

# International Benchmarks – Lessons Learnt

## Summary

This document illustrates the diversity of key contemporary interpretations and approaches to mission-oriented innovation (MOI) across four national case studies. As a result, it aims to provide an international benchmarking exercise capable of informing the current debate around the potential adoption of MOI in the Finnish context. In line with such objectives, the 4 countries have been selected via criteria that maximise diversity in scope and purpose of their MOI approach while comparable with Finland's political economy (see Methodology for more information). As such, the chosen countries (Norway, Sweden, Japan, and Netherlands) have been compared across several dimensions: 1) rationale; 2) context; 3) implementation; and 4) lessons learnt. A synthetic overview of the results is provided in Table 1.

1: Comparative study case

Country	Norway	Sweden	Japan	Netherlands
<b>Rationale</b>				
<b>Scope</b>	R&D-focused	Society-wide	R&D-focused	Society-wide
<b>Purpose</b>	Policy approach	Policy approach	Governance vehicle	Governance vehicle
<b>Context</b>				
<b>Lead</b>	Agency-level	Agency-level	PMO-level	Ministry-level
<b>Budget</b>	70-120NOK/year (ca. 7-12M€)	750-900MSEK/year (ca. 70-84M€)	23BYen/year (ca. 187M€)	ca. 2.85B€/year (+ 2.05B€ private)
<b>Timeframe</b>	2016-2022	2012-current	2020-current	2018-current
<b>Implementation</b>				
<b>Designing</b>	Top-down	Bottom-up	Mixed	Mixed

<b>Organising</b>	Steering-based	Ecosystem-based	Steering-based	Matrix-based
<b>Governing</b>	Centralised	Decentralised	Centralised	Mixed
<b>Lessons learnt</b>				
<b>Benefits</b>	Agility	Mobilisation	Visionarity	Holism
<b>Drawbacks</b>	Societal diffusion	Cohesiveness	Marketability	Heaviness

The rationale dimension enshrines the two measures which shaped country selection in the first place: that is, scope and purpose. In the former case, Norway's Pilot-E Programme and Japan's Moonshot R&D Program concentrate on overcoming key R&D-focused challenges with key societal implications; on top of that, Sweden's Strategic Innovation Programmes (SIPs) and the Netherlands' Top Sector approach embed elements focused on the societal adoption and the diffusion of innovation. In the latter case, Norway's Pilot-E and Sweden's SIPs represent distinct, specific policy tools in a broader innovation strategy environment; conversely, Japan's Moonshot and the Netherlands' Top Sector approach are governance vehicles for the orientation of many policy actions and instruments.

The context dimension shows how such different rationales are hence reflected in different degrees of political salience – partially evident in the correlation between the centrality of MOI's lead and the sizeability of the budget allocated for it. Indeed, agency-level programs (Norway and Sweden) entail considerably lower budgets than ministry- and PMO-level ones (Japan and Netherlands) with a range spanning from the ca. 7-12M€/year of Norway's Pilot-E to the ca. 2.85B€ of Netherlands' Top Sector approach. In terms of timeframe, Sweden's SIPs are the oldest program (2012) – even if the roots of the Dutch Top Sector approach go as far as before that (2011). On average, however, MOI programs are on average relatively young (5-6 years) – a fact which contributes to the limited availability of proper evaluations.

The implementation dimension further exemplifies the implications of different rationales to how each country addressed key practical questions – such as how to design, organise, and govern missions in practice. While hardly possible in the context of this exercise to pay justice to their own peculiarities in high detail, it is indeed nonetheless possible and useful to synthesise how they differ on each of these levels.

In terms of design, the two governance strategies blend together tools of top-down prioritisation with processes for largely bottom-up idea definition (Japan) and goal specification (Netherlands) whereas the two policy approaches are either markedly top-down (Norway) or bottom-up (Sweden).

In terms of organisation, the two R&D focused approaches are steering-based – e.g., revolving around the decisions of high-level boards (Norway) or councils (Japan) – while the society-wide approaches rely on structures including non-public actors – e.g., thematic ecosystems (Sweden) or sectoral teams (Netherlands).

The same differentiation is found at the governing dimension, at which R&D-focused approaches show relatively centralised decision-making based on small programme management teams (Norway) or directors (Japan) while society-wide approaches integrate decentralised autonomy (Netherlands) or are even based on it (Sweden).

Finally, multiple and complementary lessons learnt can be drawn out of their comparison – each with benefits as well as drawbacks for innovation policy and public action writ large.

- Norway's Pilot-E hones in on pre-existing complementarities among different R&D funding tools to streamline sustainability-oriented innovation value chains: as such, it empowers public agencies with greater agility in the use of public funding, and yet is limited by the lack of mechanisms for encouraging its societal diffusion.
- The SIPs promoted by Swedish agencies strongly stimulate the engagement of different actors by promoting the creation of innovative alliances – a fundamental prerequisite for ensuring MOI's impact – however they lack mechanisms for ensuring the overall cohesiveness of their bottom-up actions and agendas.
- Japan's Moonshot helps break the mould of pre-existing R&D trajectories to open windows and propel the efforts of knowledge actors at a visionary scale; and yet, their focus on the marketability and societal impact of such efforts is preliminary.
- Last but not least, the Netherlands' Top Sector approach represents one of the best examples globally available of MOI – being capable of matching relevant engagement capabilities with ambitious visions for the collective good. Yet, its governance model is highly complex, and hard to manage or even monitor in the first place.

While no final word can be said yet on the impact achieved by most of these programs – let alone on their preferability with respect to the peculiarities of the Finnish context – this exercise aimed to showcase key, unresolved tensions which characterise each of the four approaches being studied, and that up to a degree inevitably pertain to the implementation of MOI: an approach to governing societal transformations whose operationalization is still in its early days – which therefore requires strong flexibility and openness to experimentation. Napsauta ja kirjoita teksti. Paina kappaleen lopussa Enter.

