Framing mission-oriented innovation policy

1. The purpose: Framing mission-oriented innovation policy

The goal of this briefing paper is to provide a synthetic knowledge base around the concept of mission-oriented policy (MOIP) by summarizing some key elements of the academic and policy debate abound it. While in this context MOIP is often claimed as a panacea for all problems, it is of paramount importance that, in the scope of our effort, the need for mission-orientation in itself is assessed in the first place. While its main opportunities and challenges are reflected later in the paper, this requires asking ourselves one question that, surprisingly, is rarely explored in full-depth: why and what for do we need mission-oriented innovation policy in the first place?

The prevalent narrative behind mission-oriented innovation (MOI) starts from the premise that governments worldwide are increasingly concerned with grand societal challenges – such as fighting climate change, enabling widespread digitalisation, ensuring health through pandemics, or tackling rooted socio-economic inequalities[1]. Among the most relevant developments on this end, there are at least three main societal events that, ever since 2009's Lund Declaration[2], defined the contours and legitimacy of the overall discourse around MOI: the approval of United Nations' 2030 Agenda for Sustainable Development[3]; the work done by the Intergovernmental Panel for Climate Change[4]; and the outbreak of the Covid-19 crisis[5]. Seen against the challenges outlined by these events, the rise of MOI provided policymakers with a new approach to address them by accelerating societal, economic and technological transformations: one focused on the overcoming

of traditional dichotomies between public and private actors – and, in general terms, between the role of states and markets in economic governance[6].

Such narrative largely succeeded in building a widespread appetite for exploring new ways to tackle grand societal challenges – for example, such as in the case of the adoption by the European Commission of missions as a framework to steer the R&D funding of its Horizon Europe 2021-2027 R&D program[7]. Moreover, it also succeeded in two accounts: 1) expanding the conversation around the legitimacy of the public sector's active intervention within the economy – often propelling paramount shifts of perspectives in the science, technology & innovation policy debate; and 2) vindicating the need for exploring new ways to design and lead public sector organisations[8]. Yet – despite these successes – tangible suggestions on how to advance mission-oriented innovation in practice are largely still missing.

As a result, while an increasing number of governments are investigating or experimenting with MOI, the large majority of these attempts drew only incrementally upon pre-existing innovation policy practice[9]. Based on a recent OECD survey, only 25% MOI practitioners had a clearly defined target; only 15% stated to have a dedicated structure of governance; and only 11% had a clear plan and process for their monitoring and evaluation[10]. Some of them succeeded in promoting better policy coordination. However, most of them only began to adopt objectives that are clear, bold, and societally relevant. Even less started deploying tools truly capable of enabling the kind of systematic, cross-sectoral, and cross-institutional experimentation advocated by MOI theorists and practitioners.

1.1 The Finnish context

Finland is a Nordic welfare state whose governance has been continuously ranked among the best on the global landscape[11]: one where it is widely shared by both politicians and civil servants that a well-functioning public administration is key to a peaceful and prosperous society. In this respect, the public administration and its innovation policies have played a significant role in Finland's development to become the state that it is today. Traditionally, innovation policy has been governed by the Ministry of Economic Affairs and Employment and the wider research, development and innovation operations by the Ministry of Economic Affairs and Employment along with the Ministry of Education and Culture and managed by Academy of Finland and Business Finland. At the same time, there are other key governmental actors influencing the design and implementation of innovation policy – such as the Research and Innovation Council, the Ministerial Working Group on competence, education, culture and innovation, and the parliamentary RDI working group. The National Roadmap for RDI recognises these multiple actors, and aims to increase cooperation between them to diversify the role of the public sector as a driver and user of innovation activities. In brief, there is a clearly articulated will to better fund and coordinate the efforts to increase the volume and the level of ambition of R&D activities[12].

Finland has been particularly keen on using a lot of challenge-driven innovation initiatives but the use of mission-oriented approaches has been rather fragmented – with only a few projects and funding mechanisms embedding its feature. Business Finland launched a mission-oriented strategy aimed to strengthen the ability of Finnish companies to benefit from future market opportunities while also addressing societal challenges. The Growth Portfolio developed by the Ministry of Economic Affairs and Employment identified four areas (energy transition, digitalisation, circular economy, and welfare) that may lay the basis for new national missions. In the meanwhile, concurrent developments suggest that there is a strong momentum for change in the broader Finnish RDI policy ecosystem:

- The target of 4% expenditure-to-GDP ratio by 2030 set by 2020's national Roadmap for RDI[13] – to which missions may contribute by leveraging private investments;

- The activities of the parliamentary RDI working group set in April 2021[14] – culminated in a new draft R&D Finance Act furthering the 4% target and embracing the principles of more predictable and long-term funding;
- The first update of the national Roadmap for RDI[15] – taking into account changes in the operating environment, and feedback from RDI actors, and working groups; and
- The definition of sectoral low-carbon roadmaps for 2035 as well as new proposals for energy sectoral integration[16] – which aim to pave the way for concrete industrial change towards carbon neutrality.

