
Designing and implementing mission-oriented policies: Tools and resources from the field

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Contents

Introduction	4
1. Policy toolkits: the current landscape	6
1.1 A typology of toolkits	8
2. Mission-oriented policy toolkits	9
2.1 Cases from the field	11
3. Lessons from practice: tools for missions	27
3.1 Contexts	27
3.2 Current practice	29
3.3 Existing and future needs	33
Conclusion	37
Annex A: Examples of policy toolkits in the current landscape	39
References	40
Resources	41
Images	41
About the UCL Institute for Innovation and Public Purpose (IIPP)	42
About the Mission-Oriented Innovation Network (MOIN)	42

Introduction

The UCL Institute for Innovation and Public Purpose (IIPP) has been investigating the topic of mission-oriented policy tools – that is to say, resources practitioners globally are using to support them in the design, implementation or evaluation of mission-oriented policies. As part of this work, IIPP has convened its Mission-Oriented Innovation Network (MOIN) of public sector practitioners to discuss, exchange and learn from cases of mission-oriented policy tools developed in the field. This policy report shares the key outputs of our analysis in this space. The work to date has consisted of three strands, which will be explored in this report:

1. Mapping the external environment: what does the current landscape of policy toolkits and resources look like, particularly for mission-oriented innovation?
2. Understanding practitioner needs: what are the operational contexts, use cases and needs of practitioners in terms of tools?
3. Scoping future priorities: what is the role of IIPP in the field and how is it developing?

The analysis is based on survey questions, interviews and informal discussions with MOIN practitioners; a landscape analysis of current policy toolkits and resources; and secondary data on mission-oriented innovation practice more broadly, in particular, the Mission-Oriented Needs Assessment Survey (OECD and Danish Design Centre 2022). It is also informed by, and has informed, the Tools Learning Series workshops that IIPP convened in autumn 2023 to explore cases of organisations who have developed toolkits to support practitioners in their mission-oriented policy approaches. These cases include: Fraunhofer Institute for Systems and Innovation Research ISI's *Mission-Oriented Innovation Policy for Transformative Change Toolbox*; Vinnova's *Designing Missions Handbook*; Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO)'s *Convening Missions Playbook*; and Demos Helsinki's *Operative Model for Implementing Missions*.

It is important to note that the meanings associated with the term 'tool', in the context of mission-oriented innovation and policy contexts more

generally, are nuanced and varied. These nuances and variations in interpretations and usages of the term have been central to our research on the topic. Our engagement with MOIN practitioners has shed light on the policy and organisational contexts in which such resources are applied, and therefore the need for a contextualised understanding of the term. In particular, we have explored differences and similarities between policy 'toolkits' and policy 'tools'. The work shared in this policy report is concerned with both categories and reflects how our understanding of the terms has developed throughout the project.

During the analysis, a key distinction between tools and toolkits emerged in terms of their function: 'policy toolkits' tend to curate, organise and present a set of tools (plural) for practitioners to draw from, often in a digital format, whereas a 'policy tool' is an instrument, resource, framework or method (singular) designed for application in a generally more specific policy context or challenge. Within the latter category, there are cases of both digital and physical resources (such as policy briefs, databases and written case studies), but also non-physical tools, encompassing a broad range of policy instruments, including networks, processes, theories and frameworks. Although some of these instruments (for example, strategic design, portfolio approaches, stakeholder engagement) are referenced in this report, they are not explored in depth since the focus of the analysis was predominantly on digital toolkits and resources.

Despite such distinctions between policy toolkits and tools, a unifying and defining feature of both categories is that they are designed with practical application at the centre. In the context of policy areas and approaches such as mission-oriented innovation, toolkits (and, in fact, many tools) can be a means of bridging the gap between theory and practice by providing practitioners with tangible resources to support them in their work. It is largely for this reason that we view the topic as a subject worthy of exploration, especially in terms of the capacity to support the translation and implementation of research in policy contexts. These connections between theory and practice are central to IIPP's practice-based theorising methodology – whereby academic theories are tested in real-world contexts and then fed back into theory, allowing prototyping and testing of new policies, tools and frameworks on the ground – as well as to the work of practitioners in MOIN, who are learning about and practising mission-oriented and transformative policies globally.

The first section of this report, Policy toolkits: The current landscape, looks at some key patterns, features and typologies of toolkits produced among and for policy communities. The second section, Mission-oriented policy toolkits, focuses on the development and application of toolkits specifically designed to support mission-oriented policies, and explore some key examples from the field. The third section, Lessons from practice: tools for missions, shares insights on the operational contexts, current practices and future needs of practitioners using tools and resources, in various forms, to support the design and implementation of mission-oriented approaches on the ground. Finally, the fourth section concludes with some reflections on what this analysis can teach us about the development of such resources in the context of contemporary mission-oriented policy practice.

1. Policy toolkits: the current landscape

In recent years, policy toolkits – often called ‘playbooks’, ‘guides’, ‘resource libraries’ or similar – have become increasingly widespread in policy communities. In the mission-oriented innovation space, several policy toolkits have been published by organisations, including central and local governments, research institutes, design agencies, innovation agencies and international organisations.

At their core, policy toolkits are a medium for organising, curating and presenting materials to facilitate or inform the policymaking process. The materials they contain may take the form of information (such as written guidance or advice), tools (such as frameworks and impact assessments) or other kinds of resources (such as links to case studies, educational content or communities of practice). In terms of their remit, toolkits may be designed to support practitioners with any aspect of policy practice, be it formulation, implementation, engagement or evaluation. Alternatively, they may target associated skills and activities, for example, problem-framing, stakeholder engagement or procurement. In general, our analysis found that policy toolkits tend to be framed around either a given policy area (for instance, housing, technology or climate policy) or an approach that can be applied to policymaking (such as systems thinking, open policy making, human-centred design or mission-oriented innovation).

For the organisations or individuals who create them, policy toolkits can act as mechanisms for organising and communicating knowledge: they provide a framing through which to curate and disseminate research for application in a policy context. Their contents are the result of several methodological and ideological choices and assumptions, and therefore any given toolkit reflects the creator’s view of how policy is, can or should be done. For instance, one toolkit looking at housing policy may lean on design-led approaches, while another may adopt more of an economic or sociological lens for the same issue. Policy toolkits are therefore an interesting subject of exploration for tracing knowledge dissemination, exchange and application among policy-focussed organisations and communities. Annex A provides a list of some of the policy toolkits that have informed this analysis.

Alongside our mapping of the external landscape of policy toolkits, the team at IIPP has been reflecting on the tools and resources IIPP has produced to date, including how we can best curate and share these for practitioner audiences. Since IIPP was founded, it has produced an array of policy tools through in-depth collaboration between academics and practitioners. Some examples of these include the prototype framework for assessing value creation, developed as part of the IIPP-BBC project and scoping report, [Creating and measuring dynamic public value at the BBC](#) (Mazzucato, Conway, Mazzoli, Knoll and Albala 2020, p. 10), or the missions framework outlined in [Missions: A Beginner's Guide](#) (Mazzucato and Dibb 2019, p. 9). As part of the curation and dissemination of such tools, IIPP recently published [Mission-Oriented Innovation Network \(MOIN\) Resource Guide](#), which organises and presents key IIPP research, publications and projects under each of the four components of the ROAR Framework, the policy framework for challenge-driven innovation policies and market-shaping activities developed by IIPP Director, Professor Mariana Mazzucato (Mazzucato 2016, 2018).

1.1 A typology of toolkits

The typology of toolkits organises the current landscape of policy toolkits into four main categories (Figure 1). Each of these categories is associated with a defining core function. Our analysis has shown that most toolkits tend to fulfil one or many of these functions, and so the typology gives a sense for the range and scope of policy toolkits existing in the space.

The toolkit functions include:

1. **Collation:** curating and organising diverse resources into one structured, easy-to-navigate place that practitioners can draw from according to need.
2. **Systematisation:** converting theory, knowledge and tools into a clear, systematic process or set of components that can guide practitioners.
3. **Exemplification:** offering examples of approaches and emerging practices in action that practitioners can learn from or be inspired by.
4. **Education:** providing learning materials that help to equip practitioners with the skills, knowledge and techniques required to carry out target objectives or activities, and diffuse new skills across the organisation.

Alongside these functions, the typology also identifies an associated objective for each category and an example of an existing toolkit that exemplifies the type in the typology (though many perform other functions too).

CATEGORY	FUNCTION	OBJECTIVE	EXAMPLE
Resource suite/ library/ depository	Collation: curating and organising diverse resources into one structured, easy-to-navigate place that practitioners can draw from according to need.	Offer a set of tools, resources and information to support activity in a given area or approach	Doughnut Economics Tools Suite
Guide/ manual	Systemisation: converting theory, knowledge and tools into a clear, systematic process or set of components that can guide practitioners.	Provide a guiding method, pathway or process for how to develop and implement an approach	Fraunhofer ISI Toolbox
Casebook/ playbook	Exemplification: offering examples of approaches and emerging practices in action that practitioners can learn from or be inspired by.	Share example experiences and cases to inform and inspire practice in a given area or approach	Vinnova Designing Missions Handbook
Course/ skills builder	Education: providing learning materials that help to equip practitioners with the skills, knowledge and techniques required to carry out target objectives or activities, and diffuse new skills across the organisation.	Teach practitioners the skills and knowledge they need to better understand and succeed in a given area or approach	ITU Digital Transformation Toolkit

Figure 1. Typology of toolkits

2. Mission-oriented policy toolkits

Arguably, the nature of mission-oriented policy practice as it currently stands provides fertile ground for toolkit development; as a relatively emergent field without decades of precedent and best practice, especially in terms of implementation, there is demand for practical materials that can guide practitioners operationalising the approach. A core aspect of the work outlined in this policy report has involved mapping, analysing and sharing cases of toolkits and tools being developed and applied in the mission-oriented innovation space.