## Methodology

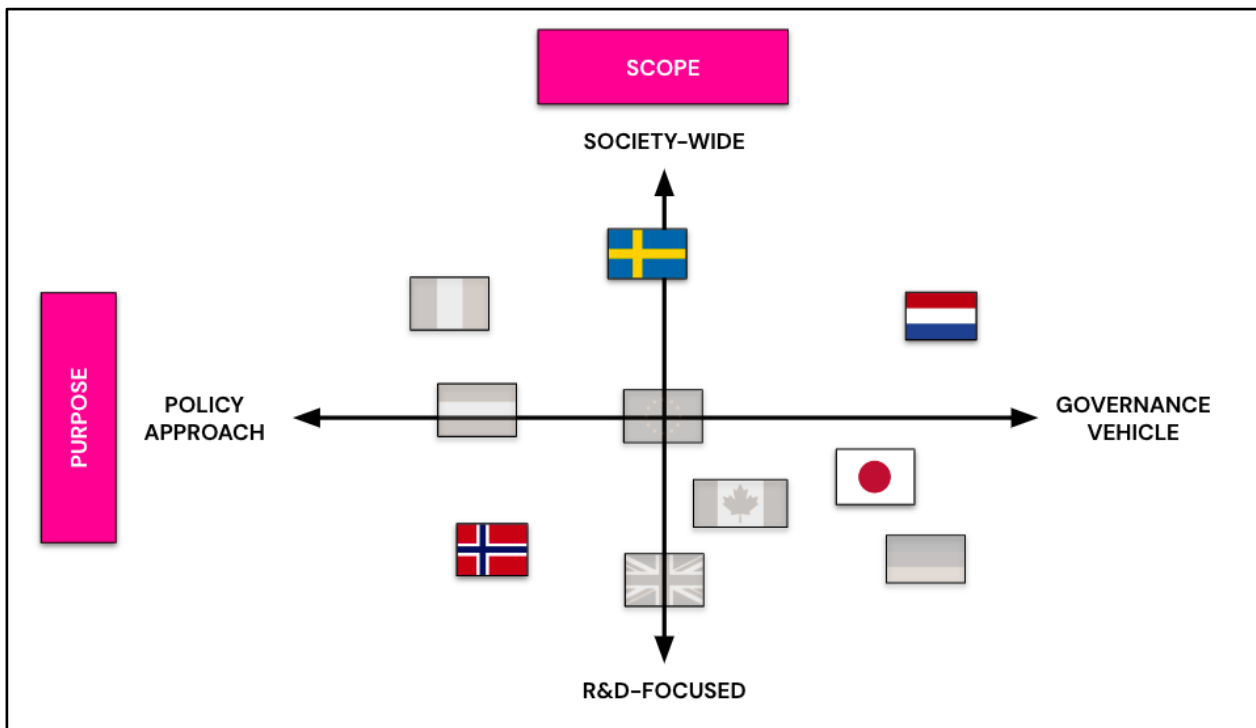
As illustrated in the briefing paper, the mission-oriented innovation (MOI) approach entails the reorientation of scattered innovation efforts towards the achievement of societal goals. To do so, the MOI approach is characterised by five essential traits that are usually reflected – albeit to different degrees – across national approaches: 1) directionality; 2) orchestration; 3) collaboration; 4) experimentation; and 5) cross<sup>1</sup>. At the same time, the briefing paper also made clear that there is no such thing as one single way to implement MOI. Rather, empirical data show a variety of approaches pursuing this shift across two dimensions of variance: that is, in terms of scope and purpose. Here, we briefly recall their definition.

- By **scope**, we mean the degree of width and complexity of the problem and of its relative solution. In general, problems or solutions that focus on scientific or technical advances (R&D-Focused) are less

complex than those targeting both such advances and their societal adoption for the sake of societal progress (Society-wide).

- By **purpose**, we mean the logic that animates the deployment of missions. A view of missions as a policy approach frames them as a new type of “tools” in the innovation policy toolbox, whereas a view of them as governance vehicles frames them as “the” toolbox – one hosting old and new tools while reorienting their functioning.

Figure 1 - Case study selection



To cover the larger amount of variance among existing international approaches to MOI, we thus leveraged the two-dimensional matrix stemming from this analysis to select one case study for each quadrant (see Figure 1). Then, within each quadrant (i.e., subset of countries), we selected the case studies according to two selection criteria: 1) on the one hand, country comparability with Finland (e.g., in terms of geographic and economic dimension); 2) on the other hand, diversity in their implementation approach (i.e., in terms of how they reformed their innovation policy or governance approach to embed elements of mission-orientation)<sup>2</sup>. As a result, we selected the following four countries:

- **Norway:** An R&D-focused policy approach focused on funding streamlining;
- **Sweden:** A society-wide policy approach focused on stakeholder mobilisation;
- **Japan:** An R&D-focused governance approach focused on R&D actors’ coordination;
- **Netherlands:** A society-wide governance approach focused on industrial evolution.

After that the selection process has led to the identification of sufficiently complementary countries, the four case studies have been explored through the lenses of one and the same analytical framework. This included: 1) a specification of their main characteristics – such as key promoters, budget, and length of the programme; 2) an illustration of their context; 3) an articulation of their implementation approach – based on the three key pillars illustrated in the briefing paper (designing; organising; and governing)<sup>3</sup>; and 4) an identification of their key learnings and challenges. At the end of each case study, a visual mock-up of their own governance model for the implementation of MOI is also presented. All key information has been drawn from the mission-oriented innovation policies online toolkit compiled over the last few years for the OECD STIP Compass<sup>4</sup>.