Now, it is time for a review of innovation policy and financial instruments at large[17]. The time is right to explore more in depth if and especially how MOI could be of benefit in governance to manage and use public resources to achieve the desired impact. There is a commitment by key stakeholders to find new solutions to current and future societal challenges. Yet, we lack the arguments and the evidence on how to use the full potential of the government machinery to lead the way in steering a wider range of stakeholders. It is in light of this view that the purpose of this paper is envisioned: not only as providing the necessary knowledge base around MOI; but also ensuring that an intentional and transparent debate can take place on the Finnish government's ambition to seek transformative change in the first place, and to leverage MOI for doing so in the second.

1.2 The purpose of MOIP

This briefing paper started by observing that, notwithstanding the momentum behind MOI, only few governments have been able to (incrementally) experiment with it. Our hypothesis is that the main reason behind this impasse is rooted in a widespread misunderstanding affecting the policy debate around what MOI is and how it can enhance our collective capabilities to address societal challenges successfully. While the mainstream narrative around MOI stresses its potential as a new innovation policy approach, it has been missing out on an enormous opportunity to be much more than that: an instrument to challenge established ways of thinking, doing, and implementing governance.

The premise behind this second, complementary understanding of MOI is that what lies as common to all of the multiple crises defining our times is a governance crisis: the failure of our institutions to orchestrate collective action against such challenges. Public governance is paramount to the successful steering of societal actors – such as governmental agencies, private companies, civic associations, and citizens – to come together in finding new ways to solve societal transformations. This is why the transformative potential of MOI cannot be liberated if accommodated within the boundaries of the existing structures, processes, and mechanisms of government. Conversely, this is why such potential demands a profound rethinking of how its branches operate with each other and with external actors: a rethinking of how governance is planned and implemented. Doing so entails intentional commitment from the whole of government to uncompromising collaboration and experimentation. To clear the ground around what this commitment would entail, this briefing paper addresses three misunderstandings in the current debate around MOI. We aim to show that:

- MOI is not only a policy approach – it's a vehicle for governance. While MOI are usually referred to as a new generation of innovation policies, available benchmarks show how MOI does not substitute but complement existing innovation policies and that its scope can encompass several innovation policies – or even go beyond them. We do not need MOI because the old generations of innovation policy are outdated as such – but because it can help us reconsider their purpose and rewire both their design and administration to achieve new, more ambitious objectives.
- MOI is not a blueprint – it's a malleable tool. As existing benchmarks highlight, there is no such thing as one single way of doing MOI, but a rich variety of approaches from which inspiration can be taken. We do not need MOI because it provides us with a new blueprint for innovation policy – but rather because it can be adapted to different goals, problems and opportunities. In a few words, it is a tool that can be used differently in different contexts to address societal challenges.

- MOI is not a silver bullet – it's a compass. The popularity of MOI might lead some to assume it as a seemingly magical solution to any challenge. Yet, this is not the case at all. Rather than as a silver bullet, it should be seen as a compass targeting new directions and helping us chart new ways to structure, process, and use the potential of government. We do not need MOI because it can solve grand societal challenges per se – but rather because using it as a compass can help us figure out together new solutions to govern collective action more effectively to chart new ways to navigate within existing structures and processes.

The source of these misunderstandings is related to the degree of intentionality behind the use of MOI by any government or entity. Indeed, one of the key pitfalls we can see among emerging MOI practice in Europe is that many governments take an incremental approach. Governments hope that MOI can be integrated into existing policy mixes and developed by existing policy capacities. Yet, this often results only in incremental adjustments to current policies and institutions – with only little change in their effectiveness. At times, a conscious effort to develop the capacity for a full-fledged MOI approach and capacity may require a clear separation from existing policy infrastructures, and therefore take shape by means of strong political leadership; new managerial and organisational set-ups; or both.

In a few words, the sole adoption of the MOI label without any relevant change into how they operate will fail to make transformative change happen. Conversely, what truly may make the difference is governmental commitment to promote and orchestrate the kind of uncompromised collaboration and experimentation that can help us address some of the greatest societal challenges of our times. This commitment cannot be achieved without a recognition of the paramount needs of the Finnish (and global) society, and a transparent debate about the goals and means needed to address them. This is why purpose is the silver bullet that can make MOI a successful compass for change: all in all, the question is not about what missions are, but about what one wants to do with them. It is less about how they look in practice – as if there was one and only way of making them – and more about how to devise them in a way that is conducive to the desired goals.

It is in light of this view that the purpose of this briefing paper is also envisioned: not only as providing the necessary knowledge base around MOI; but also as ensuring that a conscious and intentional debate can actually take place about the government's ambition – in this case Finland's – to seek transformative change in the first place, and to leverage MOI for doing so in the second. Under the leadership of Finnish Government's analysis, assessment and research activities – steered by 8 ministries – we are now studying the opportunities that Finland has to develop a national framework for mission-oriented innovation policy. This document serves as a preliminary basis for nurturing conceptual and operational alignment and therefore helping such efforts to come true.

