MISSIONS
PLAYBOOK

Stories from practice

Funded by the European Union

VINNOVA

Authors:
Jonathan Nylander
Wolfgang Polt
Matthias Weber

Editor:
Christian Österlind

Reviewers:
Matti Hiltunen
Markus Rankka
Heikki Uusi-Honko

This project has received funding from the European Union's Horizon Europe (call HORIZONMISS-2021-COOR-01) Horizon Coordination and Support Actions under grant agreement No. 101056814.

ISBN: 978-91-89905-07-8
Serial number: VR 2024:05

Contents

01 INTRODUCTION

The grand challenges that society is facing are becoming more visible by the year. At the same time, it is increasingly evident that current responses to these challenges are far from sufficient. The mission-oriented approach to innovation policy has emerged as a framework for addressing these societal problems more effectively. Missions often extend beyond mere innovation, aiming for transformative change. This can be achieved by integrating innovation with sectoral policies. The Missions Playbook explores how policymakers, civil servants, business leaders, and citizen engagement professionals are taking theory into practice.

What are missions?

The mission-oriented approach, or simply ‘missions’, focuses on setting ambitious goals, monitoring their progress, and mobilizing relevant actors to collaborate and contribute towards a **mission statement**.[1]
A mission statement outlines a bold, ambitious and time-bound goal. Once a mission statement is defined, **mission-oriented policies** are used to create an environment that encourages actors to join forces and leverage their unique strengths. This requires systemic public policies that provide direction for innovation activities. Markets will not always generate the necessary innovations for addressing societal challenges. Missions, however, can provide this directionality by aligning a broader set of instruments and actors. This fosters bottom-up experimentation which can lead to the best solutions. It is also crucial to co-create and shape markets with stakeholders to accelerate the diffusion of new solutions.

Mission-oriented policies should prioritize the scaling-up of existing technologies and best practices whenever possible. However, achieving a mission statement often requires substantial improvements to existing approaches or even entirely new, groundbreaking solutions. In these cases, **mission-oriented innovation policies** excel at coordinating and mobilizing resources and actors within the relevant research and innovation systems. According to Mariana Mazzucato, Director of UCL’s Institute for Innovation and Public Purpose, these two perspectives are complementary:

> Missions are also a new way to think about the dynamic interactions between enabling horizontal policies (framework policies around e.g. education, skills, training, research and innovation) and more directed vertical policies (e.g. health, environment, energy). Instead of using vertical policies to ‘pick’ sectors or technologies, the vertical aspect of missions picks the problem. The solution is then reached by stimulating multiple sectors and multiple forms of cross-actor collaborations to work to address those problems using the entire research and innovation value chain, from fundamental research to applied research and cutting-edge innovation.
>
> – Mariana Mazzucato[2]

Putting this into practice requires bold decision-making from policy actors.[3] This involves collaboration with private sector and civil society actors, while navigating trade-offs due to limited resources. Wolfgang Polt, Director of POLICIES, the Institute for Economic and Innovation Research at Joanneum Research, elaborates on the challenges of translating theory into practice:

> Mission-oriented policy will not be successful without including (and fostering) groundbreaking basic research and the diffusion of innovations through the business sector. The key points are to strike the right balance between these different rationales, assign corresponding budgets to them, and liaise them for a given target. These are clearly political choices to decide at the highest levels in our democratic systems. And for these choices, there is a lot to learn from history. After all, missions are not a totally new policy approach.
>
> – Wolfgang Polt

Wolfgang Polt.

1 ”Mission-oriented what? A brief guide to mission terminology”, OECD Mission Action Lab, 2024

2 European Commission, Directorate-General for Research and Innovation, Mazzucato, M., Mission-oriented research & innovation in the European Union – A problem-solving approach to fuel innovation-led growth, Publications Office, 2018.

3 The Missions Playbook use the term ‘policy actors’ to refer to civil servants, policymakers and other relevant policy agents.

From technological to transformative missions

Building on Polt’s point, mission-oriented innovation has a long history that policy actors can learn from. Matthias Weber, Head of the Center for Innovation Systems and Policy at the Austrian Institute of Technology, provides a historical perspective, stating that:

> Mission-oriented research and innovation policy can be traced back to the 1940–50s, if not longer. Back then, missions were mainly about large-scale scientific and technological projects, inspired mostly by a linear understanding of the science-innovation-impact chain, and driven by major conflicts (e.g., Manhattan project), big technological initiatives (e.g., nuclear power, Airbus), national pride (e.g., Moonshot, Concorde), or the fear of national hazards (e.g., the Dutch Delta Plan). However, there are major differences between the missions that we have seen historically and the new generation of missions that we are witnessing today.
>
> – Matthias Weber

As Weber suggests, understanding the context of historical missions is critical. He references Richard Nelson’s classic book, “The Moon and the Ghetto” (1974), which poses a thought-provoking question: if we can land a man on the moon, why can’t we solve the problem of the ghetto? According to Weber, Nelson’s key insight is that “societal problems are much more difficult and complex to resolve than even the largest and most complicated technological challenge.”

The 2010s witnessed a resurgence of mission-oriented innovation but with a renewed focus on tackling societal challenges rather than technological ones. These are often termed ‘transformative missions’ to distinguish them from their historical technology-focused counterparts. It is important to note that this shift presents significant challenges for civil servants and other policy actors, particularly due to the inherent uncertainties involved. Weber elaborates on this challenge, stating that:

> In working with transformative missions, corresponding to Richard Nelson’s notion of “ghettos”, we are much less clear about which solutions can bring about the desired transformation. Often, we are not even entirely clear what the problem is.
>
> – Matthias Weber

Matthias Weber.

The mission-oriented approach

Developing and implementing transformative missions necessitate a different approach from policy actors, referred to here as the **mission-oriented approach**. Perhaps Mariana Mazzucato best captures the essence of this approach when she states:

> A mission is not a single project, but a portfolio of actions that can encourage multiple solutions. A diverse set of different funding instruments will help achieve this, from grants, to prizes, to new forms of procurement, and financial instruments. This will guarantee that public funding is allocated to a diverse set of activities with a focus on complementarities, and avoiding duplication. The process should explicitly be one that admits the tension between the top-down direction setting and the bottom-up explorative approaches. Rather than prescriptive specifications of projects, participants should be given flexibility to propose a variety of solutions for achieving the mission goals and intermediate milestones.
>
> – Mariana Mazzucato[4]

The mission-oriented approach utilizes a toolbox of instruments and practices. As illustrated by Mazzucato in Figure 1, these elements work together in a cohesive way to achieve the mission's goals. A mission statement is framed based on a grand challenge. It necessitates mobilizing actors across relevant sectors and building relationships that foster new collaborations. A combination of various policy instruments must create an environment where these new constellations of actors can experiment and develop innovations that respond directly to the mission statement.

Achieving a mission often necessitates partnerships between public and private actors to develop or improve solutions. Traditionally, mission-oriented innovation involved public agencies using procurement tools. For example, NASA famously limited excess profits by companies developing solutions for the moon landing through contract clauses. A new type of partnership, **mission platforms**,[5] has emerged in the context of transformative missions. These platforms function as structures that convene a diverse group of actors to collaborate on defining and working towards a shared mission statement. They are typically co-funded by public and private entities.

Developing this Missions Playbook revealed several crucial factors. Interviews with TRAMI coordinators Wolfgang Polt and Matthias Weber, along with the research behind each case study, highlighted the following factors that require further attention.

PUBLIC ENGAGEMENT

Mariana Mazzucato emphasizes the importance of public engagement in a mission-oriented approach. A successful mission statement should resonate with citizens, demonstrating how it will improve their lives and communities. Given that transformative missions directly impact citizens, their ability to influence the mission is crucial. This involvement can range from shaping the mission statement itself to contributing as citizen scientists or providing feedback on pilots.

Engaging citizens throughout the innovation process fosters a sense of ownership and prevents alienation often associated with technocratic approaches. The following chapter includes a case study on the AMAI!

4 European Commission, Directorate-General for Research and Innovation, Mazzucato, M., *Mission-oriented research & innovation in the European Union – A problem-solving approach to fuel innovation-led growth,* Publications Office, 2018.

5 "Mission-oriented what? A brief guide to mission terminology", OECD Mission Action Lab, 2024