Besides identifying what is the state of the art in the field, the purpose of this benchmark study is to gauge potential learnings and spot interesting features out of these case studies based on their distinctive approach to the implementation of MOI. In such a perspective, it is of peculiar interest to analyse how each country addressed the key questions reflected by the three pillars of designing, organising, and governing missions. This is the analytical dimension where critical differences can be spotted, as well as the one where the practical implications of different approaches to the implementation of MOI can be better grasped in a more vivid and tangible manner.

## Norway: Pilot-E Project

### Spaces

- Scope: R&D-focused
- Purpose: Policy approach
- Key promoters: Research Council of Norway, Innovation Norway, Enova
- Budget: Ranging from 70M to 120M NOK on an annual basis
- Length: 2016-2022

### Context

Pilot-E is a cross-agency scheme that supports climate emission free and energy saving solutions from idea to market as a means to reduce carbon emissions. The scheme started as a bottom-up-initiative from the three Norwegian research and innovation agencies, and aims at maximising the synergies between their funding mechanisms by the constitution of a 'one stop shop' where industry-led consortia could get access to continuous support throughout the innovation process (ie., from applied research to market deployment). As a result, Pilot-E focuses on delivering concrete results – leading either to piloting activities or the actual introduction of full-scale solutions.

### Implementation approach

- The Pilot-E scheme is characterised by an agency-based leadership that makes it relatively isolated from political decision-making. The focus is on strictly defined industry consortia active in a specific

set of technological areas. The overarching goal is that of accelerating the pace of the innovation process – even if with a view on the prospects for their eventual market deployment – and clearly located within the structures and mandate of agencies' strategies and pre-existing programmes. The only structural change consists in the creation of a lean governance arrangement that revolves around the project's steering board.

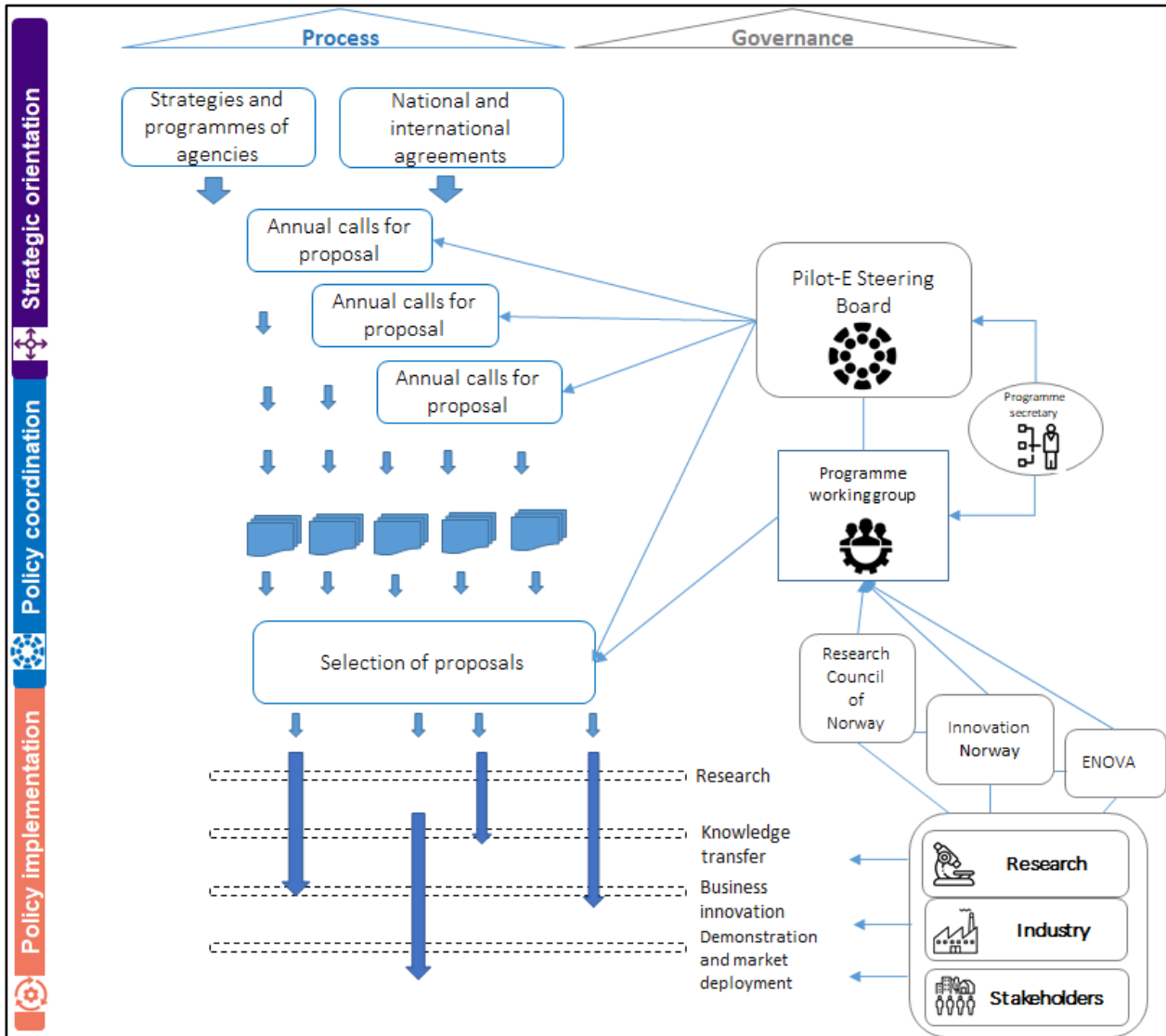
- **Designing:** Pilot-E has not been created following very significant interactions with stakeholders, but rather conceived by agencies that operate within a broadly defined mandate for strengthening their cooperation. As a result, its legitimacy is derived by its link to challenges of clear national relevance (i.e. CO2 emissions and air pollution caused by freight ships and big cruise ships in Norwegian Fjords) as well as on the use of funding mechanisms already well-known by industry stakeholders.
- **Organising:** To enable horizontal cooperation between the three agencies, Pilot-E led to a Steering Board that gathered their representatives and one working group (one Pilot-E secretary plus one member from each agency) about twice a year. While the Board decided upon the overall plan for the scheme, theme and content of the calls, the power to decide on the selection of applicants remained at the level within each agency – the working group being solely tasked with developing recommendations about funding and monitoring by use of external advisors and theme specialists.
- **Governing:** Characterised by strong decision power from a small management team and trustful relationship with private companies from the very start of the initiative, Pilot-E's hands-on management and lean monitoring practices were deemed to be key to success. Among its elements: the early involvement of potential applicants in the definition of the call's content; a continuous dialogue between the management team and the applicants during the whole project life-cycle; and use of a stage-gate approach to funding distribution based on clearly defined milestones.