The mapping has largely focussed on mission-oriented policy toolkits, of which we have identified six main cases (Table 1). The analysis column in the table provides an overview of the functions which each of these six toolkits exhibit, based on the four functions (*collation, systematisation, exemplification and education*) identified in the toolkit typology (Figure 1). Toolkits 3, 4, 5 and 6 in Table 1 are explored in more detail in section 2.1 of this report.

Table 1. Overview of mission-oriented policy toolkits in the current landscape

TOOLKIT	ANALYSIS
1. Organisation for Economic Co-operation and Development (OECD)'s Mission-Oriented Innovation Policies Online Toolkit	The OECD's Mission-Oriented Innovation Policies Online Toolkit brings together a broad range of external guidance, case studies and data into an explorable, interactive dashboard which users can search according to their needs and interests. In the context of the toolkit typology, it performs a strong collation function — as well as providing some exemplification through its case studies and systematisation through its self-directing interface (which categorises materials according to the type of policy, geography and stage of process). It also provides education -focussed resources via the policy learning hubs.

TOOLKIT	ANALYSIS
2. Danish Design Centre (DDC)'s Missions Playbook	The DDC's Missions Playbook provides policy practitioners with an example approach and framework for 'launching and driving' missions. Described in the introduction as a 'running prototype', it adopts a reflective and iterative approach to exemplification . The playbook is informed heavily by design tools and methods (also curated in this OECD blog), which are systematically organised according to key dimensions of the approach outlined, such as 'setting direction', 'mobilising ecosystem' and 'building capacity.'
3. Vinnova's Designing Missions Handbook	Like DDC's toolkit, Vinnova's Designing Missions takes the form of a playbook and consists of 'short technical guides to practice as well as critical reflection on the nature of the work'. As well as providing theoretical background to missions, it places a key focus on offering an exemplification function, not in the sense of providing a definitive how-to process, but rather sharing candid experiences on designing and testing a mission-oriented approach in a way that others can learn from. The playbook systematises Vinnova's experience into several key stages (discovering missions, developing missions, developing prototypes on so on), which provide a framework for the insights.
4. Fraunhofer ISI's Mission-Oriented Innovation Policy for Transformative Change Toolbox	Fraunhofer ISI's toolbox breaks down a mission-oriented approach into six key elements, thereby providing a strong systematisation function. Based on the Institute's High-Tech Strategy 2025 project with the German federal government, it presents six key pillars for establishing and monitoring missions. The approach is formative, while also being sufficiently flexible to allow users to learn and adapt it to their context and needs. For each of the six pillars, it offers tools and methods to support mission owners 'throughout the whole life cycle of missions'.

TOOLKIT	ANALYSIS
5. Demos Helsinki's Operative Model for Implementing Missions	Demos Helsinki's policy brief, based on work with the Finnish government, presents a model for how to implement directional mission-driven research and innovation policy in practice. Presented in the form of a 'policy brief', rather than a 'toolkit' as such, the model plays a clear systematisation function by breaking down missions into 'five basic principles' and offering a visual model (p. 4) of the four 'functions' and eight 'tasks' required for successful mission implementation.
6. Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO)'s Convening Missions Playbook	CSIRO's Convening Missions Playbook presents its journey, since 2019, designing, implementing and governing missions. It plays a strong exemplification role by sharing the key tools, insights and lessons gained over the course of its Missions Program, all of which are presented in a clear, concise, yet reflective and open style. It also offers a systematisation function by organising its contents into four key mission stages (choosing missions, co-designing missions, implementing and sustaining missions, and understanding mission performance).

2.1 Cases from the field

As part of developing our analysis, IIPP convened the Mission-Oriented Innovation Network (MOIN) for a Tools Learning Series. Consisting of two online events ([session one](#) and [session two](#)), the series has been a space of learning and exchange among the MOIN community on current and emerging toolkits and resources in the field. It has included presentations from four organisations who have recently developed toolkits to support practitioners in their mission-oriented policy approaches.

The remainder of this section shares each of the four cases of toolkit development, as presented at the Learning Series. The cases have been selected as examples of toolkits in the current landscape, and sources of insights into the processes and thinking which underpin the development of such resources.

CASE 1: Fraunhofer ISI's *Mission-Oriented Innovation Policy For Transformative Change Toolbox*

Presented by Dr Ralf Lindner, Head of the Competence Centre Policy & Society, Fraunhofer Institute for Systems and Innovation Research ISI

Dr Ralf Linder presented an overview of the key components and analysis behind Fraunhofer ISI's toolbox. It aims to both support mission implementation and impact assessment – and offers an 'unboxing' of the complexity of missions by breaking them down into a process of analytical steps. The work is an output of a project Fraunhofer ISI conducted to support the German Ministry of Education and Research's High-Tech Strategy (which identifies 12 missions) by developing a mission impact framework.

Key lessons:

- Fraunhofer ISI's 'modular approach' breaks missions down into three main translation steps (formulation, design and implementation), while ensuring sufficient flexibility for application in diverse operational contexts.
- The toolbox adopts an analytical lens on mission-oriented policies, focussing on 'conceptualising missions and assessing their impact.'

The toolbox is underpinned by Fraunhofer ISI's approach to missions, which focusses on fostering transformative change, spanning multiple stages of innovation cycle, and including a broad policy mix beyond research and innovation. Although developed in the German context, the toolbox's modular, flexible approach is designed to ensure applicability elsewhere.

The impact framework was developed in a context where impact assessment approaches for mission-oriented policies in general are in their infancy. The time spans as well as the heterogeneity of missions can make impact assessment challenging and mean that a one-size-fits-all model is

impossible. Fraunhofer ISI's framework aims to compare intended progress versus actual progress, and to support both mission owners and external evaluators to assess missions.

Fraunhofer ISI have identified four key requirements for assessing the impact of mission-oriented innovation policies (MOIP). These include:

1. A strong formative perspective providing practical guidance (such as via learning supporting elements).
2. An integrated perspective grasping all phases of MOIP (including formulation, design, implementation).
3. A theory-based and process-oriented approach.
4. A flexible and modular toolbox which can be applied in different ways.

In the toolbox, they set out three key analytical steps for MOIP. In doing so, they noted the centrality of policy translation issues (often policymakers' intentions do not manifest as anticipated during implementation). They also propose a question for consideration at each of the three steps.

1. Mission formulation: does the mission formulation provide guidance for mission design goal achievement?
2. Mission design: is the design of the mission appropriate for achieving the postulated goals?
3. Mission implementation: does the implementation of the mission provide favourable conditions for realisation of impact?

The toolbox features six key elements (Image 1). These include: exercises for information gathering and systems mapping; templates for impact pathways; inventories of policy instruments, tools and interventions; and mission management indicators (including a list of 145 analytical questions, pp. 39-43). The first – exercises for information gathering and systems mapping – is key to ensure clarification and alignment among policymakers and mission owners during the mission formulation process, since this can be a challenge.

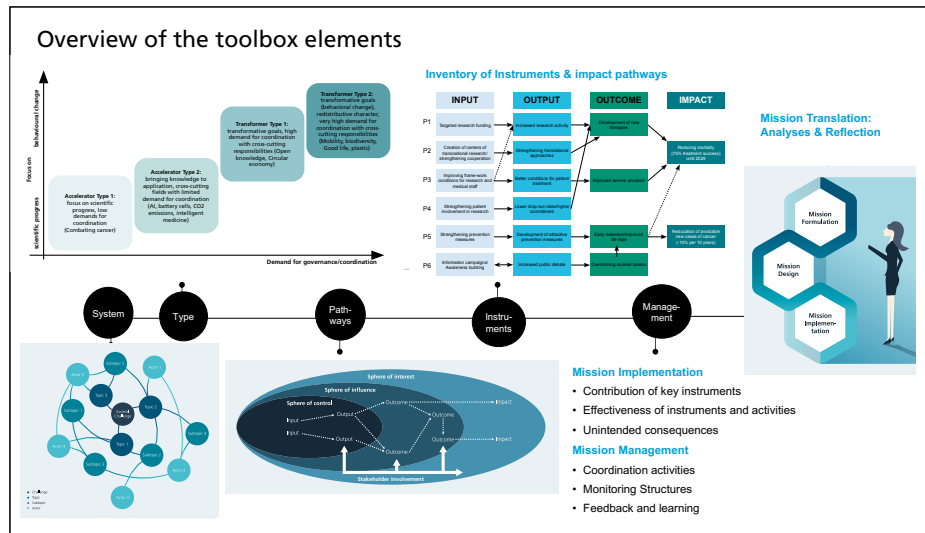


Image 1

There are several open questions and challenges that emerged during the project, including the need for further capacities and resources for mission owners and their organisations.

CASE 2: Vinnova's *Designing Missions Handbook*

Presented by Dan Hill, Director, Melbourne School of Design, former Director of Strategic Design, Vinnova, and Visiting Professor of Practice, UCL IIPP

In this presentation, Dan Hill took us through the story of how Vinnova developed design-led mission practice in the Swedish context, as captured in Vinnova's Designing Missions Handbook. He focussed on the approach they developed as part of their street transformation mission — 'ensure that Sweden's streets are sustainable, healthy and full of life by 2030' — which was one of the missions identified under Vinnova's mission theme of 'Healthy Sustainable Mobility'. He described the key steps taken to identify the mission, devise potential solutions, prototype and test ideas, and scale and publicise these.

Key lessons:

- Vinnova's story offers a case study for a co-design, systems and portfolio-focussed approach to missions.
- The playbook uses Vinnova's hands-on experience of mission development and implementation to extract transferable methods (in particular, design-led approaches to workshopping, prototyping and canvassing) to inspire and inform others.

Vinnova took inspiration from the basic structure for mission-oriented innovation, using the mission maps (Mazzucato 2018, 2019) and adapting them to form their own process-oriented version (Image 2). The organisation's Theory of Change focusses on how science and data may not necessarily equate to good policy since challenges are socio-technical, not just technical.