2. The vehicle: Features of mission-oriented innovation

2.1 What is mission-oriented innovation?

The origins of MOI can be traced back to the mid-20th Century, when novel approaches to military R&D management were developed in the context of major scientific enterprises – such as NASA's Apollo mission. More recently, MOI's content and application shifted beyond the technoscientific domain to appraise the need to address grand societal challenges – climate change being the first and foremost among pandemics, technological changes, and demographic shifts. The shift from a technology-based to a challenge-based orientation marked the emergence of a new generation of science, technology, and innovation policy as a whole[18]. Yet, despite a wide consensus about the paramount need to broaden missions' scope, their rationale and definition remain nowadays plural, contested, and ever-changing.

In terms of their rationale, grand societal challenges are often seen as the central motivator for MOI. However, the imperative to fix different failures limiting the overall performance in innovation ecosystems strictly defined as such are also often posed as justifying their use[19]. Common to both is missions' goal to translate complex challenges into solvable problems[20]. As a result, their rationale can be defined as that of conceptual and practical intermediaries that help link programmatic strategies with the deployment of single policy tools.

- In conceptual terms, compared to programmatic strategies designed at the highest level of policy making, they are characterised by a relatively narrower scope; yet, their focus on solvable problems means they need more than one policy to succeed.

- In practical terms, compared to programmatic strategies, they are characterised by a stronger degree of integration among the actors implementing them; yet, compared to single policy tools, their design and implementation always involves various actors.

In terms of their definition, MOI has also been labelled in different ways – each including a specific set of elements and nuances (see Appendix 1). To make sense of the plurality of voices in the field, we employed an inductive approach to the existing academic and grey literature and synthesised these dimensions into five essential traits:

1. **Directionality:** their ability to target a set of objectives that the actors involved within a mission can commit to pursue by means of social and technological innovation.

2. **Orchestration:** their reliance on pivotal organisations that are empowered with the key capabilities and tools to steer and engage with multiple resources and stakeholders.

3. **Collaboration:** their focus on enabling and accelerating the systematic integration and coordination of multiple streams of actions beyond existing structures and processes.

4. **Experimentation:** their focus on enabling and accelerating the systematic test, revision, and learning from the implementation of different solutions to tackle a given challenge.

5. **Cross-:** their commitment to leverage inputs, efforts, outcomes, and learnings coming from actors that have diverse institutional, sectoral or disciplinary backgrounds.

Overall, these five traits can be seen as cardinal directions that form an initial orientation to the manifold nuances of MOI. The emerging result is a definition of MOI which goes beyond current narratives of missions as "simply" a new innovation policy approach to emphasise their potential as vehicles of governance: or, in simpler words, as a compass for leading societal transformations (see Figure 1). Besides providing a summary of the five traits, the MOI compass also helps carve out a number of key implications for decision-making.

Figure 1 - The MOI compass
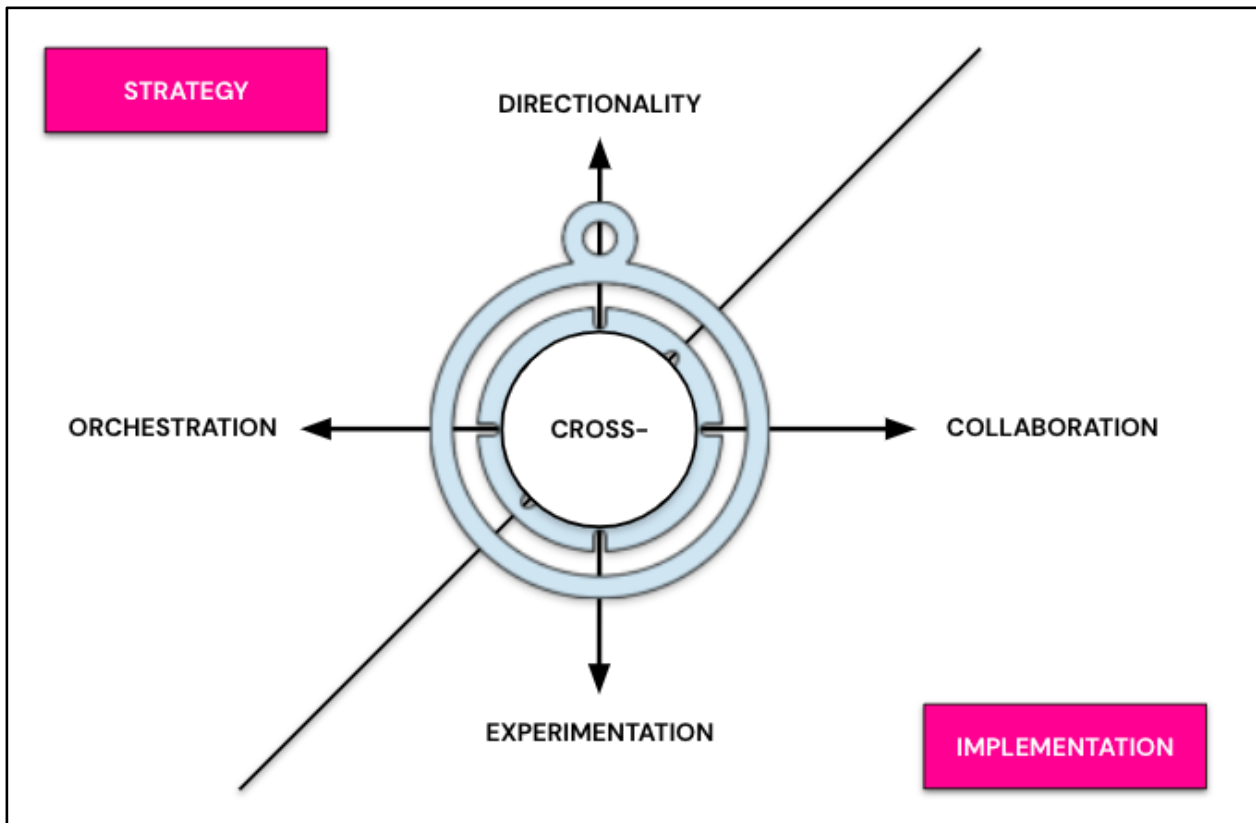
First, traits of directionality and orchestration highlight a new approach to **strategy**. Such an approach calls for identifying shared challenges tangible enough to be operationalised into concrete, clearly identifiable objectives, and yet challenging enough to transcend existing knowledge and practice frontiers – as well as institutional and sectoral boundaries. Crucially, this is a task that can be effectively pursued only by "orchestrators" – that is, organisations capable of identifying who to engage across social, political, technical, and administrative domains, and how to facilitate their convening, interaction, deliberation, and mobilisation.