## Lessons learnt

Pilot-E is an effective innovation 'accelerator' – conceived to streamline and accelerate the development of low-emission energy technology. By providing integrated and systematised support to projects with a high innovative potential, it helps increase the effectiveness of the three agencies' own strategy by drastically improving the rapidity of R&D processes; the predictability of funding for industry partners; the comprehensiveness and ambition of the selected projects; and the generation of high levels of trust among the participating private and public actors, which has proved beneficial to their engagement and investment.

At the same time, Pilot-E also challenged the three agencies' established ways of operating and enacting their own strategies. In this respect, one key problem has been represented by the imperfect suppression of the divide between traditional supply-side instruments based on R&D funding and innovative demand-side instruments based on public procurement. This problem – largely stemming from the reliance of pre-existing tools – limits the potential of funded projects to translate into widely adopted solutions, and supports the persistence of operational practices within each agency that do not fit the increased need for flexibility and integration within the public governance of innovation as a whole.

Figure 2- Norway's Pilot-E governance structure



## Sweden: Strategic Innovation Programmes

### Spaces

- **Scope:** Society-wide
- **Purpose:** Policy approach
- **Key promoters:** Vinnova, Energimyndigheten, and Formas
- **Budget:** Ranging from 750M to 900M SEK on an annual basis
- **Length:** 2012–current

## Context

Strategic Innovation Programmes (SIP) aim at improving the international competitiveness of the Swedish economy and at finding sustainable solutions to global challenges by enhancing interaction among government agencies, universities, companies, and civil society actors. To do so, SIPs allocate funding not to individual projects or programmes but to large groups of partners and stakeholders that commit to participate in nascent ecosystems. As a result, they support large 'framework' initiatives based on jointly co-created visions and agendas expected to orient the sustainable growth of emerging cross-sectoral areas. For each SIP, funding is mostly allocated to either universities or research institutes and provided on a 3-year basis (with the possibility of renewal for max. 9 years based on regular review).

## Implementation approach

While launched by the government itself, SIPs are led by a group of public agencies and thus relatively isolated from political decision-making. Their focus is on the nurturing of rich and diverse consortia of stakeholders that are then delegated with and continuously supported in the formulation and realisation of their innovation priorities. In principle, the overarching goal is to meet important societal challenges by including all stakeholders related to them. However, the outsourcing of their design and implementation leaves ample room for diverse interpretations to take place out of it. SIPs entail relevant structural innovations – e.g., a new inter-agency steering group and SIP-specific governance structure (e.g., Programme Offices, Boards and Agenda Councils) but none of them affect core government operations.

- **Designing:** The distinctive feature of SIPs is that the government does not decide which areas are strategic and what should be done to develop them: rather, it only facilitates the co-creation process and sets a framework to develop and implement strategies that guide action in emerging innovation areas. A broad range of actors is thus involved in decision-making from the start, thus heavily influencing the nature and direction of SIPs, as well as the role they play in their own governance.
- **Organising:** To manage the SIP initiative as a whole, the three agencies established a joint steering group, whereas each of them kept the administration of individual SIPs based on thematic affinity (Vinnova has 14, Energimyndigheten 2, and Formas 1). At the level of the SIPs, instead, each is managed by a Programme Office chosen within the consortium and overseen by a Programme Board responsible for designing and implementing its activities. The Board is often supported by an Agenda Council that includes community members, and regularly joined by agency representatives.
- **Governing:** Once initiated, the SIPs are responsible for devising and implementing activities in line with the aims of their agenda. These primarily involve launching calls for project proposals and overseeing their implementation. However, once launched, responsibility for selection and deliberation on funding lies once more on panels of independent experts constituted by Vinnova. On top of that, the civil servants at the three agencies are compelled to encourage and support the whole process behind the formulation of SIPs' agenda as well as their actual implementation.