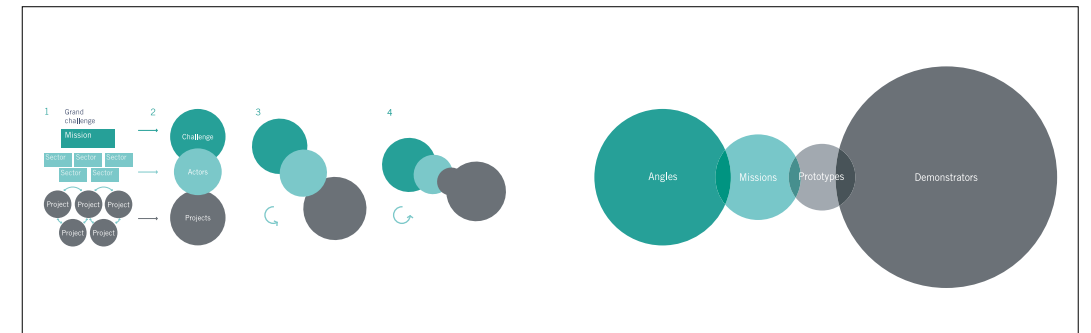


Image 2

In order to identify the mission areas, they used a highly participatory approach. The result was the identification of 'healthy, sustainable mobility' and 'healthy, sustainable food' as the first two themes – areas which are core to everyday life. Then, before identifying specific missions, they held a series of workshops with cross-sector participants with whom they developed 'messy systems canvases' via an open, critical and questioning approach. Two of the missions they subsequently identified under the themes included 'ensure the transition to an electrified heavy transport system across all of Sweden' and 'ensure that every street in Sweden is healthy, sustainable and full of life by 2030.'

The Vinnova team then held 'system in the room' workshops and used 'speculative narratives' to encourage participants to think broadly about the possibilities within the system. For instance, in the context of streets, they wanted to show that streets are not only a space for traffic, but can perform other functions, such as increasing public health, reducing crime or developing cultural exchange. They worked with people from a range of backgrounds and seniorities (including the Swedish prime minister) to create diagrams with ideas (Image 3).

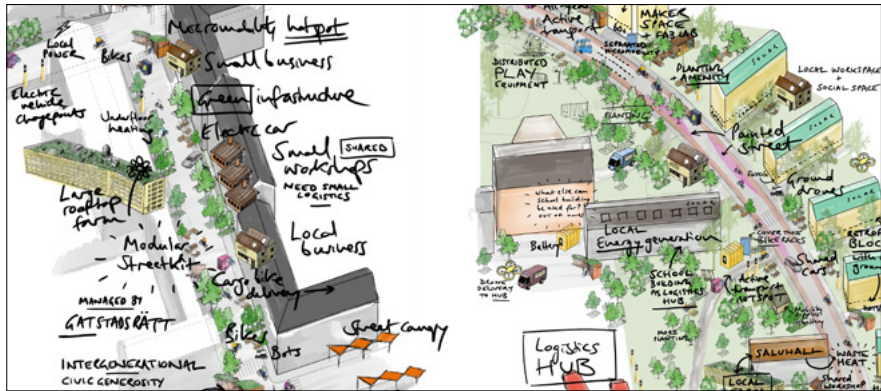


Image 3

The next step in the streets mission was to test these ideas on four streets in Stockholm, then in nine more municipalities. The theory of change involved spreading rather than scaling, finding a different logic for enabling change at scale across a nation. The team engaged local children in developing design ideas and used sustainable prototypes as a basis for getting feedback from residents and street users. These 'tests' were then scaled by implementing a 'consistent layer', but allowing individual streets to vary applications.

This work showed how small-scale interventions can build to create large-scale value across multiple measures. For example, the streets mission indicated how decreased traffic noise not only increases safety, but also increases the diversity of bird song heard locally, which, in turn, can improve illness recovery and produce wellbeing improvements that research indicates are greater than increases in personal salary. The value model produced is still an active research project, covering systemic impact with combined social, health and economic value.

The street project is just one of many in the mission portfolio and is part of a platform strategy across multiple system actors. Street Moves has now become an international model which has spread to Normandy, France, and San Jose, California, as well as attracting the attention of over 25 municipalities in Sweden. The broader project theme of 'The One-minute City' has been covered in high-profile news outlets and garnered significant global attention for Vinnova's mission-oriented work.

CASE 3: CSIRO's Convening Missions Playbook

Presented by Amelia Olsen-Boyd, Executive Manager, Mission Innovation, Strategy & Design, Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO)

In 2019, CSIRO established its Missions Program which now includes 13 missions, eight of which have been launched and five which are under development. In her presentation, Amelia Olsen-Boyd took us through some key aspects of CSIRO's journey since the launch of the programme, in particular the ideas and frameworks which underpin the recently published *Convening Missions Playbook*.

Key lessons:

- The playbook offers an example of an 'agency-convened' mission model that seeks to 'crowd in' initiatives, investment, research activities and innovation system actors around a shared objective (as opposed to being led by 'top-down' priorities and investment).
- It uses case studies from a range of missions to illustrate approaches to co-operative governance, mission portfolios, ecosystem transformation and measuring additionality, and is heavily informed by CSIRO's Theory of Change.
- The case includes reflection on the pre-conditions for CSIRO's success and the need to further develop capabilities and knowledge infrastructure in the future.

CSIRO's model for missions is different to some 'archetypal missions', because it is 'agency convened.' This means that, rather than being instigated by national or supranational authorities and having substantial, centralised public investment and 'top-down' policy priorities, CSIRO's Missions Program was instigated by the organisation itself, informed by its own impact agenda and drawn from 'crowded-in' investment. In terms of the design and governance of the missions, the emphasis has been on co-designing mission priorities across diverse stakeholders and using cooperative governance approaches to continuously mediate with the innovation system between converging and diverging agendas. This work has been circumscribed by CSIRO's authority to convene as Australia's national science agency; CSIRO, as part of the playbook development, considered this and other preconditions which enabled the success of the programme.

In CSIRO's conceptualisation of missions, there is a strong focus on the potential for missions to improve the way the innovation system functions. The organisation's Theory of Change, which is central to the playbook, helps the user to work backwards from the 'mission objective' to identify target 'system outcomes', 'network outcomes' and 'institution outcomes' (Image 4).

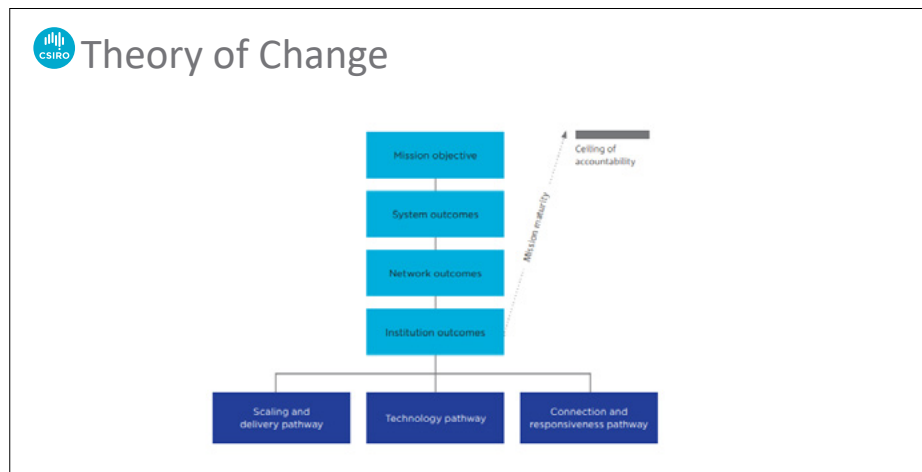


Image 4

Based on the Theory of Change, CSIRO then works up plans for specific missions which articulate core programmes of work and capabilities for mission management, such as the example for the emission reduction mission (Image 5).

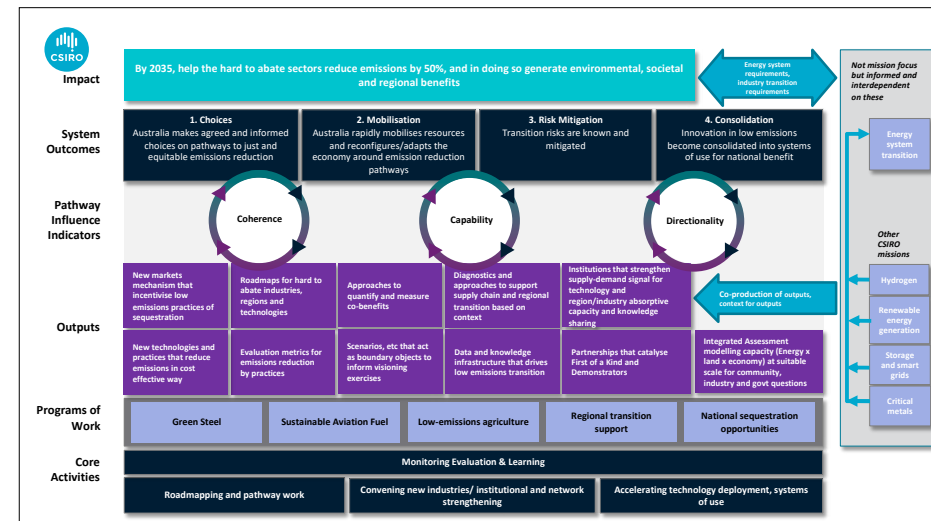


Image 5

Other key features of CSIRO's approach to missions include the use of an iterative design process and a portfolio approach. The design process is based on the acknowledgment that a mission, as originally conceived, will be inherently limited and so the organisation uses a stage-gate process with a series of pathways to encourage continual reconsideration of how a mission can deliver on its impact agenda (Image 6).