Second, the distinctive traits of experimentation and collaboration define a new approach to **implementation**. On the one hand, this approach breaks through traditional institutional, sectoral or disciplinary boundaries that segment the innovation process beyond *and* within governments' rigid structures and siloed processes to find new ways of working together. On the other hand, it also paves the way for a premise of fallibility and openness to continuous adjustment to inspire the whole policy-making process and missions' lifecycle.

Third, the central position of the **cross-** trait in the compass helps highlight the essence of MOI as a multistakeholder effort: one that challenges established dichotomies between the relative role of states and markets within the governance of the economy, and embraces a pragmatic and challenge-oriented approach to the innovation process.

Fourth, the very metaphor of the **compass** helps highlight the intrinsically dynamic nature of missions as (tentative) vehicles for governance. It conveys how missions cannot be met through precise, but ultimately static blueprints. Rather, they rely upon the identification of a "Polar North" orienting the long-term agenda of public and private actors towards shared goals. Once that initial direction is set and means of orchestration devised, collaborative experimentation sets in and steers their own adjustment along the journey itself. To navigate this process, one cannot rely on fixed maps – but rather on dynamic compasses.

2.2 Opportunities and challenges

The shift represented by MOI for the pursuit of new ways to address collective challenges is not without costs. Indeed, besides providing great opportunities for doing so, missions also pose relevant challenges to existing structures, processes, and methods of governance. A recent survey led by the OECD and the Danish Design Centre directly asked practitioners about their ongoing struggles and needs for the further development of their MOI initiatives. As a result, the survey included responses from 227 individuals involved in missions or MOI and representing +40 countries across Europe, the US and Australia[21]. Respondents stressed financial, structural, political, and methodological factors that provide an empirical base to clearly identify them and link them to the five traits presented in the MOI compass.

1. **Directionality:** As seen above, one key trait of missions is the definition of ambitious yet tangible enough goals that have a clear and shared view on the direction forward. On the one hand, this brings about the opportunity to **clarify** and crystallise the key orientation of public action – providing stakeholders with the room to rally around the same premises and objectives. On the other hand, though, it creates a challenge of **persistence**: directionality could be challenged either on political grounds – e.g., via electoral cycles – or on societal grounds – e.g., via changes in context that could weaken the momentum and motivation to pursue a given goal.

2. **Orchestration:** As missions expand the quantity and quality of the actors needed to achieve societal goals, the ability of "orchestrators" to build and sustain support and commitment is also challenged. As such, their promise for increased **effectiveness** of innovation policy – e.g., via more focused, synergistic and complementary design and implementation of multiple funds and tools – is conditional upon orchestrators' capacity to mature **capabilities** that are fit for the task[22] – e.g., skills, processes, and structures capable of helping them steer both internal and external resources around shared goals in a collaborative and agile fashion.