## Lessons learnt

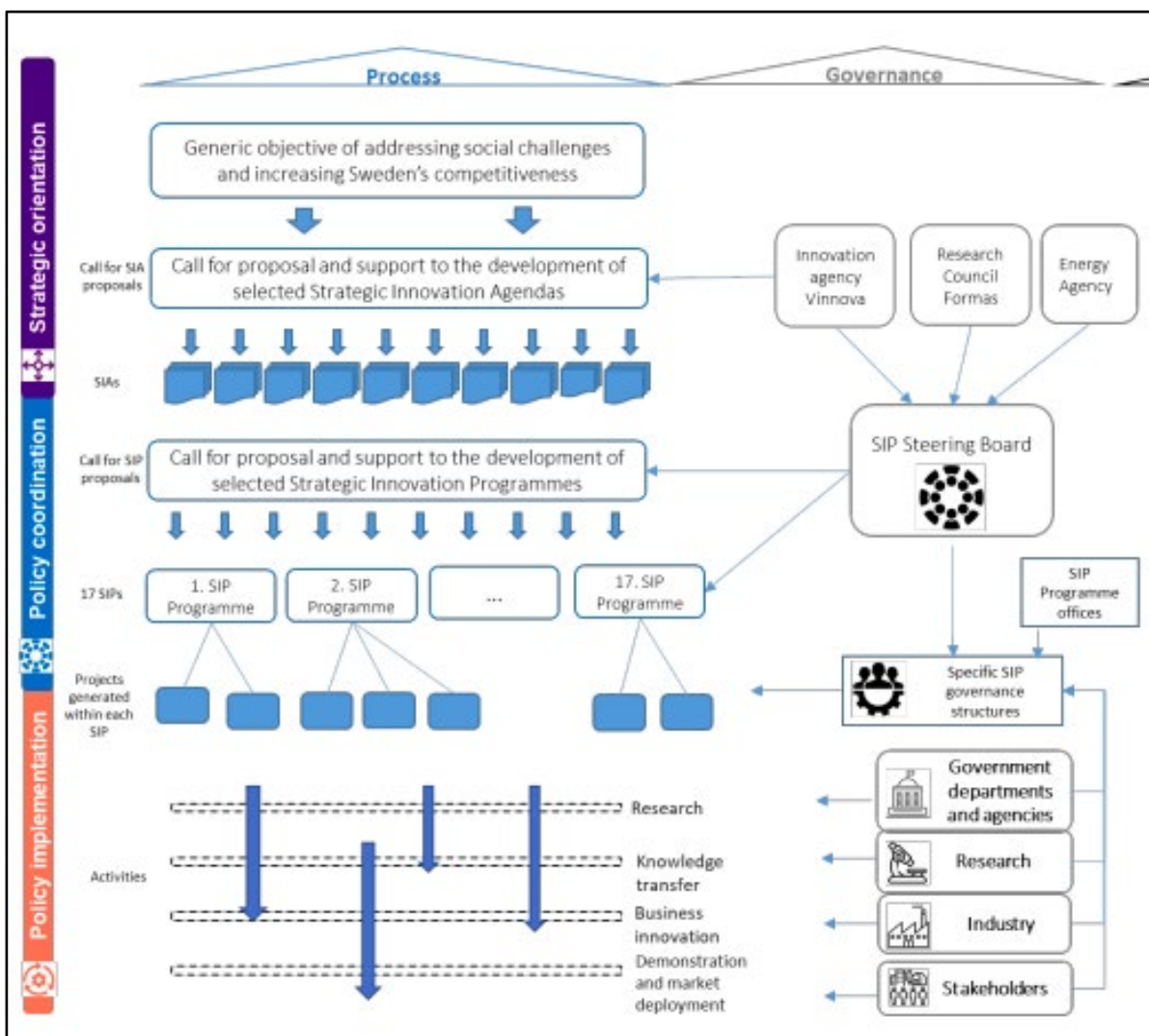
As a tool for the activation and orientation of (either consolidated or emergent) ecosystems, SIPs provide an interesting solution for developing and legitimising a broadened scope for innovation agendas – one that, at least in principle, puts societal relevance at their core. By seizing the convening power of major national



agencies to promote the gathering of actors and support the formulation and implementation of common strategies, they help nurture a genuine commitment from stakeholders; partnerships that transcend sectoral-institutional boundaries; intentionality and flexibility in the design of ecosystems' governance; and, most notably, technology diffusions across companies in different industries.

At the same time, due to the intensively bottom-up process behind their design, SIPs are subject to a risk of reflecting short-term needs of particular industrial communities at given points of innovation processes rather than longer-term needs of society as a whole. As this process turned over time in a considerable number of SIPs (17), this resulted into additional challenges – such as the difficulty to ensure the cohesiveness of the SIP portfolio as a whole against societal aspirations; the excessive dilution of funding; and the risk of incurring into a piecemeal evolution of the national landscape, rather than in a process shaped by national needs. Crucially, these are also reflected in the lack of top-down governance mechanisms that complement the bottom-up element of the tool – such as clear agencies' mandates; prioritisation mechanisms; and monitoring and evaluation practices.

Figure 3 - Sweden's SIPs governance structure



# Japan: Moonshot R&D Programme

## Spaces

- Scope: R&D-focused
- Purpose: Governance vehicle
- Key promoters: Promoted by the Cabinet's Office, led by the Council for Science, Technology, and Innovation (CSTI), and involving all key ministries and agencies
- Budget: 5-year fund of Yen 115B (ca. 937M€)
- Length: 2020–2025

## Context

The Moonshot Research & Development Programme was launched in 2020 by the Cabinet Office (Japanese government's core executive body) to promote high-risk and high-impact R&D aiming to achieve ambitious objectives (Moonshot Goals) and solve key societal issues, such as demographic ageing and climate change. The Programme has been ideated based on learnings from previous initiatives managed by the Council for Science, Technology, and Innovation (CSTI) – such as the FIRST and imPACT programmes. Similarly to these, it retains an approach based on the management of multiyear funding and flexible project design by part of a narrow core of public decision-makers delegated with strong authority to manage an R&D project throughout its course and assemble the best team to achieve its goals. Yet, it also differs from them in that it presents a sharper linkage to societal challenges (eg., by the use of 'inspiring, imaginative and credible' missions as the 7 Moonshot Goals) as well as new management solutions (eg., portfolio approaches and stage-gate funding mechanisms).

