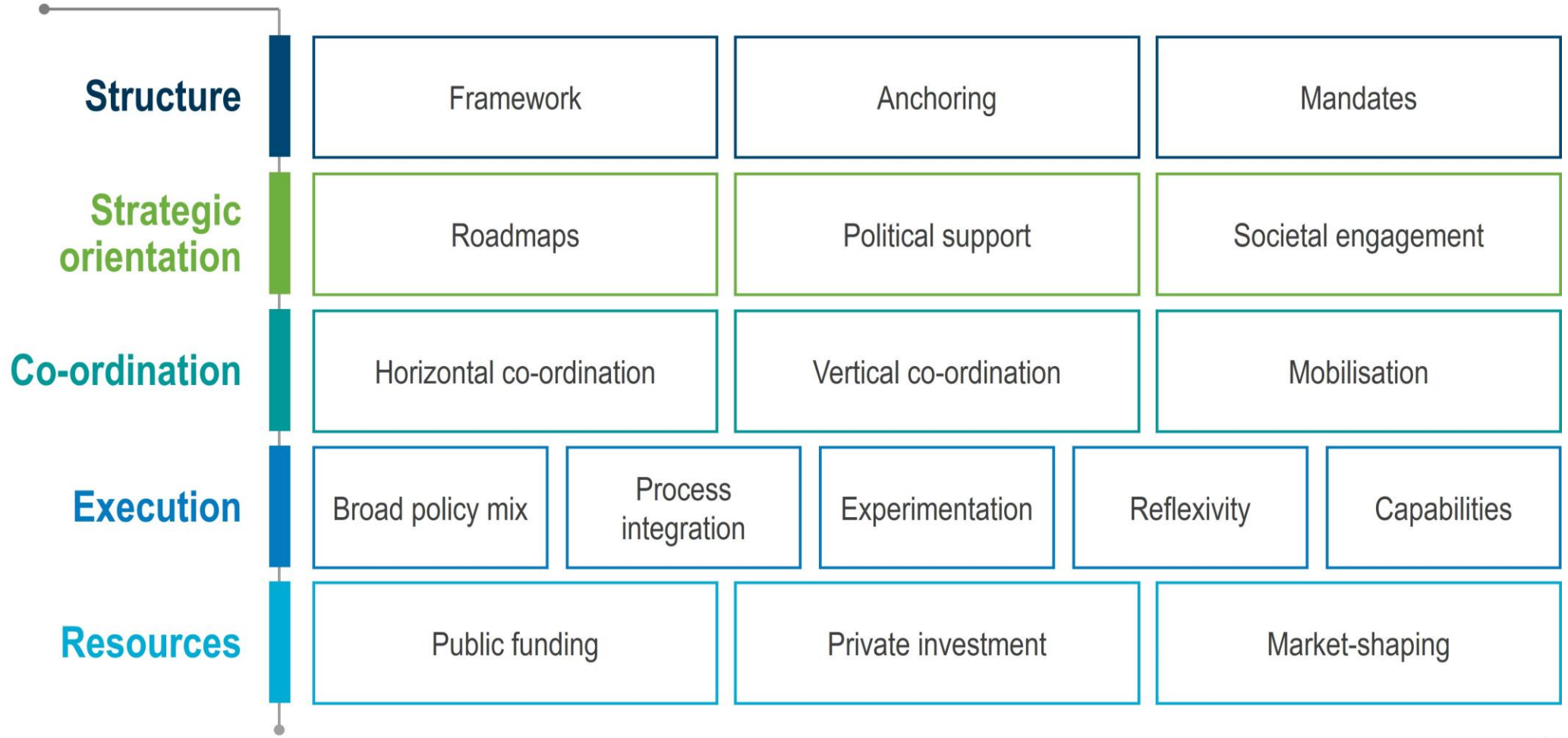
- Use action research to advance the knowledge and practice of mission-oriented innovation across the globe. Our focus is on tools and methods developed together with countries in concrete missions.