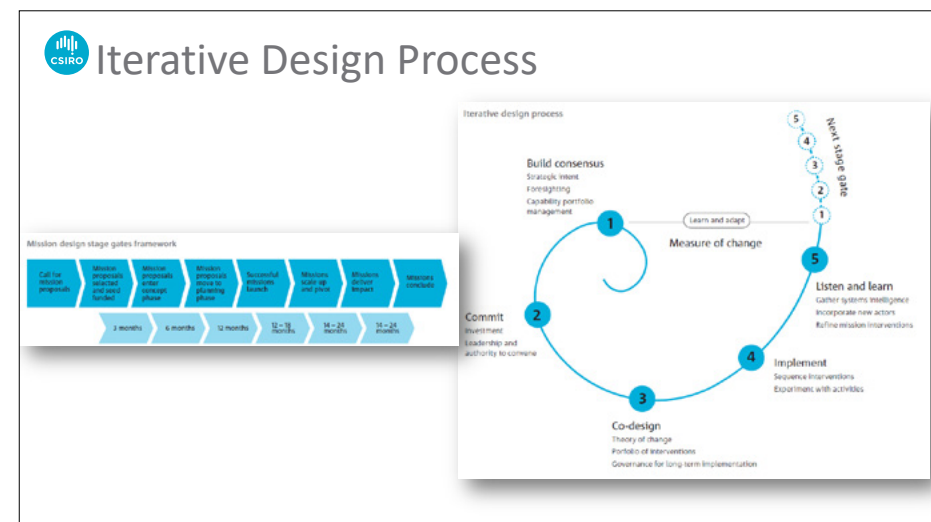


Image 6

The use of a portfolio approach, with multiple live missions, has enabled CSIRO to balance the need for missions to drive accelerated action and to intervene at scale. It shows how a cohort of missions can start to solve problems at scale (Image 7). The approach has also helped them to run experiments and explore synergies and trade-offs between missions, while avoiding silos.

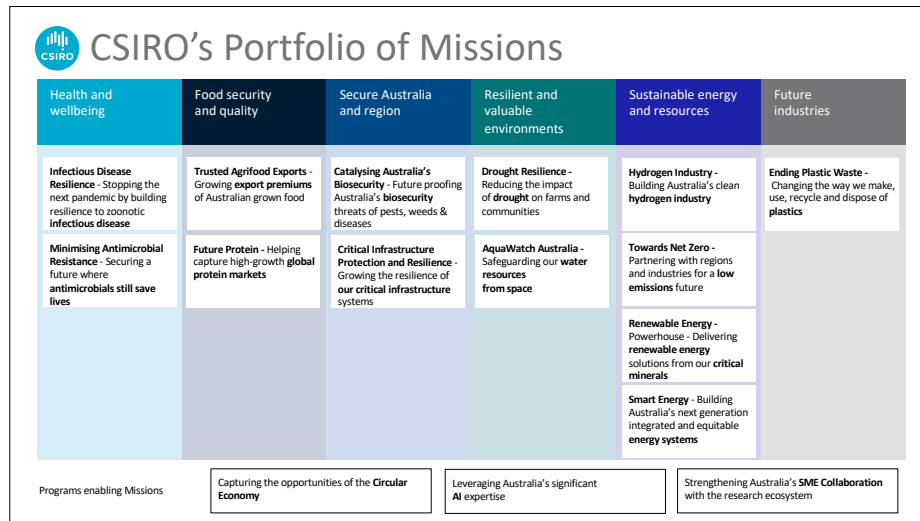


Image 7

The organisation has also been looking at 'mission additionality' in order to understand the impact of missions relative to business-as-usual research programmes. To assess this they have identified five dimensions for monitoring:

1. Acceleration: what accelerated progress towards achieving mission objectives can be discerned?
2. Orchestration: in what ways is innovation system function improving? Are we seeing indications of aligned, coordinated and/or integrated action from system players?
3. Spillovers: what are the fortuitous scientific, technical, societal and organisational innovations that have emerged as a result of mission implementation?

4. Mission configurations: what are we learning about how different mission 'types' intervene differently to achieve impact, and how might that inform current and future missions?
5. Mission portfolio configurations: in what ways are our missions coordinating with one another to orchestrate system directionality or hindering one another's efforts, and how should this inform decisions about the redesign of existing missions or design of new ones?

Some strengths of the Missions Program have included the iterative design process, the 'crowding in' of investment, and the diverse portfolio of missions balancing acceleration and transformation. Looking ahead, there is an identified need to further develop the capabilities and knowledge infrastructure required for sophisticated portfolio management, and to enable an honest interrogation of the question 'whose knowledge and for whose benefit?' CSIRO's next steps will involve moving 'from nodes to networks' – that is to say, transitioning from CSIRO being a central coordinating mechanism to developing self-governing networks of actors (Image 8). There will also be a focus on valuing diverse knowledge systems through integration, cross-fertilisation and co-production of knowledge, and considering the limitations of Western knowledge production.

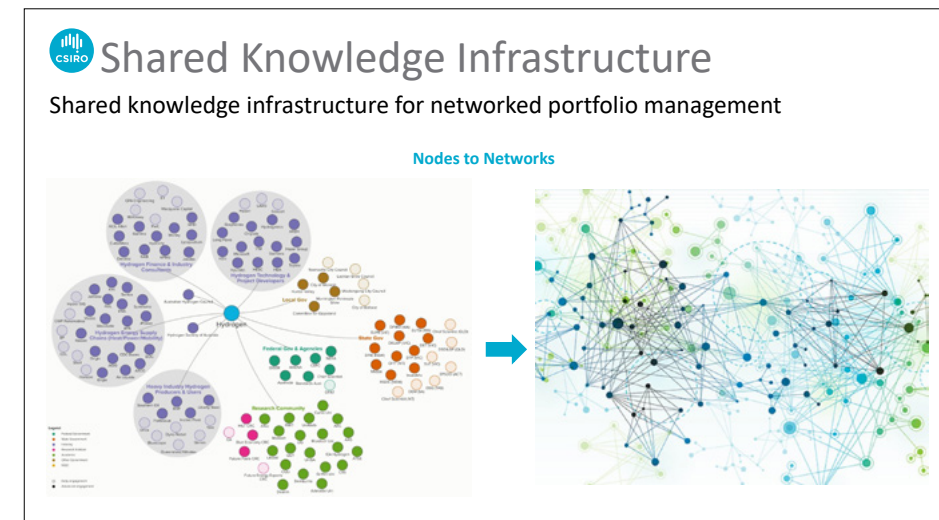


Image 8

CASE 4: Demos Helsinki's Operative Model for Implementing Missions

Presented by **Iacopo Gronchi, Senior Policy Expert, Transformative Governance, Demos Helsinki** and **PhD Candidate, UCL IIPP**

Iacopo Gronchi, in his presentation, shared insights from Demos Helsinki's process of developing an Operative Model for Implementing Missions. The model was developed as part of the organisation's work, in collaboration with IIPP, to support the Finnish Government in developing its mission-oriented innovation approach. This project aimed to help the government close the gap between the theory and practice of missions, in particular by identifying key opportunities and challenges for missions in the Finnish context.

Key lessons:

- Demos Helsinki's model is informed by the need for strategy, tools and heuristics to help practitioners address the local heterogeneous implementation challenges they face.
- It focusses on collating and systematising the diverse tools already existing in the current landscape, as opposed to creating new ones.
- The framework outlined centres on the criticality of knowledge infrastructure, quick learning transitions and creativity to enable successful missions.

The global community of mission practitioners is currently facing numerous local implementation challenges. These include: identifying key targets and timelines for missions; monitoring and evaluating impact; and engaging a wide range of stakeholders via governance structures. Furthermore, navigating implementation challenges is made difficult by the fact that there is no one-size-fits-all solution.

Strategy, tools and heuristics are key for addressing these challenges, especially during mission implementation. Strategy can be understood as 'the link we make between the places in which we operate, the times and ways we mobilise and deploy our resources, and the goals we hope to achieve' (Ganz 2000, p. 1010). The project with the Finnish Government spanned both theory and practice, and was underpinned by mission-oriented innovation theory and experimentalist governance theory.

The model or 'framework' that Demos Helsinki produced centres on the importance of knowledge infrastructure, creativity and quick learning transitions. Knowledge infrastructure is crucial for a mission's success since it refers to the ability of the system to reengineer itself around the production and elaboration of new information. The model identifies four steps (Image 9) for how to stimulate 'learning from diversity,' drawing on an experimentalist lens:

1. Striking a thin consensus: agreeing on the ends of creative action.
2. Devolving problem-solving: trusting and bringing out the skills and capabilities of others.
3. Ensuring peer learning: making sure each actor has visibility of other parts of a mission.
4. Embedding information: as opposed to only focussing on summative evaluation.

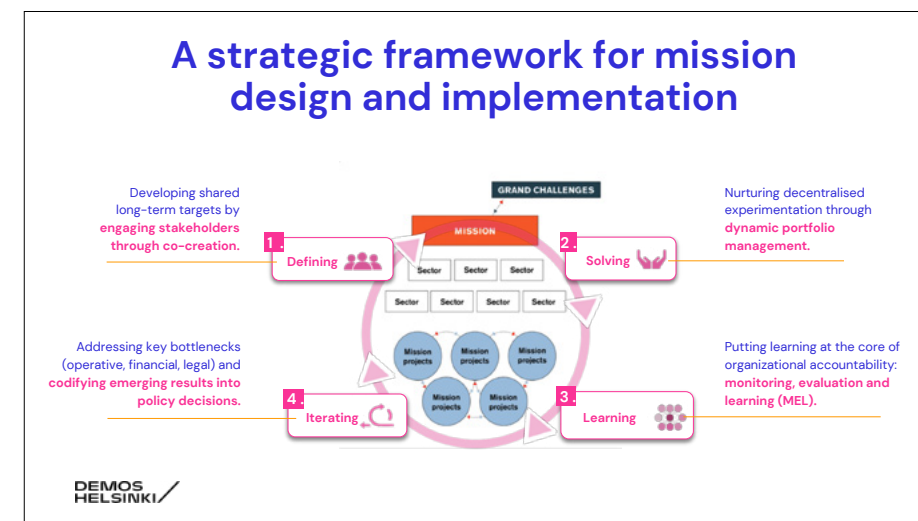


Image 9

For each of the four steps, the framework collates examples of associated tools, such as sensemaking workshops, impact pathways and organisational reforms (Image 10). Rather than developing new tools themselves, Demos Helsinki has focussed on bringing together existing efforts in the space, spanning academia, government, think tanks and other sectors.