## Implementation approach

The Moonshot R&D Program is characterised by a high-level leadership which revolves very close to the core of the Prime Minister's Cabinet's Office. The focus is on the orientation of R&D activities towards ambitious visions that promise to bear wide societal implications in a medium- and long-term horizon. The overarching goal is that of creating promising, radically innovative technological trajectories that are capable of providing meaningful responses to the Japanese society's present and future needs. From a structural perspective, the major innovation consists in the creation of a Visionary Council and a Moonshot Strategy Council that can support the interconnection between the strategic decisions of the CSTI and the development of actual R&D trajectories led by programme managers.

- **Designing:** The process behind the definition of the Moonshot Goals mixed elements of top-down agenda-setting with more bottom-up idea gathering. Before the onset of the programme, a Visionary Council formed of 7 members among industry leaders, prominent academics and artists engaged with extensive consultations with various ministries and agencies, an international public symposium, and a call for comments from the general public. As a result of their work, 3 target areas, 7 Goals (6 + 1 added after the pandemic), 13 visions and 25 potential goals were defined – each specifying a

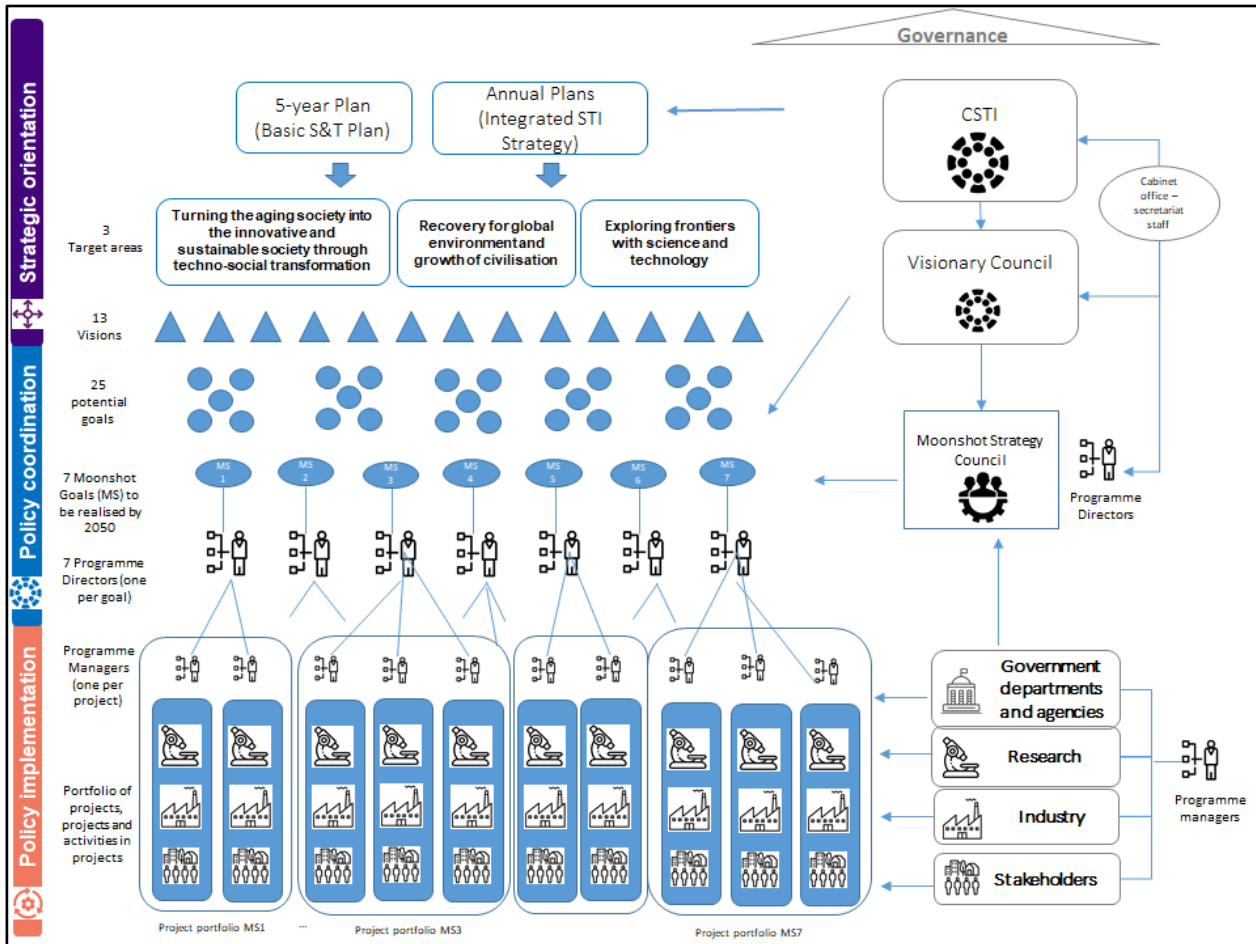
set of targets for a timeframe ranging from 2030 to 2050. On top of this, a further process began in 2020 – when the Japanese Science and Technology Agency (JST) launched the MILLENNIA Programme to involve young leaders in the definition of new Moonshot Goals for the post-Covid society. Working in brainstorming teams funded by the JST, young leaders were asked to engage in an investigation research period deepening their ideas. At its end, JST committed to select potential Moonshot Goals' candidates to be proposed to the CSTI – on which the final decision relies.