3. **Collaboration:** To achieve their goals, missions attempt to break organisational silos as well as sectoral or disciplinary boundaries. This brings along the opportunities of increasingly **open**, **inclusive**, and **transparent** public action: greater possibilities to facilitate networking across societal domains, promote knowledge sharing, and hence propel innovation writ large. At the same time, though, collaboration also demands high costs in terms of **coordination** – entailing the participation of many actors to actively contribute to mission aspirations; the management of their potential conflict in interests and opinions; and the need to devise new tools to deal with them.

4. **Experimentation:** Along with collaboration, experimentation is the other trait which defines how missions are implemented in practice. In terms of potential benefits, the greatest opportunities for public action provided by this trait are provided by **agility**: hastening the pace of decision-making processes while keeping room for adaptation and continuous improvement. Yet, the main drawback of this trait is the amount of opaqueness that it can bring if not balanced with mechanisms for **accountability** – e.g., evaluation tools, clear mandates, and valid rationales for mission management.

5. **Cross-:** Finally, the commitment to leverage inputs, efforts, outcomes, and learnings from a diverse range of stakeholders holds the potential to increase the **legitimacy** both of missions as tools and – most importantly - of the goals they aim to achieve. On the other hand, ensuring and sustaining legitimacy entails finding ways to secure stakeholders' **commitment** over time – both in strategic and operational terms.

Table 1 – Opportunities and challenges

Traits	Opportunities	Challenges
1. Directionality	**Clarity**: Devising a joint direction, and common purpose both within innovation ecosystems and society at large.	**Persistence**: Going beyond policy and electoral cycles. Keeping the momentum and motivation over time. Lack of ambition.
2. Orchestration	**Effectiveness**: More focused, synergistic and complementary use of R&D and innovation policies to address societal challenges.	**Capabilities**: Aligning resources across the whole of government and key agencies. Dealing with silos and changing structures if needed.
3. Collaboration	**Openness**: Opportunities for networking, knowledge and resource sharing, as well as citizens' engagement.	**Coordination**: Managing multiple actors across policy fields. Managing conflicts. Lack of apt portfolio tools.
4. Experimentation	**Agility**: Greater flexibility within decision-making, and room to outmanoeuvre disruptions in the operational environment.	**Accountability**: Lack of apt evaluation tools. Allocating mandates. Managing adaptability and change within innovation portfolios overtime.
5. Cross-	**Legitimacy**: Gaining political & societal trust and fostering support to lead societal transformations.	**Commitment**: Lack of strategic alignment and actual actions pursued from the stakeholders involved.

2.3 Varieties of mission-oriented innovation

As described, missions imply the reorientation of innovation efforts towards societal goals: a process which in turn also requires a significant change in how public and private resources are deployed and actors engaged. However, while they certainly bear potentially profound implications both for the governance of innovation *and* for the governance of other societal processes overall, it is clear that there is no such thing as one single way to implement MOI. Rather, what the empirical data present is a variety of approaches that pursue these shifts to different degrees *and* with different purposes in mind.

To make sense of what is entailed by the existing varieties of MOI approaches, we developed a matrix that draws on two of the most influential taxonomies in the field: the one proposed by Fraunhofer ISI[23] (derived out of state-of-art innovation policy theory) and that proposed by the OECD[24] (derived out of current best

practices in the field of MOI). Consistent with the plurality of rationales highlighted above, the matrix identifies a growing diversity in missions practice – thus showing some ways through which they can be operationalised in different contexts. The matrix is structured along two dimensions: scope and purpose.

- 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 commitment to and deployment of missions. To simplify, a view of missions as a policy approach tends to understand and deploy them as a new type of "tools" in the broader innovation policy toolbox. Conversely, a view of missions as governance vehicles frames them as *the* toolbox – one that hosts both old and new tools while redefining their actual goals.