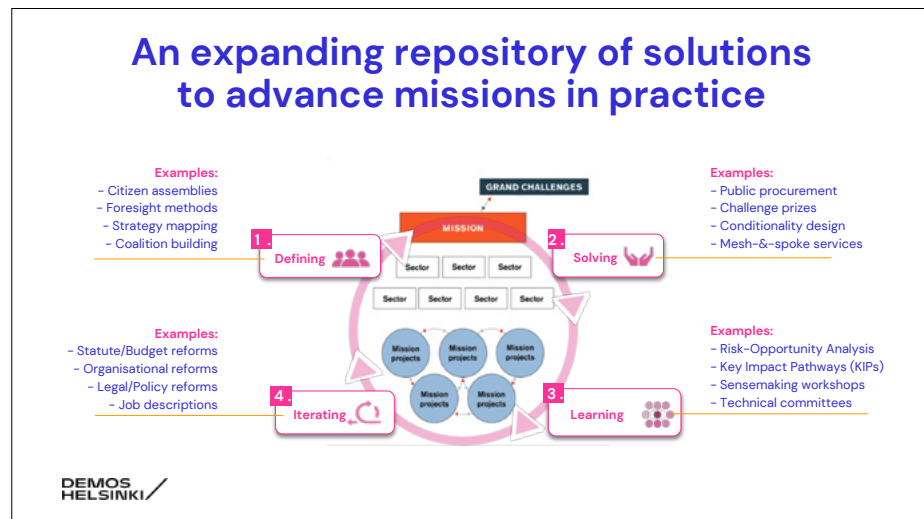


Image 10

The project has also involved identifying learnings from successful missions of the past, including those not explicitly labelled as 'missions'. In particular, the team from Demos Helsinki has sought to extract the distinctive logic of governance from these examples, so as to inform future work. This list outlines some governance lessons identified across three key mission cases:

- Case: US Defence Advanced Research Projects Agency (DARPA)'s Network Approach (Fuchs 2010)

Lessons: Operationalisation of programmatic technological challenges into sub-research programmes; strong autonomy given to programme directors; regular assessment of results; collective learning; and interaction between grantees and project managers.

Result: Development of the Internet, GPS, SIRI and other applications.

- Case: California's Zero-Emission Programs in the 1990s (Sabel and Victor 2022)

Lessons: Development of stringent standards for vehicles to reduce emissions; devolution of choice over technologies to local actors; regular reviews of technological feasibility of targets and subsequent adjustments; and monitoring and evaluation of car manufacturers' R&D efforts.

Result: The initiation of hybrid and electric vehicle industries.

- Case: Finland's Education System (Sabel et al. 2011)

Lessons: Broad national curriculum; empowerment of schools and teachers to give autonomy over implementation of goals; revision of national curriculum using 'bottom-up' results; and stimulation of peer learning and exchange.

Result: Finland's world-class education system.

The diversity of these three cases exemplifies how there are no fixed blueprints for successful missions. Demos Helsinki's model, therefore, does not suggest a 'one-size-fits-all' solution. Rather, it aims to help mission managers in two ways: first, by developing a strategic overview of the critical functions underpinning successful implementation; and, second, by providing them with a repository of alternative solutions they can draw upon creatively to strengthen their execution. In this way it maintains that public managers play a major role in envisioning and embedding context-sensitive solutions for leading missions in their particular operating environment (Image 11).

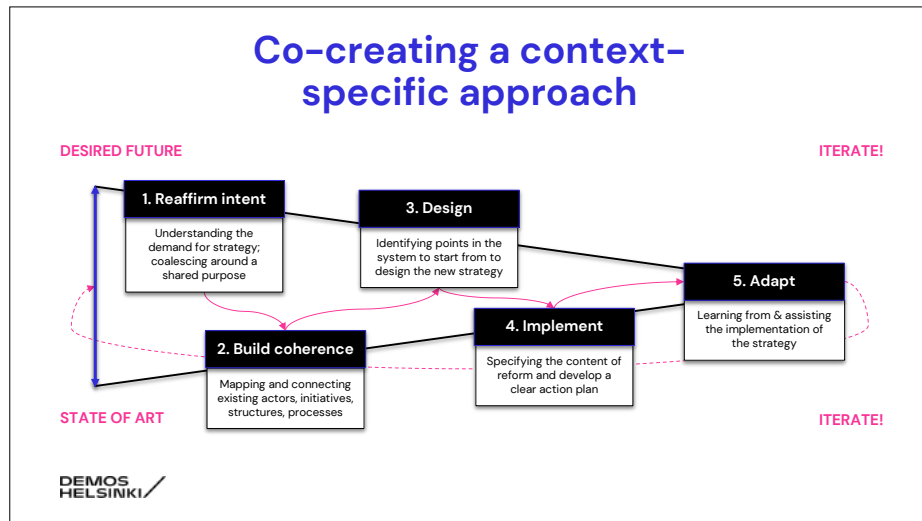


Image 11

While there are countless ways through which public managers can institutionalise a fit-for-purpose approach to missions, Demos Helsinki's model highlights three 'leverage points' that public managers can use in their organisation at a macro-level, by transforming its 'governance' structures; at a meso-level, by expanding its 'policy toolkit'; and at a micro-level, by strengthening individual/collective skills through 'capacity building' (Image 12).

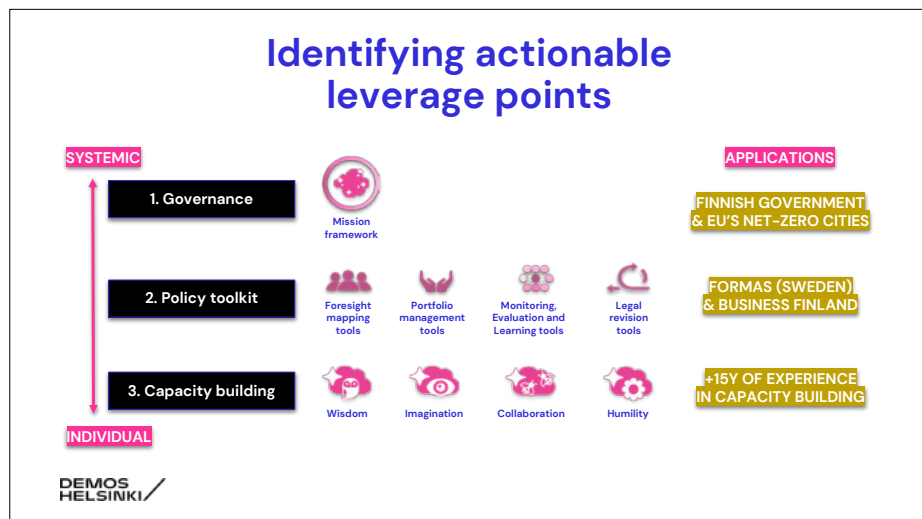


Image 12

3. Lessons from practice: tools for missions

Understanding the contexts, current practice and needs of practitioners is critical to effective design, development and implementation of tools and resources and, therefore, has been a core pillar of our analysis. This is based on ongoing engagement with MOIN practitioners via survey questions, interviews and more informal discussions, as well as secondary data on mission-oriented innovation practice more broadly, in particular the Mission-Oriented Needs Assessment Survey (OECD and Danish Design Centre 2022). Although the analysis has centred on the application of policy toolkits and tools in mission-oriented policy practice, there are transferable learnings for policy-related resources more generally. Our research has focussed on three main areas of enquiry:

1. Contexts: what are the operational contexts and environments in which practitioners are or could be using tools?
2. Current practice: which tools are practitioners already using in their work and how?
3. Existing and future needs: what do practitioners need in terms of tools for them to be effective?

The remainder of this section sets out the key observations from our research into each of the above three questions.

3.1 Contexts

Research observation 1

A significant proportion of mission practitioners identified as being in the 'implementation' phase.

In a survey circulated to MOIN members in May 2023, 43% of respondents identified themselves as being in the 'implementation' phase of a mission (Figure 2). In the 2022 OECD and DDC survey on mission-oriented innovation needs, an even greater proportion, 65%, self-defined as being engaged with implementing missions. This could mean developing mission portfolios, implementing initiatives, or anything else associated with putting missions into practice.

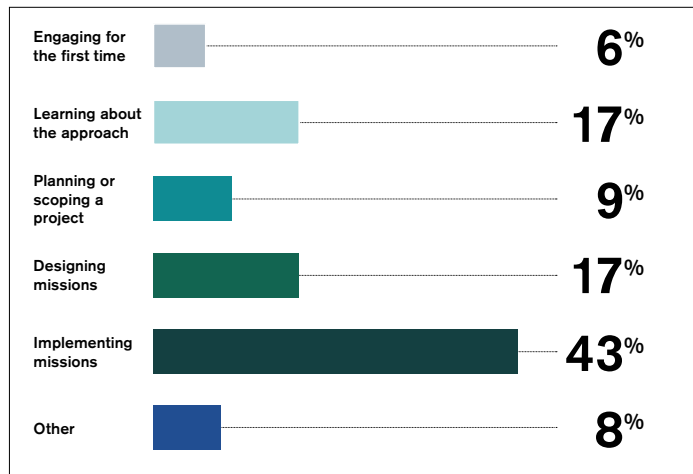


Figure 2. MOIN members by stage of mission development and implementation (MOIN survey 2023)

Research observation 2

In conversations about tools, practitioners emphasised the importance of organisational and contextual factors.