- **Organising:** The Moonshot programme is led and managed by the CSTI, whose key function to ensure STI policy coordination across ministries and agencies preceded the definition of the programme itself. The CSTI supervises the whole programme and validates all key decisions – including budget allocation, recruitment of key staff, and setting or revision of goals. On top of this, a Moonshot Strategy Council governed by publicly-appointed, Goals-related Programme Directors and with the involvement of Goals-related industry leaders, ministries, academics and executive members of CSTI was set to host cross-governmental collaboration in support of R&D projects. In this arrangement, Programme Directors are seen as the pivotal node for the everyday management of the Moonshot portfolio approach: the identification of up to 3 or 4 projects per each goal, based on which the promotion of a deliberately exploratory strategy aims to increase the boldness of the projects while minimising the risks.
- **Governing:** Characterised by a dual management structure – ie., one based on the cooperation among Programme Directors managing goals-related project portfolios and Project managers in charge of implementing each of them – the Moonshot sees four public agencies in charge of the practical implementation of the programmes dedicated to each goal: JST (Goal 1, 2, 3, 6), NEDO (4), BRAIN/NARO (5) and AMED (7). At the level of each goal, the responsible PD implements stage-gate reviews of all the projects at given milestones, and discontinues those whose prospects for successful impact become limited. At the level of each project, the responsible PM can mobilise their agency's different support schemes as needed for each project – also through leverage of the Moonshot Strategy Council's cooperation.

## Lessons learnt

Given the wide gap between the fairly recent launch of the programme (ie., 2020) and the distinctive long-term nature of the target defined by it (eg., 2050) it is still far too early to assess whether the Moonshot will succeed in meeting its objectives or even in avoiding the drawbacks of its predecessors – eg., lack of orientation and of portfolio management tools. For now, Programme Directors have been chosen, and goal-related open calls launched. As a result, a total of 127 applications were reviewed by PDs in cooperation with external experts – after which document and interview screening processes led to the selection of 19 PMs.

Figure 4 - Japan's Moonshot R&D Program governance structure



## Netherlands: Top-Sector Approach

### Spaces

- **Scope:** Society-wide
- **Purpose:** Governance vehicle
- **Key promoters:** Ministry of Economic Affairs and all mission-relevant public bodies
- **Budget:** 4.9B€ per year of which 2.05 from private sources (valid for 2020-2023)
- **Length:** 2011-current (revised in 2018 as mission-oriented policy)

### Context

The Top-Sector approach was introduced in 2011 as an industrial policy covering research, higher education and innovation through a new strategy of public-private collaboration in 9 key industries for the Dutch economy: agriculture, horticulture, logistics, high tech systems & materials, life sciences & health, chemicals,

creative industry, energy, and water. Building on that experience, the approach was then restructured in 2018 around 25 missions that aim to address 4 societal challenges: energy transition & sustainability; agriculture, water & food; health & care; and security. Linking sectoral industrial dynamics to societal goals, the 9 top sectors were thus asked to jointly develop Integral Knowledge and Innovation Agendas (IKIAs) showing how to meet the identified mission goals in a defined timeframe for each of the 4 challenges; for Key Enabling Technologies; and for social earning power. While led and revised by the Ministry of Economic Affairs each four years, the approach involves all public bodies whose policy mandates insist on the design and implementation of the 25 missions, and is founded on processes enabling close and constant interaction with industry players.

## Implementation approach

Led by the Ministry of Economic Affairs, the Top Sector approach constitutes the key pillar of Netherlands' industrial and innovation strategy. It aims to provide a framework and a set of mechanisms to coordinate agendas, budgets, and activities of the participating public bodies (national, regional or local) as well as of Netherlands' major industry players. While the missions are set by the government, external actors are involved into new governance structures that allow them to play an extremely important role in designing, specifying and implementing their actual roadmaps to implementation. As a result, the approach feeds into relevant structural changes – also including an inter-institutional Steering Committee and a matrix organisation based on rich and diverse Top Sector- and challenge-based teams.

- **Designing:** The legitimacy of the Top Sector approach stems not only from the trust nurtured among firms, research institutes, and public actors during its first phase of implementation (2011-2018) but, most notably, from how each member contributed to the development of the IKIAs. In this sense, while the government spearheaded the definition of the 25 missions to be pursued under the four challenge areas, the private sector was enabled to play a large role in the design process of the IKIAs. At the same time, broad consultation with all relevant stakeholders – from ministries to the scientific community (including knowledge institutions and the Dutch Research Council) and from social partners to regional public authorities – the inclusion and diversity of perspectives was still retained, and the link to national priorities secured.
- **Organising:** From an organisational standpoint, the Top Sector approach is devised as a matrix structure made of 9 sectoral teams (one per Top Sector) and 4 thematic teams (one per societal challenge). Sectoral teams are managed by Top Teams that are chaired by leading industry figures and largely made of business representatives (but also from science and government) coordinating Top Sector activities. Instead, thematic teams represent all actors related to challenge and its missions (industries, public departments, agencies, universities, research institutes, regions, etc.) and are tasked with oversight of IKIAs' implementation. They are also supplemented by Top Consortium for Knowledge and Innovation Boards (TKIs): executive bureaus of each Top Sector leading them through IKIAs' design and implementation. Finally, a Steering Committee led by the Ministry of Economic Affairs which includes a wide array of public and private bodies and actors is then in charge of the horizontal and vertical coordination and monitoring of the whole approach.
- **Governing:** Instead of a policy mix based merely on financial instruments – such as targeted R&D subsidies – the approach mixes a variety of instruments, ranging from grant schemes for private-public and research-SME cooperation to demonstration projects, and from regulatory reforms to innovative public procurement mechanisms. The tools managed at regional level are also relevant –