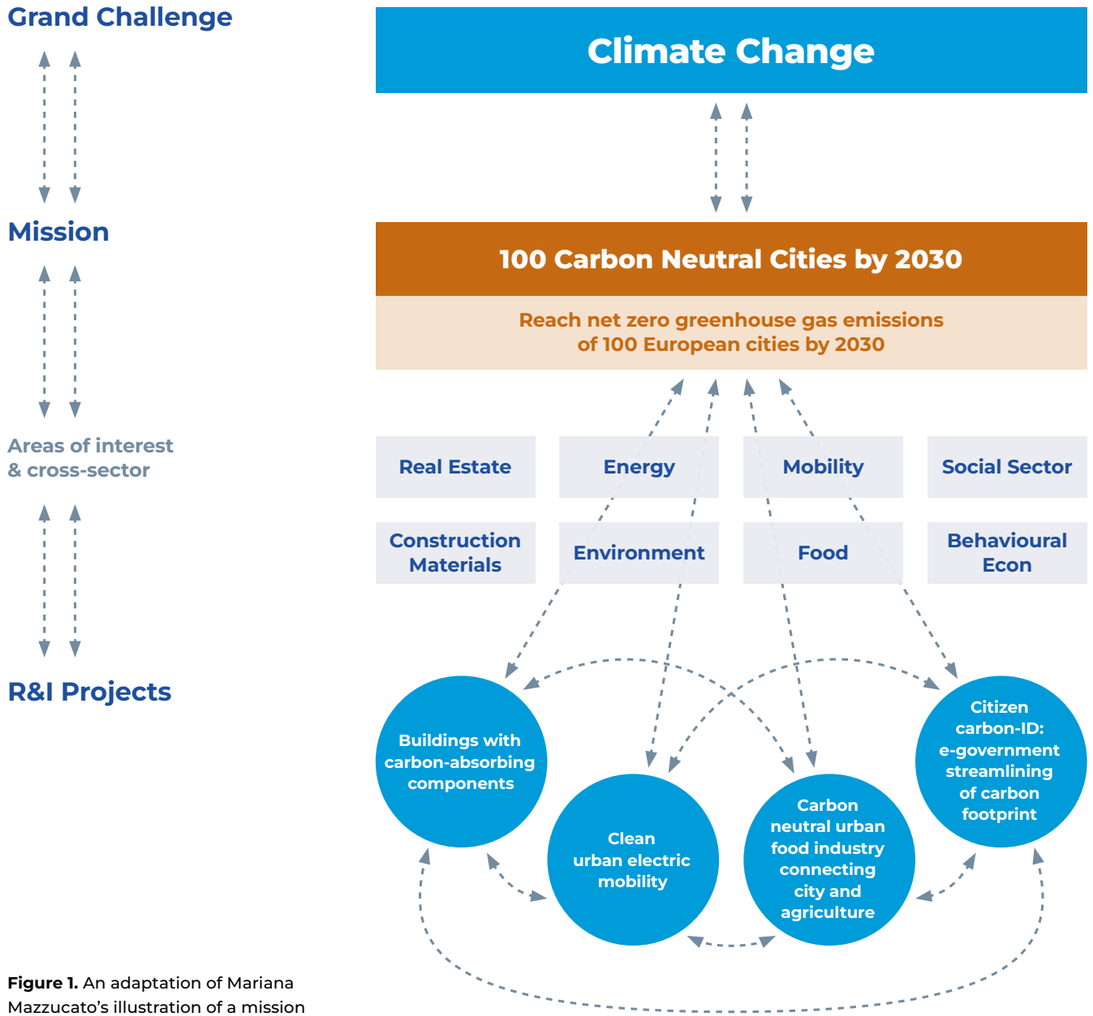


Figure 1. An adaptation of Mariana Mazzucato's illustration of a mission structure.[4]

6 European Commission, Directorate-General for Research and Innovation, Mazzucato, M., *Mission-oriented research & innovation in the European Union – A problem-solving approach to fuel innovation-led growth,* Publications Office, 2018.

project in Flanders (page 50), showcasing how citizen involvement can be integrated into every stage of the innovation process, even in complex topics like artificial intelligence.

GOVERNANCE

Involving a wide range of actors in the mission-oriented approach requires careful consideration of governance structures. While scientific and technological missions might function with a technocratic approach, transformative missions require the perspectives of all relevant actors to understand the problem and foster a sense of ownership. Wolfgang Polt argues that the key challenge for transformative missions is not a lack of knowledge about the goals or solutions, but rather:

> ...it is primarily, today as during Nelson's time, a problem of the political structures and processes, how we identify problems, prioritize them and establish the conditions in which we get to solutions. In short, it's a governance problem.
>
> – Wolfgang Polt

The following chapter explores solutions to this governance challenge. On page 16, a case study details how the Austrian national government leveraged existing institutions to create a new framework for governing the five EU missions. Additionally, the case study on Business Finland's Leading Companies initiative (page 38) demonstrates how establishing mission platforms can be integrated into governance structures.

EXPERIMENTATION AND LEARNING

Policy actors traditionally shy away from failure. However, complex challenges with no easy answers require experimentation, which inherently involves setbacks. It is crucial not only to tolerate failures but also to establish structures that learn from them and share those lessons. Matthias Weber emphasizes this shift in mindset:

> It is important that spaces for reflection are continuously provided to engage actors and stakeholders in a reflexive exercise. This is an important shift away from a planning-based implementation philosophy towards a kind of agile and adaptive implementation mode. And I think that adopting this new mode of implementing transformative missions marks a major change in an administrative environment that has been dominated by planning mode for decades.
>
> – Matthias Weber

In the Leading Companies case study, policy actors and business leaders experiment with new policy tools and practices. This allows companies to adapt their offerings towards the mission's goals. Such experimentation fosters the rapid adoption and diffusion of existing and new, adapted technologies. The AMAI! project further highlights the value of learning from failures. By rapidly iterating on program design based on lessons learned, project outcomes can be continuously improved.

CAPABILITIES

The mission-oriented approach demands a skillset distinct from what most policy actors are trained in. A mission-oriented approach must balance bringing new talent into the public sector and training civil servants in new methods. Matthias Weber emphasizes the need for a broader skillset:

> Transformative missions imply that you need different kinds of capabilities and capacities in governance. This approach requires you to draw on a much wider range of actors and stakeholders to get involved in transformative missions, well beyond the realm of science and industry, which was the mantra 25 years ago.
>
> – Matthias Weber

The case in Blekinge, Sweden, exemplifies this. Here, civil servants are adapting to service design methodologies, but progress is hampered when other involved actors lack the capacity to work in this new way.

"As humans, we naturally learn from stories. For this reason, this Missions Playbook aims to tell the stories of civil servants, business leaders, or other professionals working on parts of the puzzle that is the mission-oriented approach."

– JONATHAN NYLANDER, NATIONAL CONTACT POINT FOR EU MISSIONS, VINNOVA

The TRAMI Missions Playbook

Just like a playbook in sports or business that outlines winning strategies, the TRAMI Missions Playbook equips policy actors at all levels of government with practical lessons for implementing missions. Unlike many academic or abstract treatments of the mission-oriented approach, the Missions Playbook prioritizes storytelling. We learn best from experience, and this playbook captures the real-world experiences of civil servants, business leaders, and other professionals working on various aspects of mission-oriented innovation. The case studies presented here don't depict perfect implementations of the approach. Rather, each one represents a critical piece of the puzzle. By understanding these diverse experiences, readers can adapt and assemble the pieces to fit their specific contexts.

The playbook is built on the cumulative work done by partners in the TRAMI (Transnational cooperation on the Missions Approach) project. The project's 'Mutual Learning Events' brought together diverse groups of actors involved in implementing missions at regional, national and European levels. These events provided valuable insights into the most common challenges and questions faced by European policy actors. The most common questions are paired with relevant case studies, primarily drawn from the use cases developed by TRAMI collaborators. Additional desk research and interviews with the key individuals from each case provided further depth for the following chapters.

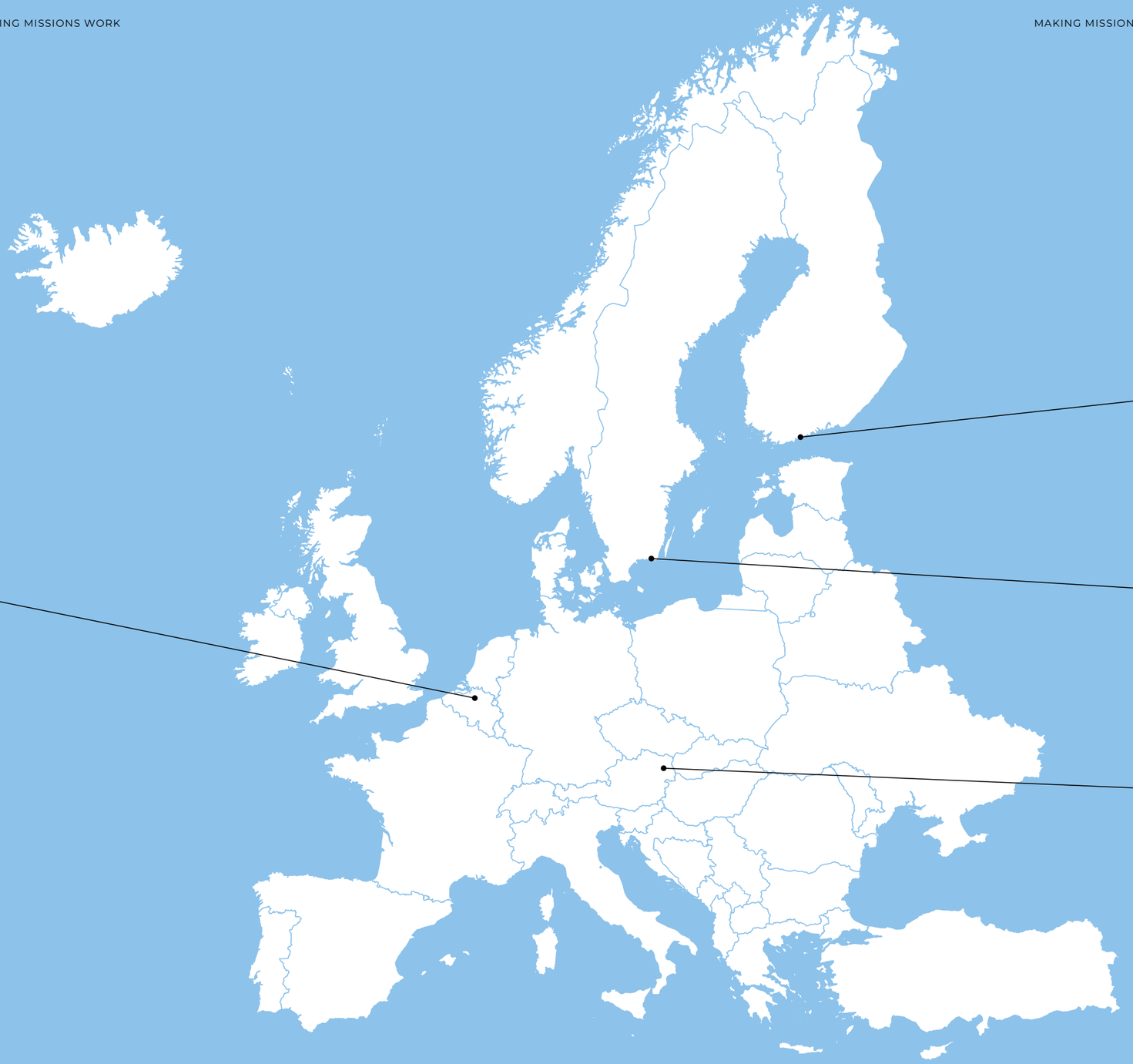
While the Missions Playbook aspires to inspire and equip policy actors, it is important to acknowledge limitations. As previously mentioned, none of the cases presented here perfectly exemplify the complete mission-oriented approach. Another limitation lies in the geographical scope. Due to time and resource constraints, the cases all originate from either North, Central, or Western Europe. However, excellent work on mission-oriented approaches is happening throughout Europe and the world.