Figure 2 - Varieties of mission-oriented innovation
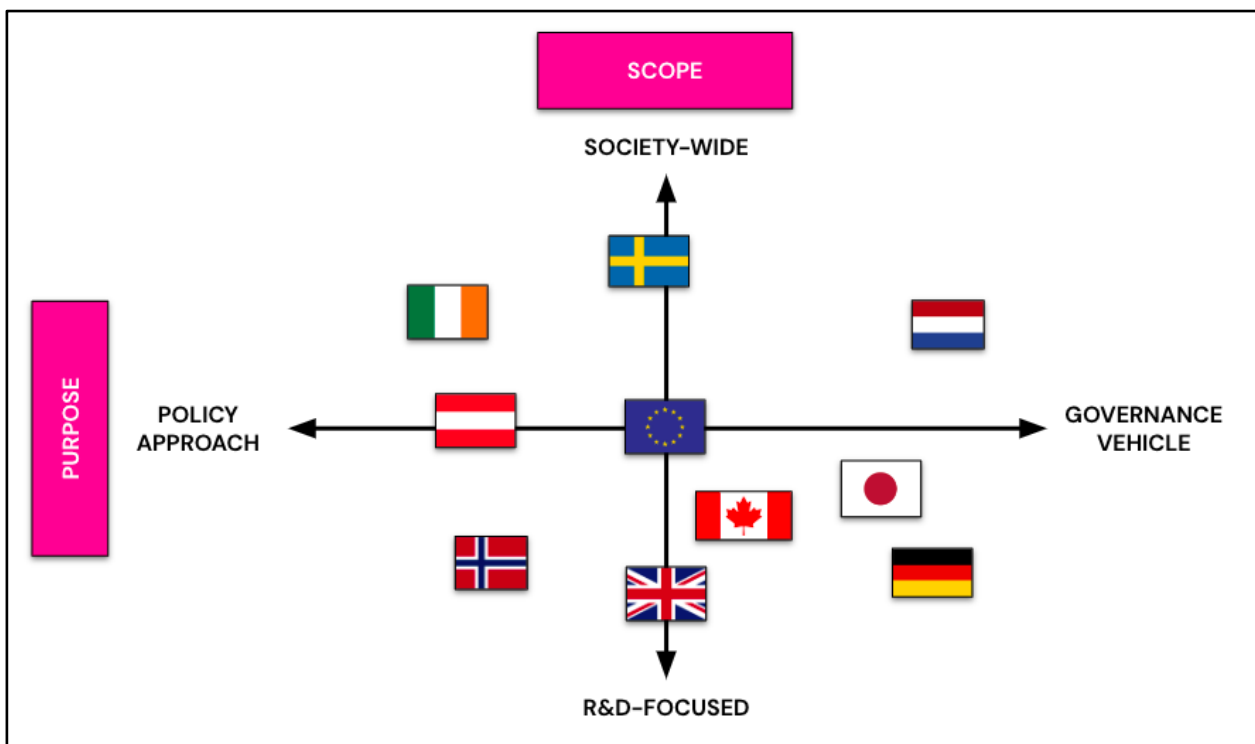
The leftmost part of the matrix encompasses cases of missions that have been interpreted as a new **policy approach**. In the lower quadrant, this is characterised by a narrower focus on R&D. An example in this account is that of Norway's Pilot-E – a cross-agency scheme that supports climate emissions-free, energy-saving solutions from idea to market by combining financial schemes from three different governmental bodies and tailoring them for targeted projects[25]. In the upper quadrant, instead, MOI "policies" are designed with a wider societal scope in mind. For example, Ireland's Future Innovator Prize programme uses competitive mechanisms and close monitoring to mobilise multi-disciplinary teams that are composed of both technical expertise (i.e., researchers) and end-users (i.e., businesses or citizens) into the development of prototype solutions to co-created challenges[26]. Crucially, both of these examples do not entail the creation of new structures or the rearrangement of existing ones – but rather limit to enable stronger collaboration in specific actions.

Conversely, the rightmost part of the matrix involves missions that have been understood and deployed as **governance vehicles**. In the lower quadrant, an example that is relatively more R&D-focused is that of

Germany's 'Energiewende': the transition to renewable energy which sees the Federal Ministry for Economic Affairs and Energy coordinate a continuous dialogue with many stakeholders (e.g., local governments, industry, academia) to transform the entire spectrum of renewable energy production and storage by 2050[27]. In the upper quadrant, finally, Netherlands provides an example of an emergent society-wide approach centred around the definition of 9 Top Sectors and 4 challenge areas that, by steering large and diverse groups of stakeholders through new structures and processes for collaboration, help tie the evolution of its main industries to societal agendas[28]. In contrast with previous cases of missions as a policy approach, both the German and the Dutch example show the creation and (or) the rearrangement of key governance structures and processes.

Obviously, as a framework, the matrix cannot account for all the nuances and specificities of each country's MOI approach as a whole. Yet, it helps us identify some preliminary lessons about the translation of MOI from theory into practice. First, its scope can considerably vary among R&D-focused and society-wide challenges based on how these are specified and the actors that they target. Second, diverging interpretations of its purpose can lead to very different interpretations of how to implement it – e.g., in relation to the actors promoting it (e.g., agencies, ministries, or government) and in relation to existing governance structures. Third, no paramount solution or silver bullet solution emerges from them: the design and the implementation of MOI is highly context-dependent – most notably, on the intentions and aspirations of those willing to leverage them.

3. The driver: Implications for public action

In general, governance can be seen as the set of processes, structures and institutions that guide and restrain the collective action of a group of stakeholders[29]. As such, governance does not involve only governments – but how public, private, and societal actors interact with each other at large. In this respect, the very concept of MOI as an approach founded upon the orchestration of multiple resources and stakeholders goes at the core of essential questions of governance – e.g., the legitimacy of public action, public-private cooperation, and impact evaluation. As such, having presented the main features of MOI, we now focus on the main implications that these bear for public action writ large. It is by articulating and studying those implications that it becomes all the more evident how MOI can go beyond the definition of a policy approach to be a vehicle for governing societal transformations. Providing a bird's eye view of the key questions posed by MOI to public action writ large, the remainder of this section identifies three main (sets of) challenges that can help frame and make sense of them: designing, organising, and governing missions.