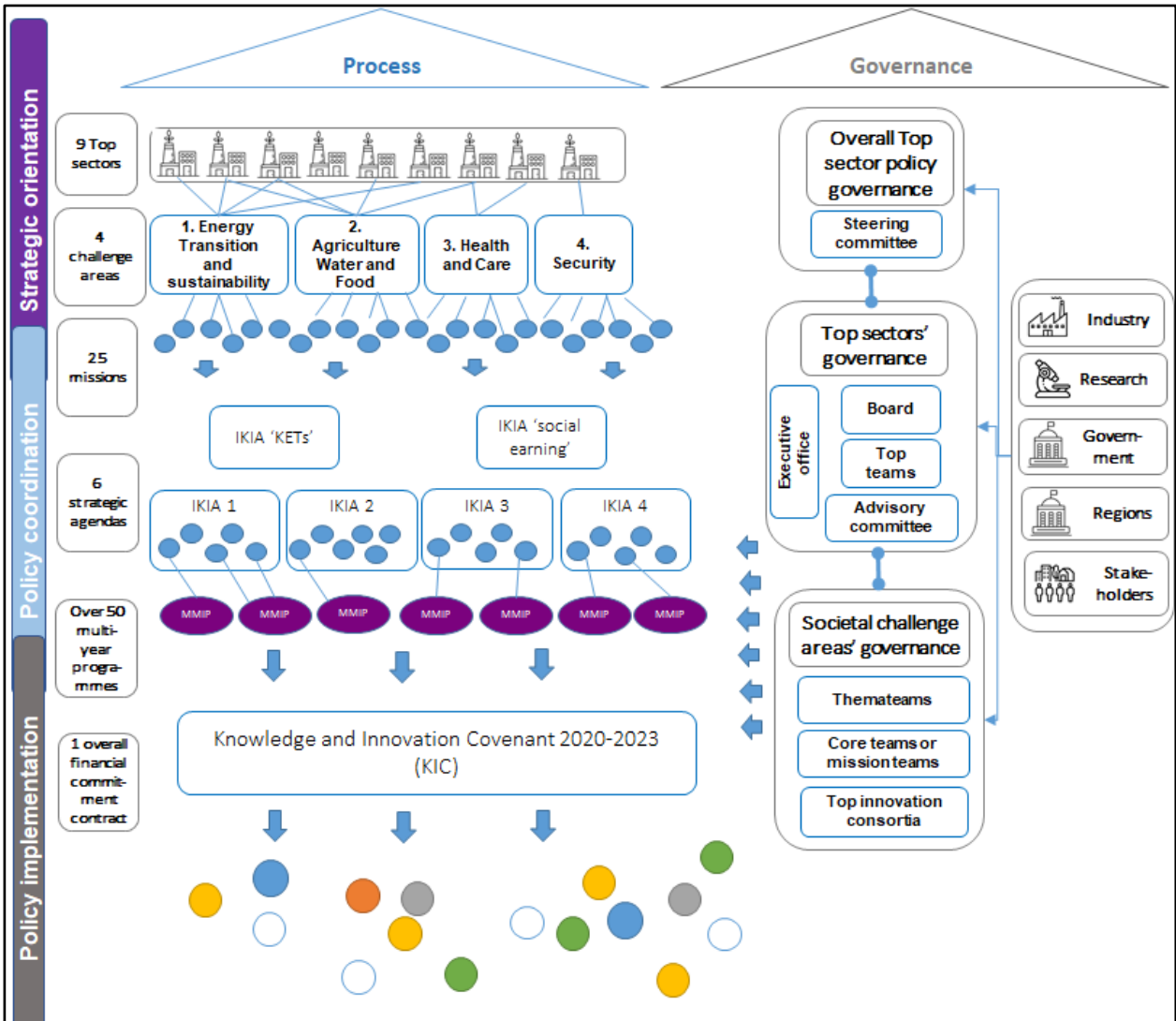
such as cluster initiatives, incubators, and knowledge transfer activities. As a result, government stakeholders' roles can be best seen as those of matchmakers (bringing together different parties) and facilitators (working to cut through red tape) to promote strategic and operative alignment and synergistic partnerships throughout the innovation process.

## Lessons learnt

Overall, the Top Sector approach represents a unique attempt to closely tie the evolution of Netherlands' key sectoral industries to shared societal challenges. Crucially, the approach does so by fundamentally rebooting the structures and processes through which public and private actors interact both among them and with each other. As a result, the pervasiveness of its governance helps foster the diffusion not only of key enabling technologies, but also of a culture of cooperation and challenge-drivenness that ignites the success of the approach.

However, this comes with costs. While a great opportunity to align industrial and societal agendas, budgets and actors, the approach is only made possible by a very burdensome governance structure made of a multitude of new bodies, a complex process design, and a very ambitious number of missions to align. These elements make monitoring and evaluation practices peculiarly challenging, and due to their intricateness can exacerbate the difficulty of key decision-making processes. On top of that, an additional challenge is constituted by the relative path dependence of the approach with respect to the pre-existing technologies, industries, institutions, and ultimately vested interests: a hindrance that is also reflected in the difficulty to mobilise newcomers and outsiders versus 'incumbent' players and, up to a minor degree, to facilitate effective cooperation across the Top Sectors themselves.

Figure 5 - Netherland's Top Sector governance structure



## References:

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- <sup>1</sup> For more information, see Section 2.1. and Figure 1. *The MOI Compass* in the briefing paper.
- <sup>2</sup> One additional factor is constituted by geographic diversity – with 3 within-EU cases and 1 extra-EU case.
- <sup>3</sup> For more information, see Section 3. and Figure 3. *The house of mission-oriented innovation* in the briefing paper.
- <sup>4</sup> The OECD STIP Compass – Mission-oriented innovation policies online toolkit is available at this [link](#)