We hope this playbook serves as an invitation for others across Europe and beyond to share their stories of putting missions into action. This will help build a richer understanding of the approach in diverse contexts and contribute to a growing community of practice.

02 MAKING MISSIONS WORK

This chapter delves into four real-world cases that illustrate the mission-oriented approach in action. Each case study explores a common question faced by policy actors and highlights the experiences of professionals working to overcome those challenges. This chapter explores the contexts in which policy actors find themselves, along with the innovative work being done and the challenges encountered. Additionally, the individuals involved share their valuable insights and lessons learned.

Case locations



FLANDERS, BELGIUM

The AMAI! project within the Flemish AI Plan demonstrates how citizens can be involved in mission-oriented innovation.

PAGE 48

HELSINKI, FINLAND

The Leading Companies initiative led by Business Finland showcases how the public sector can engage businesses in missions.

PAGE 36

BLEKINGE, SWEDEN

The Blekinge Region exemplifies how regions can engage with missions by aligning two EU missions with their regional strategy.

PAGE 24

VIENNA, AUSTRIA

The Austrian national government demonstrates leadership in adopting the EU missions by engaging in governance and using legal instruments.

PAGE 14

How can **national governments** work with missions?

SYNOPSIS

Austria has managed to adopt the EU Missions for its national context and set up a governance structure to support their implementation. The Federal Ministry of Education, Science and Research has led the work of promoting a mission-oriented approach to innovation and involved a wide range of actors in the process.

Although Austria's innovation system was well-developed, it was not structured for directionality. The process began with a policy brief sent out to key actors to start a national debate. Over time, an increasing number of actors committed to both the mission-oriented approach and the five missions set by the European Commission. The governance structure took shape and included ministries, sectoral agencies, academia, research institutes, industry as well as regional and local stakeholders. Funding sources were directed towards the missions by making changes to the legal mandate of various funders and agencies.

These achievements have not been without challenges. The attempt to make changes in the wider innovation system triggered resistance from a range of actors. Keeping a steady course required a confident and well-established team to push through the necessary changes. Because this type of initiative requires a leap of the imagination and doing things different, it is important to share lessons and learn together within the European community to achieve the ambitious EU Missions.

"The mission-oriented policy approach challenges the assumption that the state should have a very remote role and should leave all the key decisions to the researchers or innovators."

– CHRISTIAN NACZINSKY, HEAD OF DEPARTMENT FOR EU AND OECD RESEARCH POLICY AT THE AUSTRIAN FEDERAL MINISTRY OF EDUCATION, SCIENCE AND RESEARCH

The question of directionality

Austria has what many would argue is a well-developed innovation system. Universities, research agencies and laboratories are driving innovation nationally. “The role of the state is primarily to set the right framework conditions so that all these institutions can properly work autonomously”, explains Christian Naczinsky, who is the Head of Department for EU and OECD Research Policy at the Austrian Federal Ministry of Education, Science and Research. By law, this ministry coordinates Austria’s policy approach towards the EU Framework Program and the European Research Area.

The introduction of EU Missions within Horizon Europe presented a unique challenge to Christian and his team. While he was accustomed to delegating the strategy and implementation of new EU programs to specialized agencies and civil servants, the mission-oriented approach presented a new challenge. There was simply no entity in place that could easily take on the task of governing the EU Missions. Austria’s innovation system was not ready for the directionality required of a mission-oriented approach.

A policy brief to start the conversation

Christian’s first move was to utilize the quiet time during the Christmas holidays in 2020 to craft a policy brief outlining the EU Missions initiative. This document aimed to establish mission-oriented innovation as a valuable component of Austria’s innovation system. It also sought to convince relevant stakeholders to consider adapting their organizational structures to accommodate this new approach. Additionally, the policy brief aimed to explore the willingness of key stakeholders to engage in this work and identify the best starting point.

The policy brief was distributed to approximately 100 individuals across various ministries, agencies, and institutions. Over a period of four months, around 70 people actively participated in discussions triggered by the policy brief. Christian highlighted that “in Austria, the government normally sees EU programs as important initiatives and try to benefit from them as best as we can”, as a precondition for being able to introduce the mission-oriented approach. This initial dialogue resulted in the formation of a “coalition of the willing,” comprising key stakeholders from ministries and agencies.

Vienna, capital of Austria.

Creating new governance within existing institutions

> **”Seriously engaging with the EU missions was a consensus among the stakeholders. The reasoning went: Let’s embrace them as we can’t avoid them. It was negotiated by our minister during the EU presidency. We need to do something with it. Why not try to build a structure of governance so that we can benefit?”**
>
> **– CHRISTIAN NACZINSKY**

The coalition of the willing became formally known as the Working Group on EU Missions and was created within the existing framework of the government’s Task Force for implementing the long-term STI Strategy 2030. Christian made sure that the Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) was involved on an equal footing due to its extensive experience and expertise in mission-oriented policy from national programs. This involvement brought two out of three ministries involved in research and innovation policy on board.

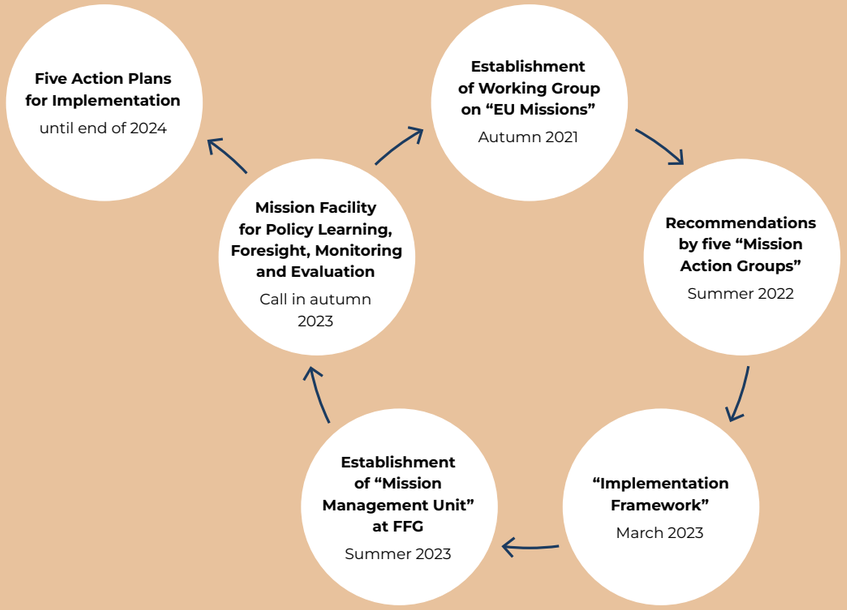
The collaboration of the two ministries was instrumental in getting more actors involved from the wider innovation system. Additionally, the support of the government’s Task Force on the STI Strategy 2030, which meets regularly at the Director-General level, played a crucial role. “It then became clear that when we discussed the missions, we did so in the context of existing established governance framework.” This approach ensured alignment with established policies and procedures. As a next step, Christian’s team engaged with Austria’s main research and innovation institutions, encouraging them to integrate the EU Missions within their legal mandate.

At this point, Christian noticed a problem. The initial focus on research and innovation institutions excluded key stakeholders that are crucial to the success of any mission. “With a mission-oriented approach, we had to invite the ministries that are responsible for the sectorial policies too”, Christian concluded. To his surprise, the sectorial ministries all accepted the invitation to be involved in EU Missions Working Group. The Prime Minister’s Office and the Ministry of Finance also expressed their interest in participating.

> **“It became a kind of whole of government group.”**
>
> **– CHRISTIAN NACZINSKY**

After establishing a 40-member strong Working Group, or “coalition of the willing”, it was time to move from discussion to action. “That means that actors have to redirect some of their resources to contribute to a mission portfolio.” However, Christian noted that many people initially expressed reluctance, claiming that they don’t have the time, resources, or people to make it happen.

To ensure the involvement of various stakeholders, Christian secured funding from the ministry to establish expert groups, known as “Mission Action Groups” (MAGs), for each of the five EU Missions. The Austrian Research Promotion Agency (FFG) was responsible for



facilitating the process while each MAG was co-led by one research-related ministry and one sectorial ministry. The MAGs involved a total of 300 representatives from organizations relevant to the respective mission to develop a set of recommendations.

> **“People were very willing to engage. I think a real motivation was the constant global debate on all these challenges. People could not open the newspaper in the morning without coming across issues such as climate change. When you offer a chance to be directly involved, to co-create something, there is an intrinsic motivation there.”**
>
> **– CHRISTIAN NACZINSKY**

The MAGs produced a comprehensive set of recommendations – over 20 in total – to guide Austrian actors in effectively collaborating and contributing to the goals of the EU Missions. These recommendations were distilled into an “Implementation Framework,” a tailored guide specifically designed for Austrian stakeholders. The Mission Management Unit was set up by FFG to lead the work implementing the co-created recommendations through more detailed action plans.

The Ministry of Education, Science and Research is actively in the process of establishing further supporting functions. For example, the Mission Facility will provide policy learning, foresight, monitoring, and evaluation to all actors involved in the EU missions. This ongoing support will enable continuous refinement and improvement of Austria’s approach to the EU Missions.

Planting seeds in the law

To operationalize the implementation framework, Austria needed funding for projects that would implement the recommendations. This included funding for both the governance process itself as well as projects that would steer Austria's innovation system towards the EU Missions.