3.1 Designing missions

The first challenge relates to the design of missions. Doing so entails framing, debating, and deliberating upon contemporary societal challenges to better understand those that might be addressed within given resource constraints. Here lies the paramount element of public and collective choice which makes mission design an inherently normative and political act: the definition, specification, and prioritisation of a clear-cut set of objectives among many other possible ones. As such, the broad inclusion of public, private, and civic stakeholders into the mission design process is key to secure both their legitimacy – i.e., by ensuring their collective ownership – as well as their functionality – i.e., by encouraging the identification of frames, arguments, and objectives that can go beyond policy and electoral cycles. To this account, MOI compels governments to ask themselves: what should a transformative goal, target or challenge look like in practice? And how should it be communicated?

Ensuring inclusivity is certainly very difficult – both in terms of managing the inputs of many stakeholders and reconciling their potentially conflicting opinions and interests. Yet, finding the right way to frame, deliberate and communicate a mission would ensure its ability to compel them to mobilise for change and unleash their efforts. By doing so, missions can: (i) provide a rallying point for actors who might otherwise clash with each

other during the change process; (ii) facilitate coalition building; (iii) offer them a 'Polar North' to pursue; and (iv) motivate and inspire action. To this account, instead, MOI asks governments to reflect on how to nurture a broad consensus on grand societal challenges: who should have a say in defining them (i.e., stakeholders, citizens, etc.)? And how should they be engaged?

3.2 Organising missions

The second challenge concerns the organisation of missions. As missions bundle together many diverse policy tools, activities and mechanisms to tackle a given challenge, they are most effective when they succeed in "orchestrating" the action of many stakeholders across both the public sector and the private and societal sectors. For governments, taking this into account paves the way for a critical reappraisal of currently well-established allocations of mandates and responsibilities, and consolidated organisational structures. In the former case, the reappraisal entails the ownership of missions as a whole (i.e., what role for which ministries, agencies, as well as the role of the PMO). In the latter, it concerns the need to ensure coordination among public actors (e.g., interministerial bodies, boards, councils, etc.). As such, MOI provides them with an opportunity to ponder: who should lead transformative change? And how should public actors coordinate for making it happen?

Besides devising a political and organisational infrastructure that is capable of addressing shared and transformative objectives, the organisation of missions also entails their own operationalisation into challenge-oriented teams and processes. Crucially, doing so entails the identification of ways to embed into them two key traits of mission implementation: that is, collaboration (both across *and* beyond the public sector) and experimentation (providing room for testing, learning, and iterating different ways of addressing societal challenges). Hence, devising a MOI approach entails a necessary exploration of context-specific answers to these questions: in order to orchestrate multiple stakeholders, how should mission teams be structured? And what should a mission lifecycle look like in practice?

3.3 Governing missions

Last, the third challenge concerns the everyday governance of missions. The intentional adoption of MOI as a logic of intervention founded on collaboration and experimentation has implications that can even stretch beyond organisational arrangements, and which put under the limelight the skills and capacities of the core of governments: their civil servants. On the one hand, fostering unbounded collaboration across *and* beyond government might require them to nurture new skills – such as community management or systems thinking – or to devise new tools to incentivise stakeholders' engagement and resource sharing. On the other hand, making the most of experimentation might entail providing front-line managers with a higher degree of decision-making autonomy, or the development of ways to facilitate the systematic leverage of accumulated knowledge and learnings. In addition, this demands new practices of monitoring and evaluation. As a result, MOI begs one last set of questions to governments: what capabilities would be needed to enable civil servants to accomplish transformative objectives? And what policy tools – old and new – should be leveraged to ensure both their ability to succeed, as well as effective monitoring and evaluation?

4. The journey ahead: A heuristic to move forward

This policy brief provides an overview of the mission-oriented innovation concept (MOI). The emerging picture is one of an approach that has a lot of potential and yet has not fully come to fruition. This is not surprising given that what MOI is proposing to achieve is no less than a radical shift in how we address the hardest challenges of our times – such as climate change. It is therefore no wonder that **time and effort are still needed** to figure out whether and how they can do so in practice. Yet, this is exactly where most of the debate around MOI might be missing a relevant point: the fact that there is nothing inherent to missions *per se* that can help governments address such challenges.

Missions come with **no ready-made blueprint** on how to be enacted – rather leaving ample room for different goals to be targeted. The question is less whether missions can achieve transformative change or not, and more whether or not the governments that deploy them are **committed** to use them as a tool to challenge how they think of, do, and implement governance. Our hypothesis is that that is where missions' transformative potential might lie and could be further explored. To this account, MOI can be compared to a **house under construction** (Figure 3). The knowledge base shown above – derived from academic and grey literature – provides its **foundations**. The growing political demand and hype around it represents its **ceiling** – governments' increasingly urgent need and aspiration to tackle societal challenges. Yet, what most governments still miss are the **pillars**: solutions to design, organise, and govern missions that can reconcile MOI's promises with political aspirations.