The centrality of the organisation in tool deployment (and conceptualisations of tools) emerged clearly in discussions with practitioners. This is exemplified by a quote from one respondent, who, when asked about the sorts of tools he uses, responded, ‘Our main tool is the organisation itself.’

More broadly, contextual factors were identified as instrumental to tool usage, and practitioners highlighted the need for tools to adapt and evolve as contexts change. One practitioner commented, ‘One thing we’ve learned in using MOI tools at [my organisation] is nothing is ever stable/replicable. It’s a constant process of adaptation/iteration across missions in our portfolio and for individual missions across their journey.’

Specific references included the importance of having the skills, resources, teams and organisational support needed to identify and apply tools effectively.

‘Our main tool is the organisation itself.’

Research observation 3

Tools are often a means of responding to a specific challenge or question.

In discussions, practitioners were asked to describe situations in which they looked for tools. In most of the responses, it was apparent that the starting point was a question or challenge — and therefore that the impetus to find a tool was closely tied with the need for a resolution or response. ‘We go to tools with specific needs or questions in mind,’ said one interviewee. Another practitioner explained that they often turn to tools when scoping a new project, problem or approach in order understand best practice and potential strategies.

‘We go to tools with specific needs or questions in mind.’

3.2 Current practice

Research observation 4

Best practice, methods and tools for implementing mission-oriented policies are perceived as emergent.

Our analysis identified a general perception that mission-oriented innovation is an emergent field and so operationalisation of the approach can be challenging. Many of the tools and resources in the space are therefore still being developed, tested and iterated. These views are reflected in the DDC/OECD survey which outlines that ‘working with mission-oriented innovation is a new and emerging field which still lacks good practices, tools and methodologies.’

At the same time, our engagement with practitioners has suggested that there is strong demand for (or at least an interest in) tools that can support mission-oriented approaches.

In a 2022 MOIN member survey, out of nearly 20 potential areas of assistance identified by IIPP, the following five received the most votes (in order of popularity): monitoring/evaluation/impact assessment; methods and tools; legitimacy and consensus building with stakeholders; mobilising the ecosystem; and collaboration across silos (Figure 3). This demand for

tools is also reflected in data from the previously mentioned OECD/DDC survey in which 'skills, methods and capacity' was selected by practitioners as the most common area requiring external help (chosen by 67.5% of respondents).

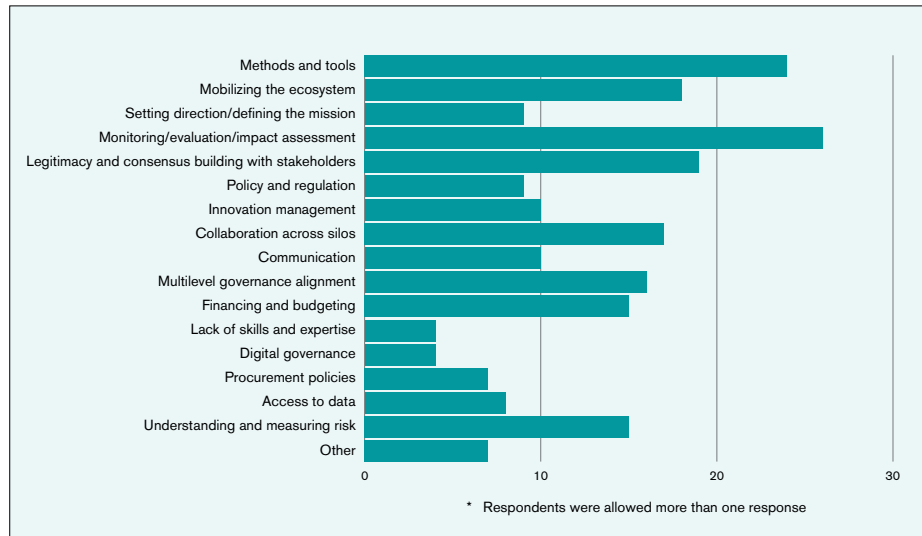


Figure 3. Areas MOIN members identified as requiring 'external help' (MOIN survey 2022)

Research observation 5

There is diversity in the types of tools practitioners are using, which extends beyond digital and physical resources.

In the context of a perceived lack of tried-and-tested methods and best practice, our research showed that mission practitioners are developing and applying a breath of tools and materials to inform their work (Figure 4).

This was particularly evident in IIPP's Tools Learning Series, discussed in the second section of this report. In the first workshop of the series, participants emphasised that their tool usage extends beyond physical or digital materials. As visible in the workshop poll responses (Figure 5), the 'tools' MOIN members are using include theories (for example, feminism); communities (for example, communities of practice and calls); and processes (for example, governance and participatory processes). As mentioned in the introduction, insights like these from practitioners have incited us to broaden the remit of our analysis to extend from mission-oriented policy 'toolkits' to 'tools' and 'resources' in their many forms.

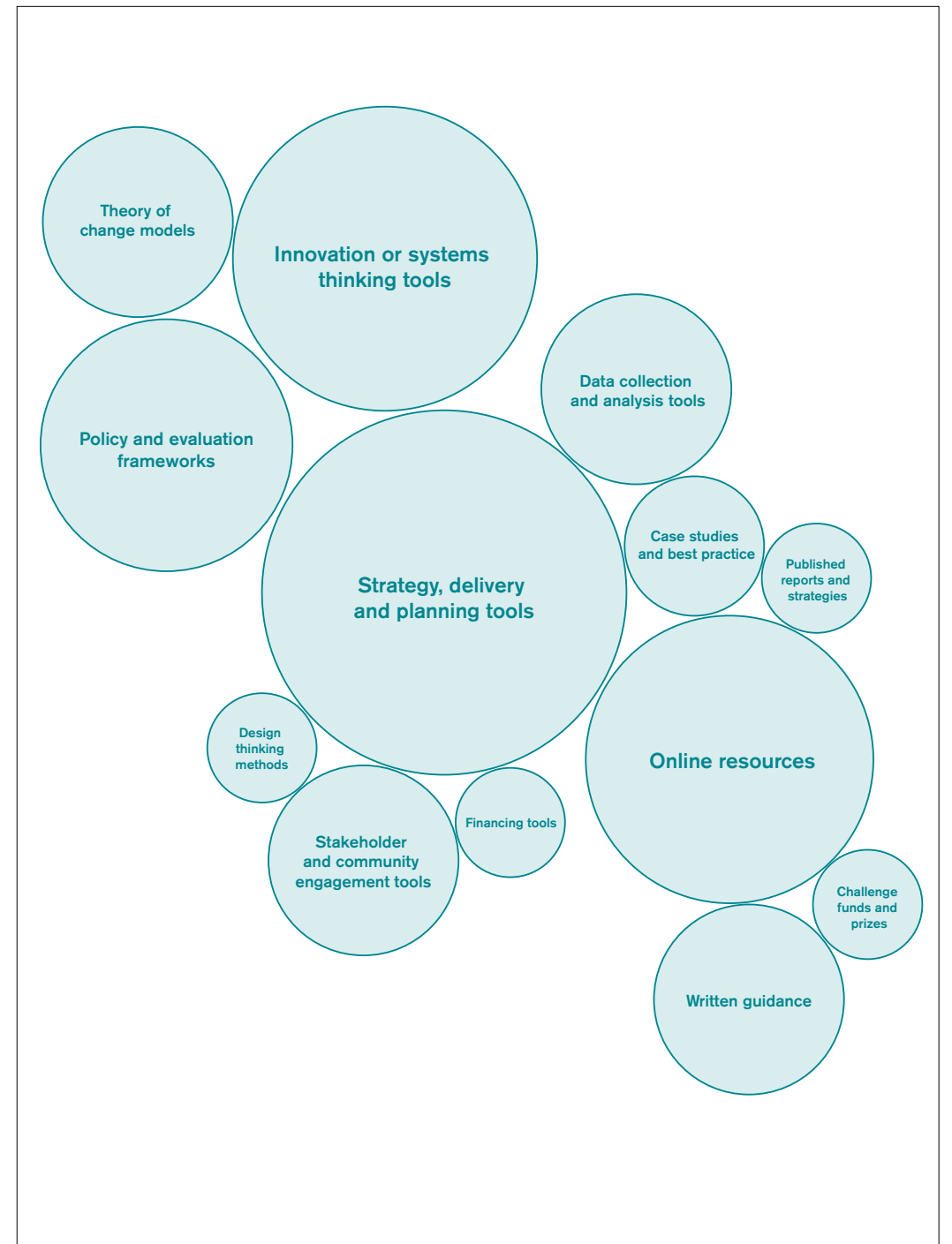


Figure 4. Tools practitioners are using to design and implement missions (MOIN survey 2023)

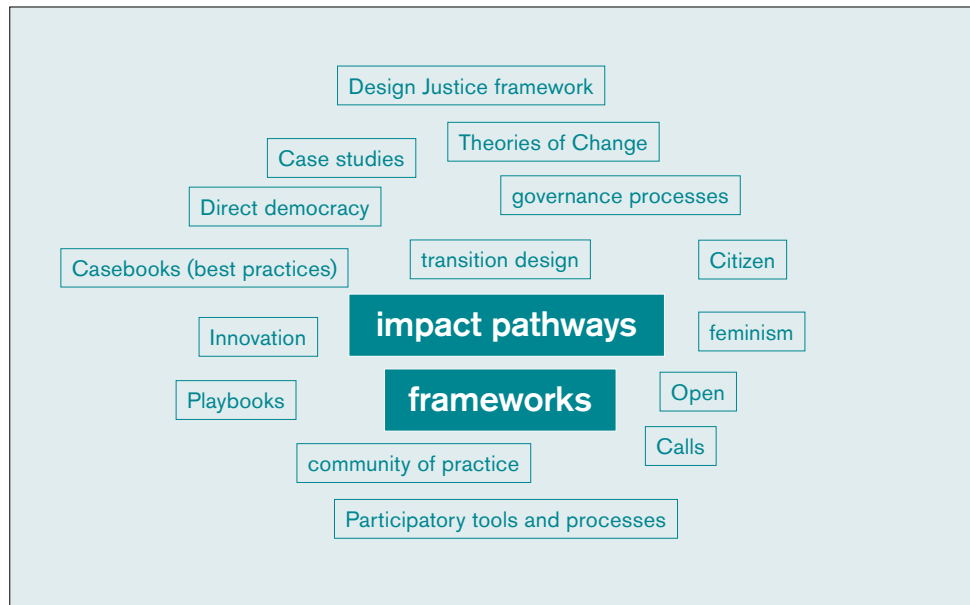


Figure 5. Responses to 'what tools do you use in your work?' (MOIN workshop poll)

Research observation 6

Many practitioners are developing their own tools to reflect on, share and codify practice.