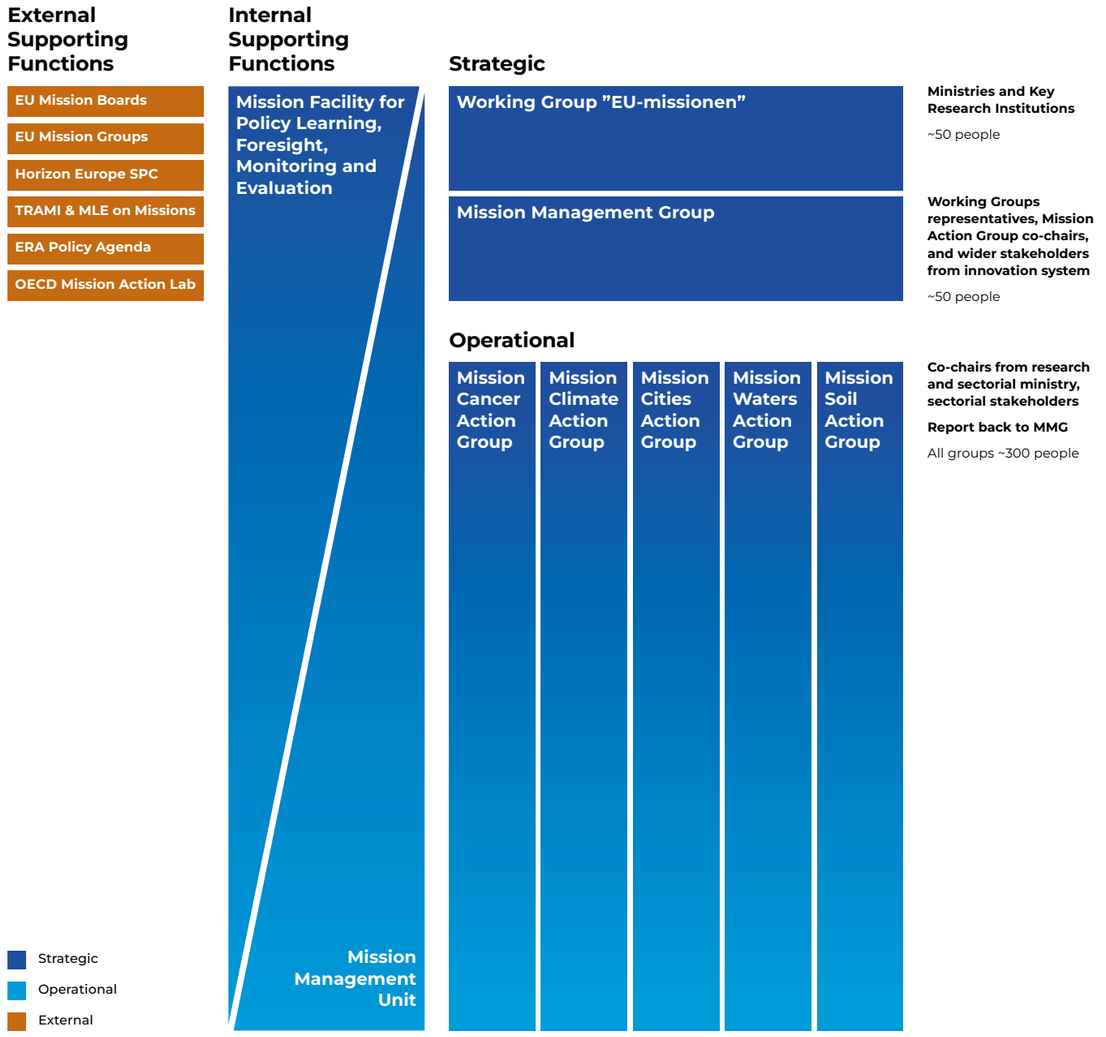
Timing is crucial for civil servants and policy entrepreneurs. It's about being well-versed in the policy cycle to seize opportunities when they arise. Austria's development of the EU Missions coincided with a government transition. "In 2019–2020, when the new government arrived, new laws were coming in place, and the negotiations on Horizon Europe finished," Christian explains. "This is the kind of window of opportunity that you can't access regularly. You must use it when it's open."

> **"It's a lot about legal engineering in the background."**
>
> **– CHRISTIAN NACZINSKY**

During this period of opportunity, several initiatives were taking place simultaneously. In the longer term, the 10-year Austrian STI Strategy 2020–2030 was taking shape. This strategy included objectives to fully capitalize on the opportunities presented by the new Horizon Europe program, including the EU Missions. The details were to be refined in the subsequent medium-term STI Pacts.

In the field of research and innovation, the Austrian government divides responsibilities between relatively small ministries responsible for setting overall priorities and larger research institutions and agencies that implement policy. The STI Pacts, which are updated every three years, outline (cross-)departmental research and innovation policy priorities. These pacts serve as the primary point of interaction between the three research ministries and the main research institutions. By including the EU Missions in the 2021–2023 STI Pact, the ministries could leverage this framework to mandate the main research institutions to incorporate mission-oriented activities into their annual performance and finance agreements.

Christian and his team went beyond the traditional research institutions to seek funding from other sources. One such source is the "Future Fund of Austria" (Fonds Zukunft Österreich"), which plays a significant role in supporting excellent basic and applied research, including research with relevance to the EU Missions of Horizon Europe. In 2022, a new legal mandate for this fund was enacted, considering the need to stimulate mission-related activities in Austria. In line with this, the fund pledged €12 million in 2023 for projects aligned with the EU Missions. Furthermore, additional funding could be allocated through this Fund in 2024 and 2025 for the realization of the EU Missions.



“Over time, and despite the team effort of many colleagues, I had become a central person to the mission-oriented work. I met many constructive people but also some who were hostile to the whole idea of missions.”

– CHRISTIAN NACZINSKY

Challenges along the way

Austria has made significant strides in establishing a new governance approach to integrating EU Missions into its national research landscape. However, this journey has been marked by several hurdles.

According to Christian, one of the primary challenges has been securing funding for both governance processes and project grants. Securing funding for governance support required internal negotiations within the ministry, lasting approximately seven to eight months. As the EU Missions were incorporated into the STI Pacts, inflation began to rise across Europe. This escalating inflation eroded the fiscal space available to key research institutions in Austria, leaving limited resources for EU Missions during performance and finance agreement negotiations. Fortunately, “Future Fund of Austria” could maintain its commitment despite the rising inflation. This highlights the importance of building a broad foundation using legal means.

Christian faced significant resistance when attempting to implement large-scale changes within an established system. He attributes this inertia as a possible reason why some countries struggle to establish a clear direction and mission-oriented approach in their innovation systems. “It takes someone with perseverance and strong character to navigate the power dynamics inherent in such changes,” he observes. “The individuals spearheading this mission-oriented approach must be firmly established in their positions to withstand potential pushback.” Christian also emphasizes the importance of teamwork, stating, “You need a team around you to make these changes happen. It’s not something that can be achieved by a single individual.”

“Personally, the most difficult challenge was to stay on course through the obstacles of the process.”

– CHRISTIAN NACZINSKY

Lessons learned

When asked the question about what he would do differently if given the opportunity to start over, Christian chuckled and responded, “Well, think long and hard before you take that leap.”

Advice 1: Christian reconsiders his initial suggestion and advises, “Don’t hesitate to take on this ambitious task.” Adapting the EU Missions to national contexts require a long-term commitment and a touch of idealism, Christian believes. “Perhaps that’s the only way this type of adventure can happen”, he adds. If one is overly pragmatic, it is easy to come up with a long list of reasons and potential obstacles, making significant change seem impossible.

“For too many Member States the EU Missions are still just another funding opportunity within Horizon Europe and I think this is a fundamental mistake.”

– CHRISTIAN NACZINSKY

READ MORE

ERA Portal Austria
Missions in Austria

Advice 2: When the work with EU Missions began in Austria, the focus was mostly on the national process. Looking back, Christian believes this was a mistake. “If I could go back in time, I would have advocated for stronger connections with the European level,” he stated. The structures for exchanging lessons between member states and with the commission came late in Christian’s opinion. “This is pioneering work, and there are valuable lessons to be learned from each member state’s experiences,” he explained. Engaging with colleagues from other member states from the outset could have significantly enhanced the adoption of the mission-oriented approach across Europe.

Austria’s success in implementing EU Missions stems from a combination of strong commitment and favorable circumstances. Austria’s established practice of actively participating in EU programs fostered a collaborative environment that facilitated consensus building for the missions. The diverse and committed Working Group made it possible to secure funding from multiple sources to support the EU Missions. While funding is important, a mission-oriented approach also demands the right competence for working with a new set of methods. Austria’s early experimentation with mission-oriented innovation policy at the national level has equipped agencies like FFG with the necessary competence to effectively manage the EU Missions.

How can **regions and municipalities** work with missions?

SYNOPSIS

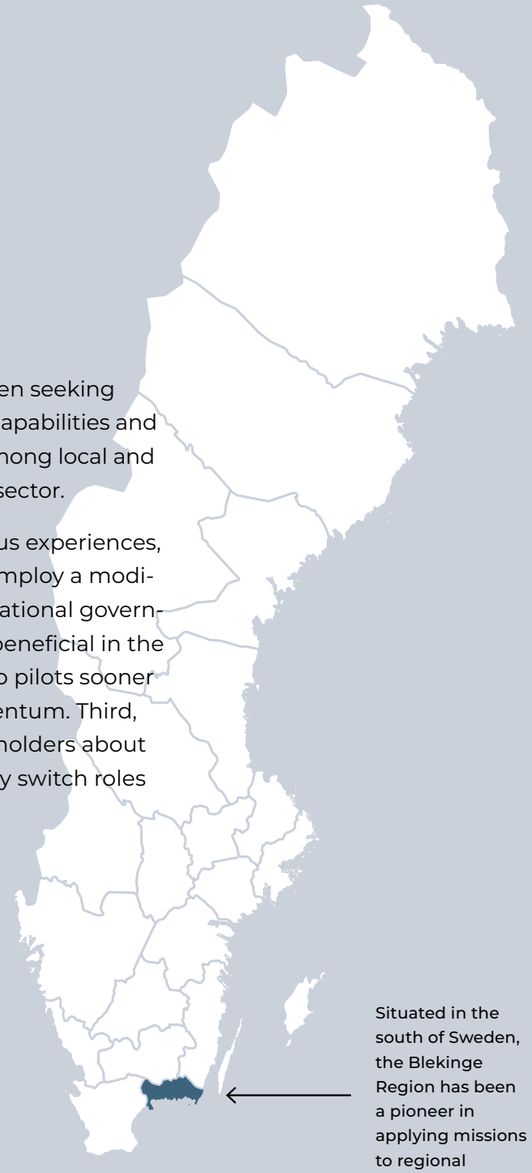
When developing a Smart Specialization Strategy (S3), the Blekinge Region innovation team noticed a sustainability focus was missing. To address this, they incorporated the EU Missions on climate change adaptation and ocean restoration into the S3. This provided the mandate to work with a mission-oriented approach to regional development.