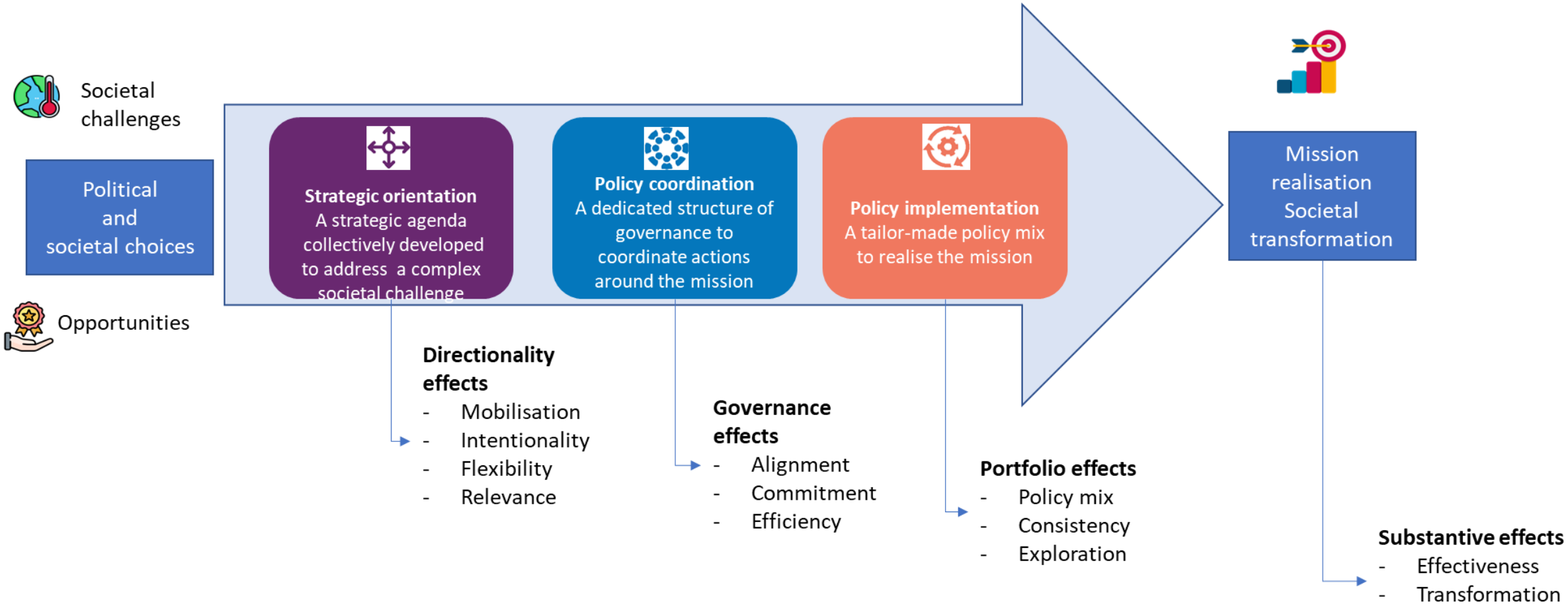
Mission Litmus Test



Mission-oriented outcomes are enabled by fit-for-purpose governance



Evaluate your mission across its lifecycle

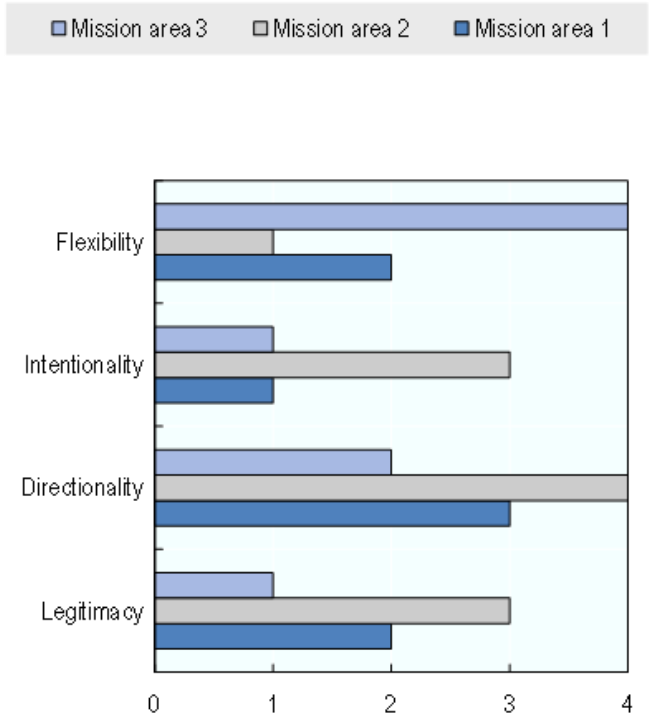


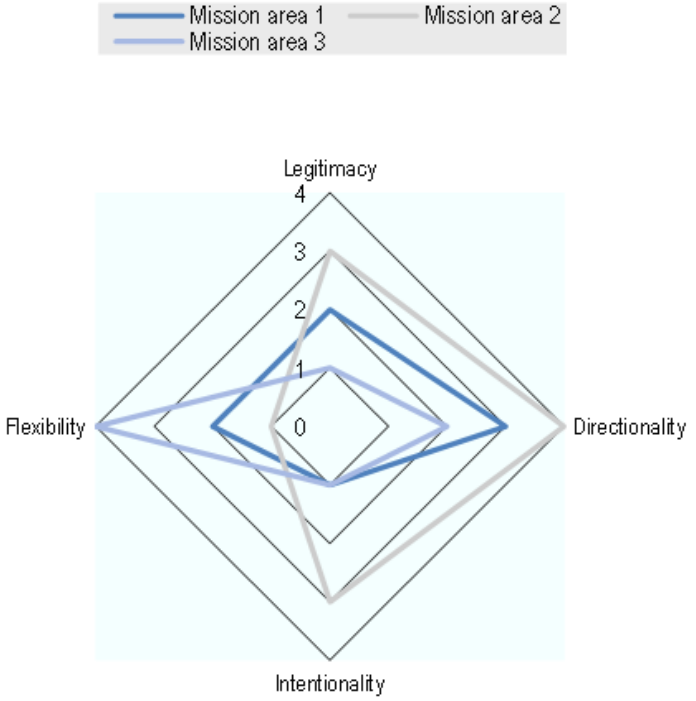
MAL ‘demonstrator case’ – Austria

The self-assessment framework

Use of the ‘Mission design principles’ to support a collective reflection on :

- Austrian position with regard to each design principle to best contribute to EU missions
- The barriers / hindrances to Austrian progress along each of the design principle to best contribute to EU missions?
- The opportunities and good practices to improve Austrian position on each design principle in order to best contribute to EU missions