It also became clear that practitioners are not only taking tools from elsewhere, but also creating their own. 'We often make tools to codify what we've already done,' said one interlocutor. This process of developing, adapting and sharing tools was perceived as a way of reflecting on, codifying, iterating and exchanging practice — both within one's own organisation and externally. This is exemplified by a quote from one design agency official who said, '[Toolkits are] a way to reflect on what we're doing in action.'

The tools that the practitioners we interviewed are developing included: theories of change; mission maps; design tools such as prototyping and canvassing; governance models; digital open-source software; participation tools; stakeholder maps; and data management and sharing tools.

'[Toolkits are] a way to reflect on what we're doing in action.'

3.3 Existing and future needs

Research observation 7

The challenges practitioners are facing vary significantly with context, but there are common threads.

Research observation 3, highlighted earlier in this section, described how practitioners' tool usage is highly challenge-driven. Since challenges tend to be closely tied to organisational and contextual factors, such as relationships with stakeholders, buy-in from senior management, organisational structures or the external innovation landscape, they can vary greatly according to context. Furthermore, the scope and nature of each organisation's mission(s) will differ too: in the MOIN survey 2022 there was significant variation among the priority projects being worked on by MOIN members (Figure 6) and, in the DDC/OECD survey, health, social, environmental and technological challenge types were selected almost equally.

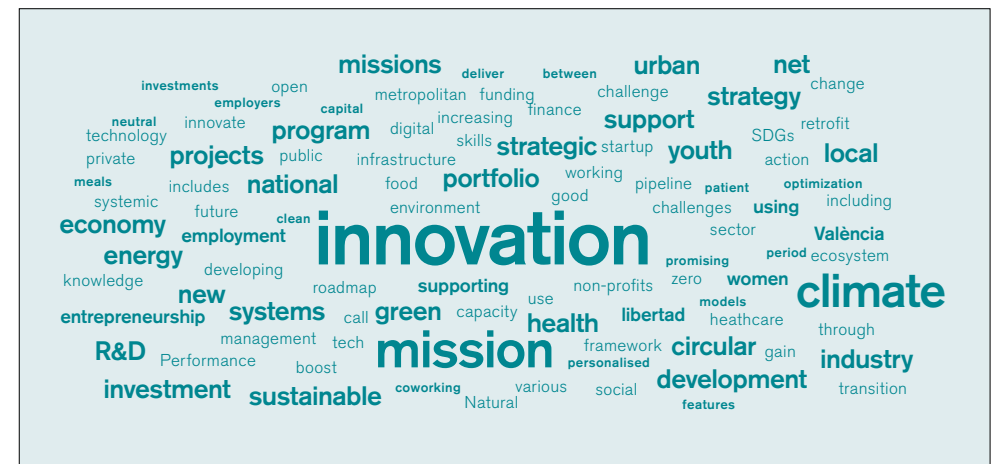


Figure 6. Common words in responses to 'list your three priority project(s) you are currently working on' (MOIN survey 2022)

In principle, this variety could pose challenges for the development and implementation of tools, which may rely on a degree of generalisability between use cases. Yet from the analysis we conducted some commonalities between the challenges mission practitioners are facing did emerge: these can be understood as 'challenge clusters' — challenges which are not identical due to contextual variations, but share core features.

The clusters identified from the MOIN survey 2023 are visualised below (Figure 7).

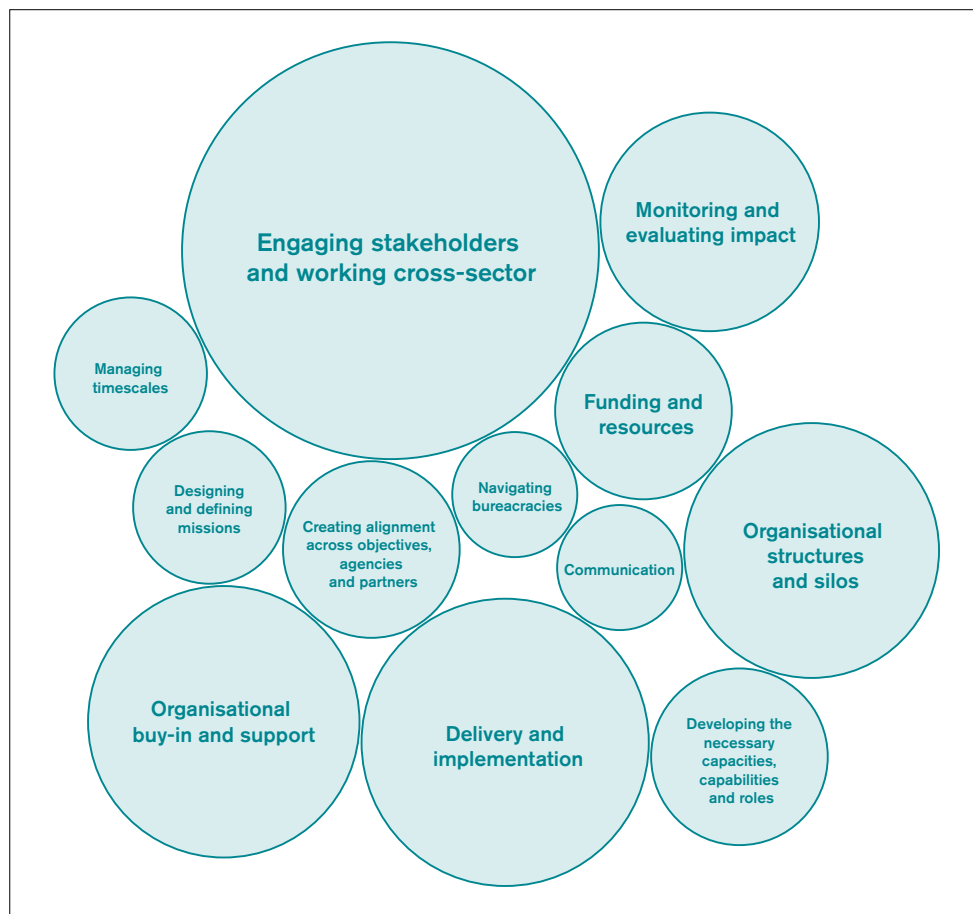


Figure 7. Common challenges encountered when practising missions (MOIN survey 2023)

The OECD/DDC survey also identified some key challenge groups, including: financial challenges (for example, lack of targeted resources); structural challenges (for example, budgeting timelines); political challenges (for example, electoral cycles); methodological challenges (for example, lack of evaluation tools); challenges associated with the mission roadmap (for example, balancing short- and long-term projects); and, lastly, the risk of failing due to silos and lapses of momentum or support.

The survey also solicited feedback on 'methodological challenges' in which lack of a concrete governance framework was identified as the

greatest challenge, followed by a lack of policy learning platforms/networks and evaluation tools. Respondents were also asked about the areas in which they need 'external help'. This solicited a range of responses, with 'skills, methods and capacity' being the most common. However, not all these responses were consistent with the challenges identified, perhaps suggesting that some challenges are perceived as better suited to external help than others.

Research observation 8

Practitioners expressed the need for case stories of missions in action.

The toolkit typology outlined earlier in this report (Figure 1) identifies four main functions of toolkits in the current landscape. These are: *collation* (of resources into a single central location), *systematisation* (of theory, knowledge and tools into a process or component parts), *exemplification* (of cases or approaches) and *education* (in necessary skills, knowledge and techniques). Using this typology as a framework, the MOIN survey 2023 asked respondents which types of tools they found to be effective. Of the four typologies, 'casebooks' was selected most frequently with a fairly even spread across all options (Figure 8).