The EU Missions provided a clear direction for various actors to come together, but this was not without its challenges. Involving a wider range of stakeholders proved the biggest challenge. The innovation team focused on engaging with the Blekinge Institute of Technology, thus helping the researchers direct their expertise towards contributing to the missions. As a pioneering region working with the mission-oriented approach, Blekinge faced inconsistent responses from national agencies when seeking support. Another major challenge was the lack of capabilities and resources crucial for the mission-driven strategy among local and municipal actors, whether in the public or private sector.

Having gained valuable insights from their previous experiences, the regional innovation team in Blekinge would employ a modified approach if starting over. First, lobbying the national government to align their support for regions would be beneficial in the long run. Second, transitioning from discussions to pilots sooner rather than later would give the work more momentum. Third, it is essential to continuously educate other stakeholders about the mission-oriented approach, particularly as they switch roles and organizations.

“Blekinge struggles with an image of being a small and remote region away from urbanism and financial flows.”

– ERIKA AUGUSTINSSON, INNOVATION STRATEGIST AT THE BLEKINGE REGIONAL COUNCIL



Situated in the south of Sweden, the Blekinge Region has been a pioneer in applying missions to regional development.

Karlskrona, Blekinge.

Combining tools to strengthen regional development

Blekinge, located on the south-eastern coast, is the second smallest region in Sweden. Its archipelago is a UNESCO Biosphere Reserve and Blekinge has the highest density of lakes in Sweden.

Erika Augustinsson is an innovation strategist at the Blekinge Regional Council. With a background working in journalism and social innovation, she began working in Blekinge's public sector four years ago. It was around this time that Blekinge set out to develop its Smart Specialization Strategy (S3).

The ongoing work in the Blekinge Region provides several insights into applying a mission-oriented approach to regional development. Erika and her colleague discovered that a S3 mainly focused on economic development. Sustainability was barely mentioned. In discussions with their regional office in Brussels, they learned that missions were high on the agenda. An idea was formed, Erika explains. "What happens if we put the missions as the core of our Smart Specialization Strategy?"

> **"We do have a great surrounding nature and a beautiful archipelago, and some very future-oriented people and organizations. Why not try to turn this around? What if our size, our remoteness and closeness to nature, could actually be an advantage."**
>
> **– ERIKA AUGUSTINSSON**

WHAT IS A SMART SPECIALIZATION STRATEGY?

The Smart Specialization Strategy (S3) is a place-based innovation policy concept. It is designed to support regions to prioritize innovative sectors that can contribute to regional economic development. The 'entrepreneurial discovery process (EDP)' helps identify the strengths of a region in terms of scientific and technological endowments. Following the EDP, the S3 approach allows regions to define "priority areas" that reflect its unique strengths and assets. The Smart Specialization Strategy is important to regional governments in the European Union as it is a prerequisite for accessing financial support from the European Regional Development Fund.

Watch a video about Blekinge's work with missions

The rationale of a missions-oriented approach

> **"We can't just work with EUs missions. Rather, we must think, what can we contribute with?"**
>
> **– ERIKA AUGUSTINSSON**

In learning about the EU Missions, it was clear to the Blekinge team that regional resources were not sufficient to work with all the missions. Based on the geographical context and features of the regional innovation system, the team selected two missions: "Adaptation to climate change" and "Restore our oceans and waters".

Being a coastal region with many low-laying cities and islands made it natural to focus on the missions on climate change adaptation. The two largest cities in Blekinge are both among the 25 most vulnerable cities to a changing climate according to the Swedish Civil Contingencies Agency (MSB). While Blekinge already had expertise and knowledge in ocean-related issues, this was not the case for climate adaptation. The need for new knowledge was thus another reason for choosing to work with the mission for climate change adaptation.

The mission to restore oceans was not only relevant because Blekinge is a coastal region. The regional innovation system, involving both a university and private actors, sits on expertise in marine technology. A company specializing in manufacturing and installing underwater power cables for renewable energy projects is a good example. "There are large installations being built, such as wind parks," Erika continues. "Once out building at sea, what else can be done simultaneously? We're constantly thinking about the co-benefits."

> **"Looking back, placing missions in the context of the S3 has been crucial. Without it, we wouldn't have had the mandate to work with missions the way we do today."**
>
> **– ERIKA AUGUSTINSSON**

Anchoring the missions

In the early phase of **exploration**, Blekinge was in search of other actors interested in the mission-oriented approach. In 2019, there were few national-level actors who had a clear understanding of mission-oriented innovation or were actively engaged in its implementation.

Instead, Erika and the team decided to directly contact the EU Commission. “We went straight to the EU and raised our hand to say, ‘we want to become a region on a mission!’,” Erika recalls. “They thought it was exciting that someone wants to work with this approach and that’s how we established our first contacts with the EU Commission.”

Erika points out that it didn’t matter to the Commission whether they were a regional or national actor. At that point, they were looking for any good examples of mission-oriented approaches. Through contacts in Brussels, Blekinge was able to establish contact with actors and agencies on the national level in Sweden. Many national actors were not aware of the work going on in Blekinge. “The mission secretariat contacted the Swedish Government with a request to host the annual forum for the mission climate adaptation in Blekinge,” Erika adds. “The reaction from the government was ‘What? Why Blekinge?’” This is one of the ways Erika’s team was able to get more attention from the national government.

“When we started working with missions, the national level was very invisible.”

– PROJECT TEAM MEMBER

TRANSITION JOURNEY PHASES

To describe the transition journey we have divided it into five phases

Once comfortable with the mission-oriented approach, Erika worked to anchor the two EU Missions among regional actors. Setting up the Innovation Council was an important step. Before Blekinge deciding to work with a mission-oriented approach, there were already plans to create an Innovation Council. Having decided to work with missions, the team sought to invite external experts and people with insights into larger innovation processes.

When Erika’s team presented their plan of integrating missions in the S3, the Innovation Council was very positive and provided helpful feedback. The plan’s endorsement by an external council of innovation experts lent it greater credibility when presented to politicians.

Anchoring the EU Missions required Erika and her team to adapt their type of communication to fit different actors. For instance, the political leadership’s driving force to endorse the missions came from wanting to be seen as being on the frontline compared with other regions. This high-level political backing helped facilitate new opportunities later. Hence the sequence in which the anchoring process takes place can be important to consider.

Co-benefits and synergies

It is essential to anchor the missions in the political leadership. Having such endorsement is helpful when **initiating** partnerships with private actors and universities. Since Blekinge struggled with the image of being a small region, Erika's team worked with shifting this narrative to find the positive aspects. "One advantage of being small is that the relationships to other actors are already there."

> **"Our remoteness is not necessarily a bad thing. It gives us a head start in involving all sectors in society to quickly test new solutions."**
>
> **– ERIKA AUGUSTINSSON**

When Erika explained the concept of a mission-oriented approach to the leadership of NKT Cables, a company working with underwater cables, "they thought it reminded them of how they try to work with synergies already." Before laying down power cables, they clear the seabed from debrief such as old fishing nets, and hand it in for recycling.

SCULPTUR, a smaller company in Blekinge that is innovating large-scale 3D printing, can use this waste as input for their production. Being a small region allows for such cross-sector collaborations to occur more easily. Claes Westerlind, Executive VP of NKT Cables, explains that participating in this regional mission-oriented work "...is an opportunity to make contact with customers, with partners and stakeholders with the same goals as us."

Through her work, Erika has spent a lot of the time coordinating with academia, specifically the Blekinge Institute of Technology. They aim to enhance the university's position as a driving force behind innovation in the region. A clear common understanding makes this possible since the university leadership has been committed to the mission-oriented approach and sees it as a given.

The mission-oriented approach has been implemented in the Blekinge region for four years, and the results are starting to become visible. Erika has observed the university extending its expertise to new fields. As an illustration, the university is employing its digital proficiency in the EU Missions project RESIST to enhance understanding of climate adaptation measures.

> **"We've always claimed that the younger generation wants to use their knowledge to contribute to something important. This became very obvious in the RESIST project."**
>
> **– ERIKA AUGUSTINSSON**

The RESIST project had a wider impact than initially anticipated. It was particularly popular among students because it gave them a chance to apply their skills to real-world problems. 51 graduate and PhD students at the Blekinge Institute of Technology are now involved in working directly on the EU Mission on climate adaptation. Engaging students in such work makes the university an appealing choice for talents around the world who want to leverage their research to address societal challenges.

> **"We want to leave the oceans in a better state than when we came."**
>
> **– CLAES WESTERLIND, EXECUTIVE VICE PRESIDENT, NKT CABLES**

Challenges

While it has been easy to work with academia, the team didn't manage to engage the public and private sectors as much as desired. The challenge to work more closely with the private sector simply came down to a lack of resources. However, most of the challenges came from collaboration with other public actors.

> **"It's the silos on the national level that must change to support us to work successfully with this approach on a regional level."**
>
> **– ERIKA AUGUSTINSSON**

"The greatest challenge to me has been the limited support from the national level." When Erika began this work, the mission-oriented approach was not as established as it is today. "We've been pushed around between national actors," Erika explains. None of them believed this was within their responsibilities. "This problem becomes clear when working with a mission-oriented approach."

Erika and her team experienced a similar challenge at the local level. The science parks are only in contact with the local government department for trade and industry. When asking why they don't also contact other parts of local government such as social affairs and health or environmental protection, Erika noticed that it simply wasn't on their radar. She sees this as a deeper problem related to competence and capacity. "I think it is clear that the capacity to zoom out and see the larger structures beyond one's own organization is missing."