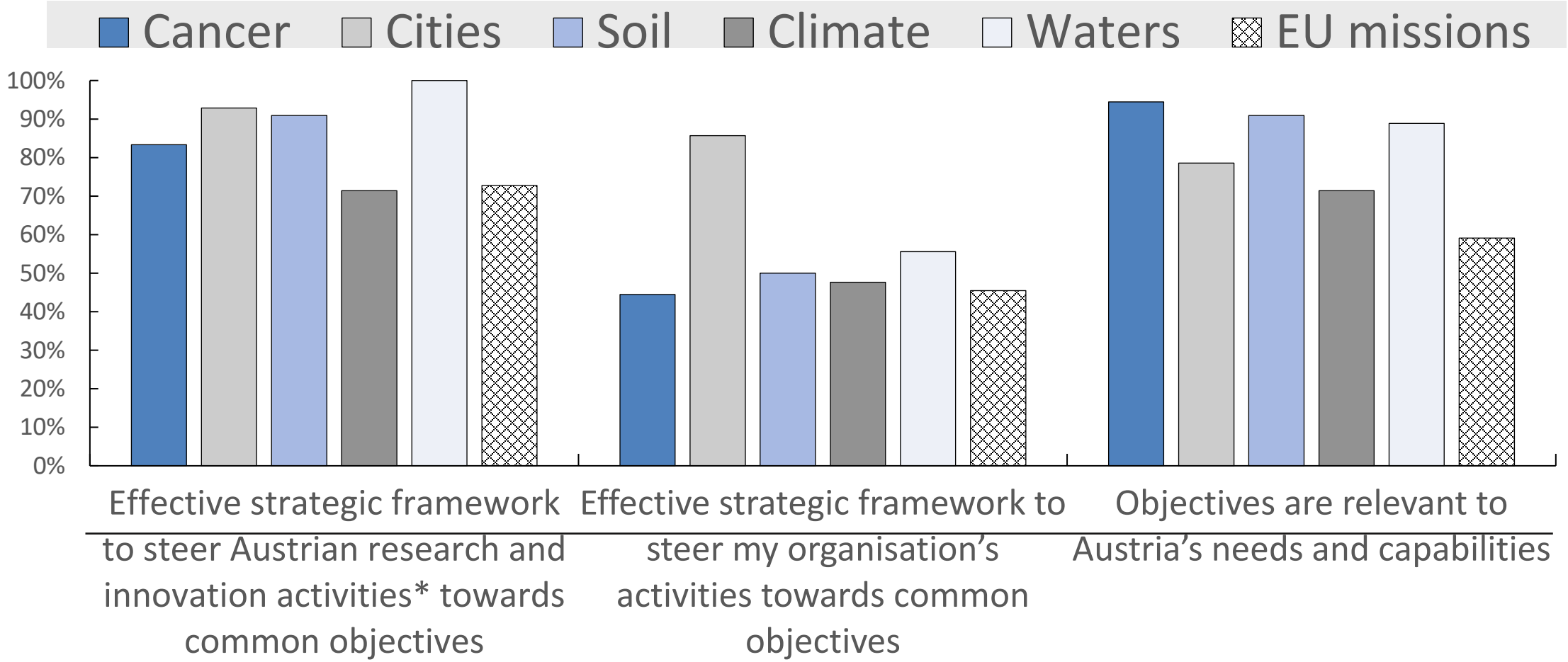




Mission Design Principles ito support collective reflection

Overarching question: Do the missions provide effective strategic frameworks that can federate and guide action?

Share of survey respondents that agree or strongly agree with the following statements regarding the mission



Case example: Korea – 3rd Comprehensive Plan to Solve Social Problems Based on Science and Technology

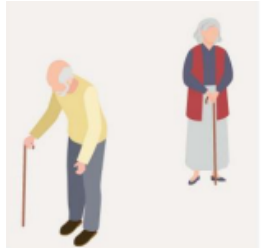
Capacity

Implementation

Basic principles

- Launched in 2023 to concentrate government STI investment in areas that matter most towards the Korean people
- Strong emphasis on the trends of citizen sentiment to identify 43 social problems, 5 of which it takes a mission approach to address

Aging



▶(Definition) A phenomenon in which the proportion of the elderly population aged 65 or older increases among the total population

▶(Problems) Alienation and poverty of the elderly, increased social security costs such as pensions, medical care, and welfare, geriatric diseases due to decline in physical and cognitive abilities, threats of safety accidents, etc.

▶(Focus direction) Ensuring life safety by preventing accidents and improving convenience when walking and moving for the elderly, and resolving the digital gap by supporting the improvement of digital information accessibility and digital literacy and utilization skills.

Cybercrime

▶(Definition) All crimes committed in cyberspace, including computer crimes, or criminal phenomena that use cyberspace as a means, object, or stage for committing crimes.

▶(Problem) Crimes such as cyber financial crime, digital sexual violence, and ransomware cause financial and psychological damage to individuals, financial losses to companies, and damage to their image.

▶(Focus direction) Prevent personal information leakage and minimize personal damage caused by crimes such as cyber fraud, cyber financial crime, and digital sexual violence.

Overarching mission-oriented strategic frameworks

MAL support on mission-oriented policy

Capacity

Implementation

The mission theory of change

The Lab developed a mission theory of change to track the key processes that lie at the heart of the mission-oriented approach, and assess whether these policies unfold as expected and produce their 'systemic effects'

Mission self-assessment tool

The Lab has developed a mission monitoring tool, which consists of a self-assessment (based upon the OECD 'MOIP design principles') to benchmark mission design and implementation for mission-oriented programs

Mission evaluation and governance frameworks

The Lab has developed a mission monitoring and evaluation framework that can be used to define the standards and benchmark by which missions' accomplishments or suitability characteristics should be assessed

The Mission Action Labs' Mission Community of Practice

An opportunity to connect with other mission practitioners, discuss tools and themes for future exploration within the community, gain insights into the latest OECD mission work, and contribute to shaping the research direction of the Lab

Thank YOU

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