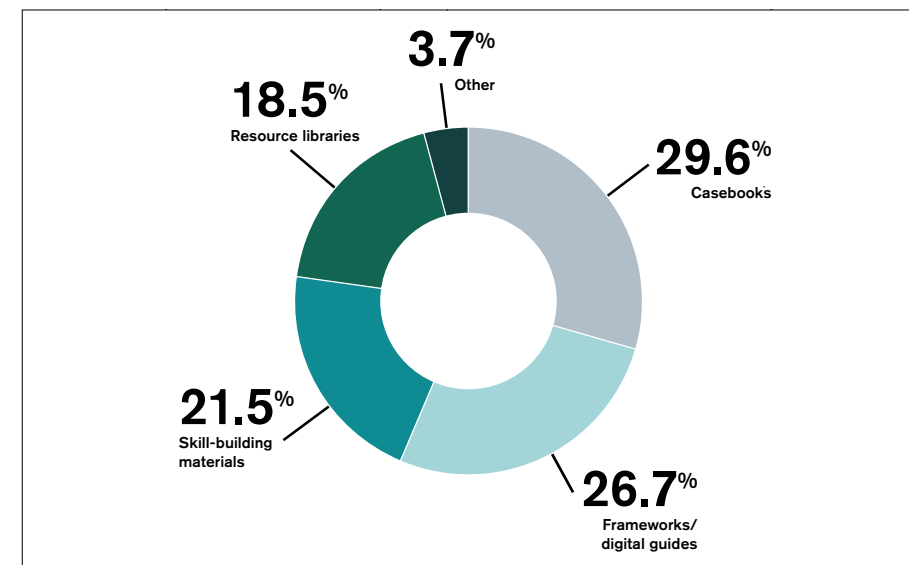


Figure 8. Types of tools MOIN members said they would want or need in future (MOIN survey 2023)

The demand for cases and examples of mission-oriented innovation policy was also apparent in discussions with practitioners. In most conversations, case studies were identified as important tools. The uses of these cases ranged from providing inspiration to demonstrating best practice when scoping a project, or informing potential responses to a problem or barrier.

‘[Toolkits are] a way of codifying [practice] and making it transparent and shareable for others.’

Research observation 9

Clarity and context were seen as key to a tool’s utility.

Several of those we spoke to noted that contextualising and applying cases to a given challenge, project or context can be difficult — and one interviewee explained why the framing of tools is especially important. She explained that ‘case studies often lack context and detail on the “why”.’

It seemed that, for practitioners, much of the value of tools and toolkits is in their potential to present information with clarity and concision, and in a practice-oriented way. They can help busy practitioners to respond to often urgent challenges, quickly, rather than spending time searching for the information they need.

‘We don’t have time to read long reports.’

Conclusion

Our research revealed a community of practitioners who are committed to exploring, utilising and contributing to a growing field of policy tools and toolkits in the mission-oriented innovation space. In their tool usage and needs, they appeared to be highly challenge-driven, and to require tools that are framed and curated in a focussed, contextually relevant, practice-oriented way. Notably, the centrality of organisational and contextual factors in tool usage emerged as key; discussions highlighted a need to ensure necessary skills, organisational conditions, resources and capacities as pre-requisites for productive tool deployment. Practitioners also exhibited a broad conceptualisation of tools that includes not only physical and digital materials, but also a variety of other processes, theories, methods and communities, which play a significant role in supporting their work.

Given identified challenges to the implementation of missions and the emergent nature of best practices, there is a particular demand for resources that provide example cases of the approach in action. This is accompanied by an interest in using tools as a means of organisations reflecting on, codifying and sharing practice, both internally with others. Although there is significant variation among the challenges practitioners face, some common threads emerged, providing strong opportunities for tool development and deployment to support practitioners to overcome such challenges.

In terms of the external landscape, the last three years has revealed an emerging cohort of policy toolkits and resources, designed to support practitioners in mission-oriented policy applications. Many such resources focus on sharing and reflecting an organisation’s own practice (exhibiting an exemplification function), with the caveat that these practices are still evolving as part of an ongoing process of self-reflection, learning and iteration. There is also a tendency to break missions down (via systematisation) into key ‘functions’, ‘dimensions’ or ‘pillars’, while balancing this with the need to avoid prescriptive, linear approaches (for example, step-by-step blueprints) that omit the need for thorough contextualisation.

All the toolkits analysed involve *collation* of tools that vary considerably in discipline, method and format, although design-led approaches stand out as prominent. Most of the mission-oriented toolkits draw on a recent programme or collaboration carried out first-hand by creator organisations;

currently, these organisations are design, innovation and government agencies, think-tanks and research institutes, though some of the projects featured were in partnership with government departments.

Such observations, about both the current landscape and practitioner needs vis-à-vis mission-oriented policy resources, can be seen as reflective of the state of mission-oriented approaches currently. Rather than organisations adopting a uniform approach drawn from established best practice, missions are being implemented in varied ways with implementation heavily dependent on contextual factors (Kattel and Mazzucato 2023, p.13). In this sense, it is no surprise to see a community of policy practitioners and analysts using digital formats to collate and share lessons, tools and experiences, while simultaneously acknowledging the limitations and caveats associated with doing so. Although these resources are an important means of starting to codify diverse and evolving practice, they can only go so far in helping organisations navigate the complex, contextually dependent challenges to mission implementation that they face.

Annexe A

Examples of policy toolkits in the current landscape

- [Government as a System toolkit](#) — Policy Lab, UK Government
- [Open Policy Making toolkit](#) — Cabinet Office, UK Government
- [Innovation Policy Toolkit](#);
[Innovation Toolkit: Science and Innovation Network](#);
[DIY Toolkit](#);
[Engaging with evidence toolkit](#) — Nesta
- [System-shifting design](#) — Design Council
- [Going Digital Toolkit](#);
[Housing Policy Toolkit](#) — OECD
- [Atlas of Economic Complexity](#) — Growth Lab, Harvard University
- [TIP Resource Lab](#) — Transformative Innovation Policy Consortium
- [Circular economy introduction](#);
[Circular design guide \(with IDEO\)](#) — Ellen Macarthur Foundation
- [Tools page](#) — Doughnut Economics
- [Anticipatory Innovation Starter Kit](#) — LabX, Centre for Innovation in the Public Sector
- [Practice guides](#) — Australian Education Research Organisation
- [New Days: Future Kit](#);
[Tools and methods](#) — Danish Design Centre
- [Collective Action Toolkit](#) — frog
- [Toolkit on Digital Transformation for People-Oriented Cities and Communities](#) — International Telecommunication Union
- [Futuremaker's Toolbox](#) — SITRA

References

- Fuchs, E.R.H. (2010). Rethinking the role of the state in technology development: DARPA and the case for embedded network governance. *Research Policy*, 39(9), pp. 1133–1147. Available at: <https://doi.org/10.1016/j.respol.2010.07.003>
- Ganz, M. (2000). Resources and Resourcefulness: Strategic Capacity in the Unionization of California Agriculture, 1959-1966. *American Journal of Sociology*, 105(4), pp. 1003–1062.
- Kattel, R. and Mazzucato, M. (2023). *Mission-oriented innovation policies in Europe: From normative to epistemic turn?* UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2023-09).
- Mazzucato, M. (2016). From market fixing to market-creating: a new framework for innovation policy. *Industry and Innovation*, 23(2): 140-156.
- Mazzucato, M. (2018). Mission Oriented Innovation Policy: Challenges and Opportunities. *Industrial and Corporate Change*, 27 (5): 803–815.
- Mazzucato, M. (2018). *Mission-oriented research & innovation in the European Union*. Available at: <https://op.europa.eu/en/publication-detail/-/publication/5b2811d1-16be-11e8-9253-01aa75ed71a1/language-en>
- Mazzucato, M. (2019). *Governing Missions in the European Union*. European Commission, Directorate-General for Research and Innovation.
- Mazzucato, M., Conway, R., Mazzoli, E., Knoll, E and Albala, S. (2020). *Creating and measuring dynamic public value at the BBC*. UCL Institute for Innovation and Public Purpose, Policy Report.
- Mazzucato, M. and Dibb, G. (2019). Missions: A Beginner's Guide. UCL Institute for Innovation and Public Purpose, Policy Brief.
- Sabel, C. et al. (2011). *Individualized service provision in the new welfare state: lessons from special education in Finland*. Helsinki: Sitra. Available at: <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=b10e582d5fb11867f306f5257396ca1d8c51af36>
- Sabel, C. and Victor, D.G. (2022). Innovation at the Technological Frontier: Three policy icons and a common approach to uncertainty. In *Fixing the Climate*. Princeton University Press, pp. 74–105. Available at: <https://doi.org/10.1515/9780691224541-006>

Resources

- [Convening Missions Playbook](#) – Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- [Missions Playbook](#) – Danish Design Centre (DDC)
- [An Operative Model for Implementing Missions](#) – Demos Helsinki
- [Mission-Oriented Innovation Policy for Transformative Change Toolbox](#) – Fraunhofer Institute for Systems and Innovation Research ISI
- [Mission-Oriented Innovation Policies Online Toolkit](#) – Organisation for Economic Co-operation and Development (OECD)
- [Mission-oriented needs assessment survey](#) – Organisation for Economic Co-operation and Development (OECD) and Danish Design Centre (DDC)
- [Mission-Oriented Innovation Network \(MOIN\) Resource Guide](#) – UCL Institute for Innovation and Public Purpose (IIPP)
- [Designing Missions](#) – Vinnova

Images

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About the Institute for Innovation and Public Purpose (IIPP)

The Institute for Innovation and Public Purpose (IIPP) at University College London (UCL) aims to develop a new framework for creating, nurturing and evaluating public value in order to achieve economic growth that is more innovation-led, inclusive and sustainable. This requires rethinking the underlying economics that has informed the education of global civil servants and the design of government policies. Our work feeds into innovation and industrial policy, financial reform, institutional change and sustainable development. A key pillar of IIPP's research is its understanding of markets as outcomes of the interactions between different actors. In this context, public policy should not be seen as simply fixing market failures, but also as actively shaping and co-creating markets. Re-focusing and designing public organisations around mission-led, public purpose aims will help tackle the grand challenges facing the 21st century.

IIPP is a department within UCL – and part of The Bartlett, which consistently ranks in the top two faculties for architecture and the built environment in the world

About the Mission-Oriented Innovation Network (MOIN)

The Mission-Oriented Innovation Network (MOIN) is IIPP's policy network and learning platform which brings together global public sector organisations to share the challenges and opportunities they face when stepping outside the market fixing box into a market-shaping role to respond to bold, difficult and complex 'grand challenges' such as climate change, ageing societies and preventative health care. MOIN promotes the role of governments as creators of value and aims to catalyse the potential of governments to tackle such grand challenges through directed (or mission-oriented approaches) to economic and growth policies.