> **"You get stuck by the fact that various local administrative units simply don't talk to each other."**
>
> **– ERIKA AUGUSTINSSON**

As for the lack of resources, having enough time to coordinate among various actors is needed. "The absolute majority of my time has been spent running between various levels of the bureaucracy," Erika continues. "To municipalities, to other regions, to the EU. It takes so much more time than one would expect."

Student work in the RESIST project.

Lessons learned

When asked about what advice she would give before starting such work, Erika takes some time to think.

Advice 1: The first thing that comes to mind is to spend more time lobbying at the national level. Erika believes that demanding different national agencies to coordinate their support for regional innovation would have paid off in the long-term. "We can't have the Swedish Agency for Regional and Economic Growth (Tillväxtverket) questioning our use of missions in the strategy when the Swedish Innovation Agency (Vinnova) encourages these methods. They must get synchronized!"

Advice 2: Erika wishes they moved into practice more quickly. "We should have done a regional mission pilot early." A lot of work with mission-oriented innovation in a regional context is still in the planning stages. "We're still not fully sure how this works in practice when connecting all the pieces. To have a concrete example to refer to would have been helpful."

Advice 3: Another insight that came out from the work in Blekinge is to spend time finding the right collaborators and understanding their needs, expectations and driving forces. This is well worth the time as it builds the close and long-lasting relationships needed for working in a mission-oriented approach. It is also important to continuously communicate the key aspects of the mission-oriented approach. Politicians and other key people eventually change roles. It is therefore often the case that someone in a meeting is not familiar with the logic of a mission and this approach to doing things.

Despite consistently operating with limited resources, the work in Blekinge highlights the significant impact of dedicated public servants. Erika was not working alone with the mission-oriented approach. She managed to establish a core team of a few colleagues who also thought it made sense to work with the EU Missions to achieve regional development. A small, committed team can go a long way.

OTHER RELEVANT CASES

Czech Republic
Missions-oriented approach to S3

How can we engage the **private sector** in missions?

SYNOPSIS

Earlier budget cuts led Business Finland to prioritize SMEs over larger companies. Combined with global trends, large Finnish companies now invest more in RDI abroad than in Finland. Feeling the need to respond and inspired by Mariana Mazzucato's thinking, civil servants at Business Finland designed a new program targeting large companies.

The Leading Companies initiative aims to increase RDI investment and direct innovation activities towards societal challenges. They achieve this by letting large companies define a mission and mobilize an ecosystem to help them reach it. Business Finland provides €20 in funding to Leading Companies and an additional €50 to ecosystem projects. In return, Leading Companies must more than double public RDI investment.

"An analysis by the Ministry of Economic Affairs and Employment showed that our large companies were investing more in RDI outside rather than in Finland, and this worried us."

– KARIN WIKMAN, CHIEF ADVISOR AT BUSINESS FINLAND

Despite only running for four years, the initiative is already seeing results in RDI investments, progress towards the missions outlined by companies, and additional spillover effects. Leading Companies are investing €1.5 billion in RDI and creating hundreds of new research jobs. Although their existing strategies align with their missions, companies are working in new ways internally and externally. Both public and private actors consider the Leading Companies initiative a success story. Close dialogues between civil servants and large companies contributed to a smooth implementation without significant challenges.

Helsinki, capital of Finland.

Working with large companies (again)

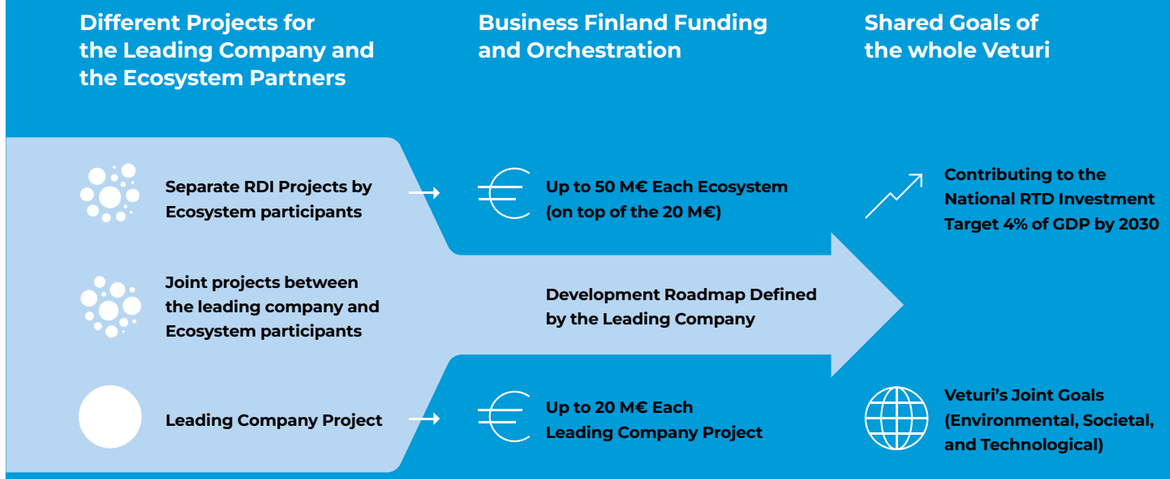
Business Finland was established in 2018 when Finland consolidated its efforts to drive innovation, attract investment, and promote exports by merging the innovation agency TEKES and the state-owned investment and export promotion company Finpro into a single entity. This merger also marked a shift in priorities as the agency's budget was reduced by more than €250 million between 2010 and 2017.

The shift led to prioritizing support for small and medium enterprises (SMEs) over larger companies. This marked the end of the SHOK program (Strategic Hubs of Excellence), which funded collaborative research and development efforts between larger companies, universities, and research institutes. While this initiative fostered innovation within strategic areas, some critics argue that since its conclusion, Finland's focus shifted primarily towards supporting SMEs, leaving a perceived gap in programs specifically designed to engage larger companies. This critique suggests that Business Finland has an opportunity to address this need by tailoring its offerings to attract and support both established players and emerging SMEs in the Finnish economy.

Concerned about large Finnish companies investing more in research, development and innovation (RDI) abroad than at home, Karin Wikman, Chief Advisor at Business Finland, took action. "An analysis by the Ministry of Economic Affairs and Employment showed that our large companies were investing more in RDI outside rather than in Finland, and this worried us," Karin recalls. Her team organized workshops and interviewed large companies to understand their reasons for not investing more in Finnish RDI. Simultaneously, the Finnish Government set an ambitious target: increase RDI investment to 4% of GDP by 2030, with two-thirds coming from the private sector (up from 2.9–3.0% in 2020-2022).

> **"I was very inspired by Mazzucato's thinking on missions when I first read her paper published by the EU Commission."**
>
> – KARIN WIKMAN

Karin's research led her to discover the "mission-oriented approach" championed by economist Mariana Mazzucato. Inspired by dialogues with global companies and Mazzucato's work, Karin spearheaded the launch of Business Finland's "Leading Companies" program. This program aimed to incentivize large companies to contribute to Finland's RDI goals, ultimately boosting the nation's innovation ecosystem.



Following the locomotive

In 2020, Finland launched the Leading Companies initiative (Veturi, meaning "locomotive companies" in Finnish), aiming to accelerate RDI by empowering large companies as driving forces. Like a powerful train, leading companies pull their entire ecosystems forward towards a shared goal.

To join this challenge, large companies submit three to five-year plans outlining their strategies to:

1. contribute to a societal challenge framed as a mission,
2. increase the RDI investments in Finland, and
3. play a leading role in the national ecosystem related to the defined challenge.

Companies selected by Business Finland for the initiative receive €20 million in public funding. However, they are required to match this grant by more than double the amount from private sources, thus demonstrating their commitment. Additionally, a pool of €50 million is offered by Business Finland for RDI projects undertaken by ecosystem partners who align with Leading Companies' plan, further promoting collaborative advancement. Karin explains that the program was designed "...to harness a bottom-up approach where the companies set their mission but ensure the challenge is large enough to require them to activate the wider ecosystem to reach it."

> **"We wanted to create an attractive program for large companies that also benefit the Finnish economy in two ways: requiring companies to make additional R&I investments and direct this activity towards a mission objective, such as the Green New Deal."**
>
> – KARIN WIKMAN

The Leading Companies initiative has gained positive feedback from the private sector. Simo Säynevirta, Head of Green Electrification ecosystems and representing ABB as one of the Leading Companies, praised its design. "I think it's quite brilliant", he says. "When giving €20 million in public grants, the government ensures private investment at least doubles that amount by making it a binding requirement." Comparing it to the previous SHOK program, Simo appreciates the initiative's focus on individual companies. "They are looking for one company to take the lead", Simo explains, contrasting it with consortium projects where leadership can be diffused. In his experience, consortium projects can often end up in situations where no-one is leading. He continues, "in such a case, it is unlikely to achieve an ambitious mission which needs someone who is already a leader of the field and ask them to lead the way forward." The Leading Companies program design facilitates that leadership role.

To guide its RDI investments, Business Finland adopts a multifaceted approach, combining both a "top-down" and "bottom-up", or ecosystem, approach. In the former, they have chosen five thematic areas, each with a portfolio of programs and initiatives. The latter consists to a large extent by the Leading Companies initiative.

> **"We have two approaches to missions. One can be called 'top-down' where we try to rally programs and activities around our thematic areas. The other is referred to as 'bottom-up' where ecosystems mobilize around their own missions."**
>
> – CHRISTOPHER PALMBERG

Both Business Finland and participating Leading Companies acknowledge that this approach doesn't necessarily imply any drastic changes to their already existing strategies. Simo explains, "since the mission we defined is already aligned with our long-term strategy, it didn't trigger us to do something totally different from what was already planned." However, despite the absence of drastic changes to strategy, the Leading Companies initiative still achieves an impact on national and company levels by aligning actions within the ecosystem.

In a nutshell, Business Finland's approach offers a dual framework: a structured foundation combined with the flexibility for companies to spearhead innovation within it. This dual approach, encompassing both top-down and bottom-up perspectives, ultimately fosters change and pushes the boundaries of RDI across Finland.