Figure 3 - The house of mission-oriented innovation
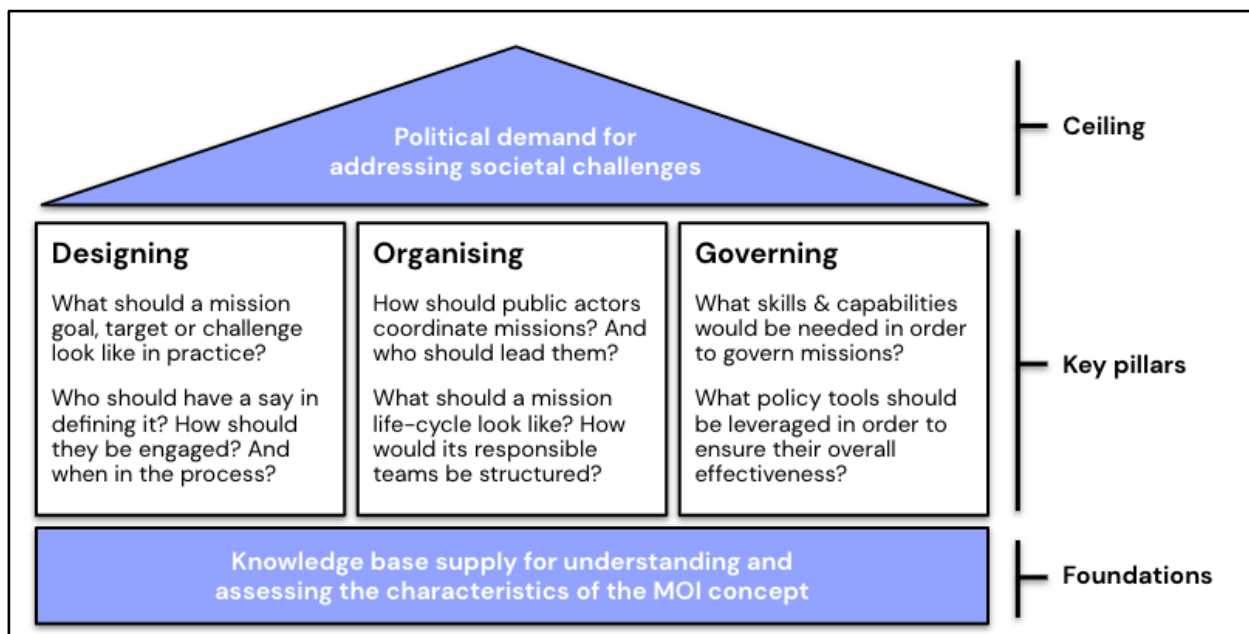
Crucially, there is no single way of building these pillars. This is why any government that is willing to meaningfully explore missions' transformative potential must first ask itself why and what it needs missions for in the very first place, and what it wants to accomplish through them. Depending on the actual response, the exploration of new tools might look very different and range from an incremental adjustment of existing innovation policies or the creation of new ones to the institutionalisation of new cross-ministerial bodies – if not the reshuffling of mandates and responsibilities across the whole of government. In the end, MOI might not be a silver bullet in itself but a compass to enable governments exploring new ways for leading societal

transformations – the pillars of its "house" reflecting a need and an opportunity to **rebuild those of government itself**.

APPENDIX 1: Definitions of mission-oriented innovation

Definitions of mission-oriented innovation

"Mission-oriented innovation establishes a clear outcome towards the societal challenges and an overarching objective for achieving a specific mission (e.g. setting clear goals and roadmaps towards carbon neutrality or approaching the system differently to radically change mental health for young people)." (OECD 2022)

"A mission-oriented innovation policy is a co-ordinated package of policy and regulatory measures tailored specifically to mobilise science, technology and innovation in order to address well-defined objectives related to a societal challenge, in a defined timeframe. These measures possibly span different stages of the innovation cycle from research to demonstration and market deployment, mix supply-push and demand-pull instruments, and cut across various policy fields, sectors and disciplines." (OECD 2021)

"We understand mission-oriented innovation policy as a cross-sectoral and cross-policy approach to achieving ambitious and clearly formulated goals via the generation and application of knowledge and innovation that address pressing societal challenges. The goals must be clearly defined as well as being measurable and verifiable, and they must be implemented within a clearly defined timeframe. Only when missions aim at behavioural and structural change, in addition to generating knowledge and innovation, do they contribute to comprehensive system transformations. Practices, actors and institutions must all be reconfigured as a result of the transformations." (Fraunhofer 2021)

"Mission-oriented strategies translate challenges into concrete problems which require many organisations and sectors to collaborate." (IIPP 2019)

"Based on the literature and our empirical findings, we define mission-oriented research and innovation initiatives as large-scale interventions for clearly defined missions (i.e goal or solution) to be achieved." (Joint Institute for Innovation Policy 2018)

"The role of mission-oriented policies is to translate broad challenges and political orientations into… "doable" problems to be solved" (Mazzucato and Robinson 2018)

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