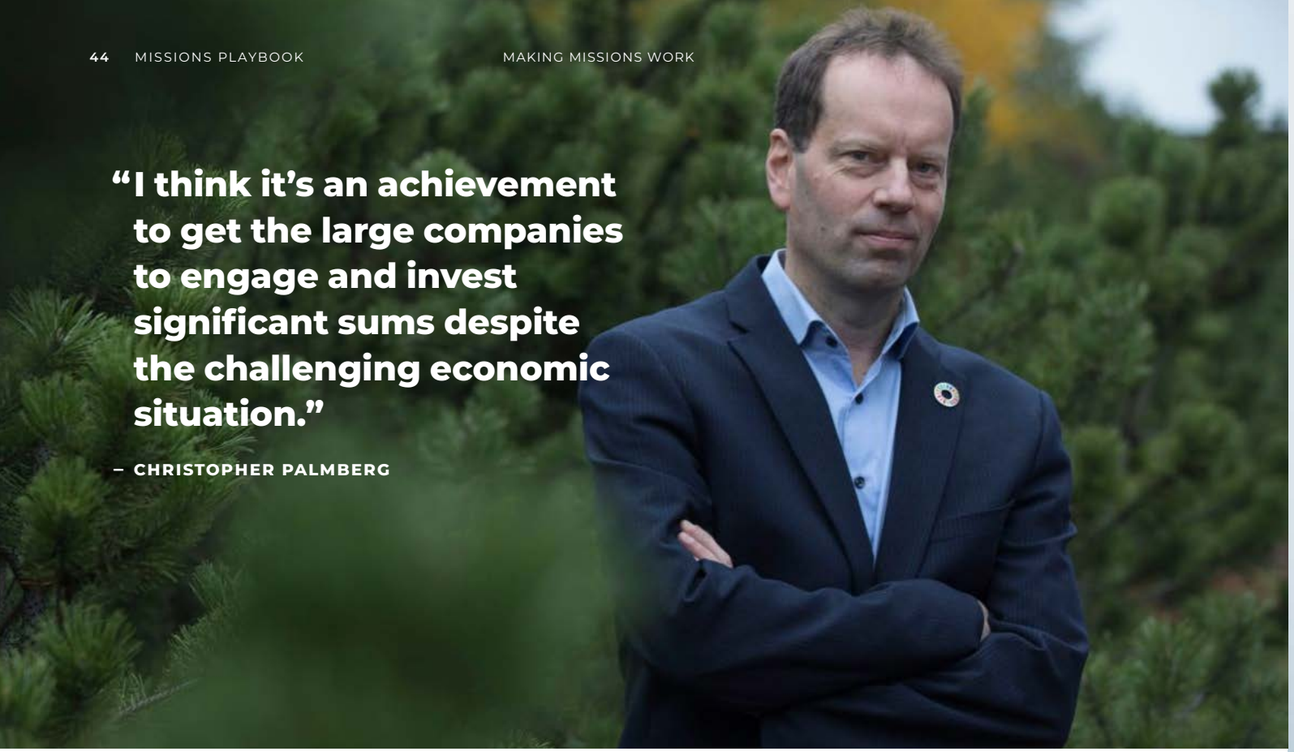
> **"In these five years, we want to achieve something which moves the needle forward, and there is already evidence that the mission is catalyzing new solutions that can do so."**
>
> – SIMO SÄYNEVIRTA

Simo Säynevirta, Head of ABB Green Electrification ecosystems.

Delivering early wins

Despite being a relatively new program running for only four years, the Leading Companies initiative is already driving positive change in Finland. Thanks to the program, hundreds of newly employed researchers are contributing to a dynamic RDI landscape. But the impact goes beyond personnel. Participating companies are set to invest a combined €1.5 billion in RDI into the Finnish economy: a significant boost. Looking beyond direct RDI investments, Karin and her team are also anticipating ripple effects. "We know that these large research and innovation investments have a very high likelihood to also lead to industrial investments in Finland," she explains. "We also want these investments to lead to new exports and that the leading companies bring their ecosystem with them out on the world stage."

Simo is happy to admit that despite having two years left in the program, his company has already doubled the required private investment, thus exceeding expectations. For Simo and his team, swift market integration of their innovations is important. "The challenge of decarbonizing the energy sector is enormous, demanding an unprecedented pace," he emphasizes. "We constantly ask ourselves: how can we rapidly scale these technologies to make a meaningful contribution to the mission?" ABB has spent the first three years developing new technology platforms. The remaining two years will be dedicated



“I think it’s an achievement to get the large companies to engage and invest significant sums despite the challenging economic situation.”

– CHRISTOPHER PALMBERG

Christopher Palmberg, Senior Director, Strategic Insights at Business Finland.

to collaborating with partners to develop solutions to their specific implementation needs. This shift reflects the initiative’s emphasis on fostering real-world impact, ensuring that innovations translate into tangible solutions for a pressing societal challenge.

Participating in the Leading Companies initiative has led to internal transformations within ABB’s Finnish branch. “The mission,” Simo reflects, “has created a platform internally to have more dialogue across our divisions on how to build solutions together.” He has also found that by working towards a shared mission, they are much more strategically positioned in discussions with policymakers. Instead of merely offering individual technologies, they actively contribute to shaping the future energy system’s architecture.

Simo’s team has learned valuable lessons from their role as a leading company. One key takeaway is the importance of involving a broader range of actors from the value chain than they typically would. This approach has helped them gain a more comprehensive understanding of the challenges and opportunities at play. The mission has also played a pivotal role in supporting ABB’s development of a “hugely successful portfolio of Horizon Europe activities,” according to Simo. This portfolio serves as a testament to the company’s commitment to innovation and its strategic alignment with the program’s goals as well as political priorities.

“We wanted to create an attractive program for large companies that also benefit the Finnish economy in two ways: requiring companies to make additional R&I investments and direct this activity towards a mission objective, such as the Green New Deal.”

– KARIN WIKMAN

Challenges

Despite the overall positive experience, ABB's journey as a Leading Company wasn't entirely smooth at the beginning. Initial misunderstandings arose between public and private sectors regarding decision-making. In contrast to the public innovation agency's assumption, ABB Group's head office does not decide the R&D plans nor the country allocations for its independent global divisions. In practice, out of the 20 divisions, only three were to participate in the Green Electrification mission in Finland. Simo was asking himself while applying: "How could you make the other 17 divisions commit to such investment targets?" In the fully distributed global business setup, getting such commitments is very difficult.

Both Business Finland and Leading Companies also struggled with effective outcome measurement. There are strict Key Performance Indicators (KPIs) for the Leading Companies on their investments, for example ecosystem partners involved, seminars organized and Horizon Europe funding. Reflecting on this, Simo believes that "the amount of money invested doesn't yet tell you anything about the impact from the investment." While Business Finland relies on these KPIs, Christopher explains that "the work towards a mission and its results are more seen as a spillover effect in a certain direction arising from the RDI spending."

Despite these challenges, the process of setting up and administering the initiative has been relatively straight forward. According to Karin, the close dialogue played a big role in this. "The large-scale consultation process led to a consensus among the ministry, Business Finland and large companies, which ensured that there were few challenges in the implementation of the program," Karin explains. In addition to this insight, further valuable lessons have emerged from the Leading Companies experience.

Lessons learned

Reflecting on the work over the last few years, there are a few areas in which Karin and Christopher see room for improvement.

Advice 1: "We haven't been good at communicating our results," Karin admits bluntly. She emphasizes the significant innovative solutions coming from the program addressing critical societal challenges facing Finland and many other countries. "There is big interest from politicians to follow this work," Karin continues. The hundreds of research jobs created, increased investments, and new export opportunities are all important results to share. She highlights that Business Finland could potentially outsource this role to the Leading Companies, but at the same time wishes to communicate Business Finland's role as the initiatives driving force.

Advice 2: While the Leading Companies initiative showcases bold, ambitious missions, some overlap exists with Business Finland's five thematic areas. However, harnessing these synergies remains an unexploited opportunity. For example, the "bottom-up" missions of the Leading Companies rarely influence policy or demand-side changes. Bridging the gap with a "top-down" mission could allow for better coordination between supply and demand of new innovations. "Although it is a bonus if there could be synergies, and we should do more to make this connection, there is still a case to be made for the flexibility that comes from not tying the programs to closely together," Christopher concludes.

> **"We are building the whole research environment in such a way that a new discovery in research can be taken to the market in a rapid pace."**
>
> – SIMO SÄYNEVIRTA

Advice 3: For ABB, partnering with academia has proven invaluable. Offering universities access to their commercial platforms accelerates research-to-market translation, preventing "great discoveries from falling through the cracks," as Simo emphasizes.

The Leading Companies initiative demonstrates how public innovation agencies like Business Finland can leverage private sector strengths to boost RDI investment while tackling societal challenges. The initiative's success, evident in positive results after just three years, owes much to the close collaboration between public and private entities.

OTHER RELEVANT CASES

Impact Innovation

How can we involve **citizens** in missions?

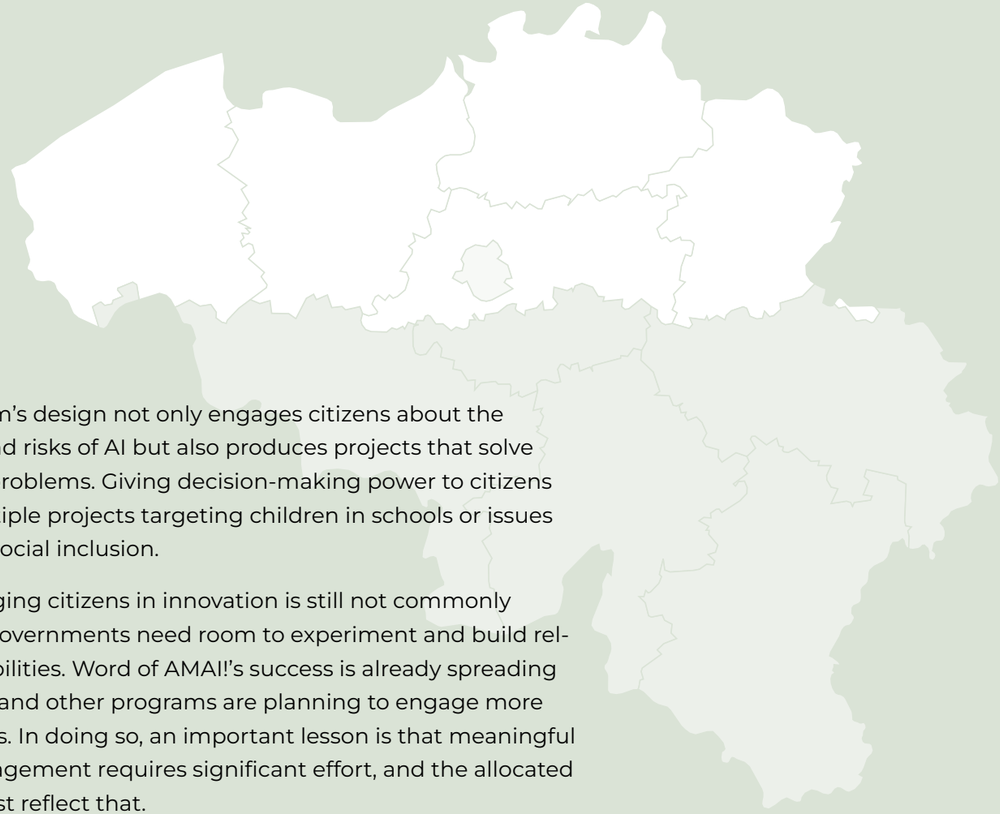
SYNOPSIS

As a part of the Flemish AI Plan, the government wanted to engage with and educate citizens about this emerging technology. The AMAI! program aims to involve them in developing AI solutions.

AMAI! engages citizens in each of its four phases. The first phase encourages citizens to submit ideas for how AI can help solve societal issues. In the second phase, civil society representatives and AI experts meet in co-creation workshops and together shape project proposals and build consortia. The third phase invites citizens to select the final projects through an online public vote or at an in-person citizen panel. Finally, each funded project is required to employ a citizen science approach in the implementation phase.

“In the feedback from our community, we learned that our two target groups, AI experts and civil society representatives, likely wouldn’t have met without this type of program.”

– ANNELIES DUERINCKX, HEAD OF SCIVIL



The program’s design not only engages citizens about the potential and risks of AI but also produces projects that solve real-world problems. Giving decision-making power to citizens leds to multiple projects targeting children in schools or issues relating to social inclusion.

Since engaging citizens in innovation is still not commonly practiced, governments need room to experiment and build relevant capabilities. Word of AMAI!’s success is already spreading in Flanders and other programs are planning to engage more with citizens. In doing so, an important lesson is that meaningful citizen engagement requires significant effort, and the allocated budget must reflect that.

Demystifying artificial intelligence

In 2019, the Flemish government unveiled the AI Plan, a bold initiative with a €32 million annual budget, aimed at advancing Flanders to the forefront of the emerging field of Artificial Intelligence. The plan consists of three key pillars:

1. Strengthening basic strategic research.
2. Stimulating the use of AI in companies.
3. Raising general awareness and providing specialized training.

To involve citizens in AI development, the government partnered with Scivil, the Flemish Knowledge Center for Citizen Science, and KCDS, the Knowledge Centre Data & Society. “The request of the ministry was quite vague,” Annelies Duerinckx, Head of Scivil and a former AI researcher, recalls, “which gave us a lot of room for being creative in this assignment.” Scivil’s dream of connecting students and researchers found new life in the AMAI! project, thanks to the ministry’s open-ended request and the partnership with KCDS.

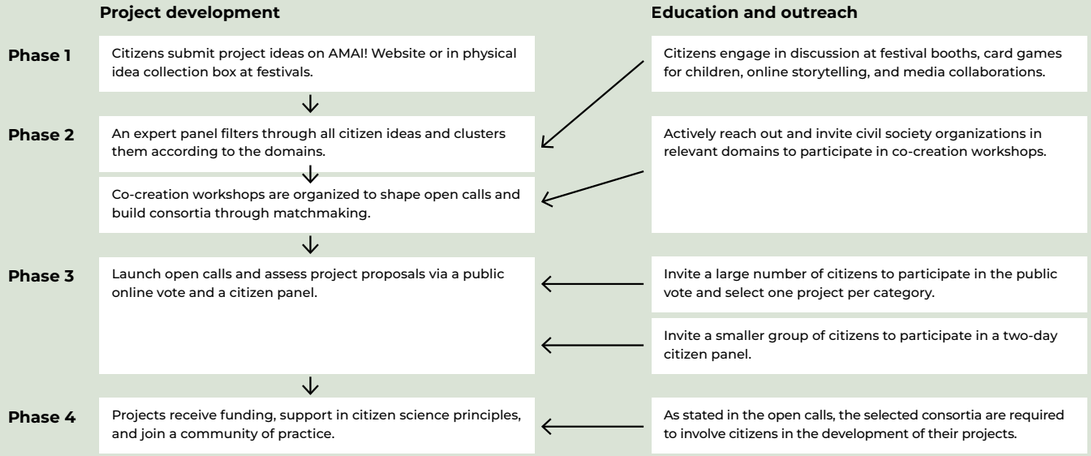
AMAI! (”wow” in Flemish) gets citizens involved in AI development from start to finish. Funded projects tackle societal issues in health, mobility, work, or the environment, while educating the public about AI’s potential and ethical concerns. With three funding rounds completed, AMAI! keeps evolving.

Engaging citizens with AI

While involving citizens in AI development is crucial, AMAI!’s experience shows it is not as easy as one might expect. Their four-phase program kicks off with collecting citizen proposals for AI solutions, but Project Manager Karen Verstraelen admits, “It wasn’t just getting people to the website, but to get them confident enough to submit their ideas.”

Reaching citizens was key for AMAI!. Launched during the pandemic, Scivil and KCDS started online with awareness-raising stories (e.g., explaining AI through the eyes of a spam filter). Once restrictions eased up, the AMAI! team engaged citizens at festivals and other events with booths and AI-themed games, even partnering with media like radio and TV. For example, a well-known Flemish weather forecaster shared his idea for using AI to pick his daily outfit based on the weather. “It’s a bit silly but it helps to get people’s attention and lower the barrier for citizens to share their ideas,” says Annelies. Ideas were collected online or in a physical box at festivals, as seen in the figure below, leading to the second phase.

Karen Verstraelen, Scivil.



From ideas to proposals

The second phase involved co-creation workshops to develop approaches and solutions from the ideas submitted. The first-year cycle of AMAI! brought in 400 ideas from citizens. A panel of both AI and sectorial experts reduced these to 17 feasible proposals for consortia to apply for. “These proposals”, Annelies explains, “were the most promising and feasible. A lot of citizen ideas either already exist or they are way too out there for the limited budget we have.” The proposals were published on the AMAI! website as open calls for consortia to apply for. However, few applied as they “...were restricted since the 17 proposals were already quite concrete in their framing,” Annelies explains.

In year two, with almost 600 ideas, the team skipped workshops and let consortia choose proposals directly. This design had its own issues. While opening more possibilities for applicants, it was hard for them to find matching partners. Based on feedback, Scivil redesigned the co-creation process for future rounds.

The third year brought back co-creation workshops, but with a twist: AI experts, citizens, civil society groups, and local governments joined forces to directly shape project proposals based on citizen ideas. The AMAI! team actively invited organizations working on relevant issues, transforming the workshops into matchmaking spaces for collaboration. Rather than designing open calls, these workshops allowed new consortia to emerge and directly shape projects proposals together.

“The co-creation workshops was for people to help them find partners and the right focus.”

– ANNELIES DUERINCKX

“But since it was a new experiment, we only let the citizen panel select one out of five projects. In the future, I’d like to turn that around and mostly rely on the citizen panel.”

– ANNELIES DUERINCKX

Involving citizens to make funding decisions

In the third phase, experts pre-select high-quality proposals before inviting citizens to assess the projects they would like to see funded. Projects are grouped by area (health, mobility, etc.) and posted online on the AMAI! platform for public voting. However, as Annelies notes, this can turn “...into a sort of popularity contest where project teams ask their networks to give them a vote.”

Citizens must place one vote per category. In the second-year cycle, the AMAI! team explored making videos for each selected team to present their projects. However, looking at the data, very few voters looked at the videos and decisions were made mainly by reading the project titles. This led to the AMAI! team exploring citizen panels for more rigorous evaluation.

AMAI!’s citizen panel was used in addition to public voting in the third year. “The goal of the citizen panel was to go much more in depth,” Annelies explains. “The participants spend two days together going through all the proposals and evaluating their societal impact.” Diverse perspectives filled the panel of around 20 people, chosen from 50 applicants. Participants received remuneration for their time in the citizen panel. This experiment is paving the way for a more nuanced evaluation and Annelies hopes to rely more on citizen panels than public voting in the future.

Providing the conditions for success

Once chosen, projects get support to involve citizens in implementation. Citizens have been involved at each step of the journey and this is also the case during implementation. AMAI! requires each funded project to adopt a 'citizen science approach' despite not all applicants having such expertise.

To address this, Scivil hosts a 'community of practice' for project teams to share experiences and overcome challenges together. "We have regular sessions were 2–3 people per project come in to share challenges and breakthroughs", creating a friendly space for collaboration, Karen explains.

Getting citizens involved at every stage is ambitious, especially with tight budgets. In years 1 and 2, projects had just €75,000 and one year to work with citizens, AI experts, and others to deliver results. "With only a small budget for all of this, it's not strange for applicants to say, 'keep your money, I am not interested'". Year 3 saw a welcome change: budgets increased to €125,000 and project timelines stretched to two years. With these adjustments and other program improvements, the number of applications increased almost four-fold.

> **"I really felt like such a community feeling of these projects. People were really interested in each other's projects and asking questions back and forth."**
>
> – KAREN VERSTRAELEN

It's not about technology, it's about people

The AMAI! team saw a trend in funded projects, with many focusing on children and social inclusion. "I noticed that a lot of the projects are tools for children in school," Annelies recalls. Social inclusion projects tackled diverse challenges, from aiding Dutch language learning for newcomers to understanding accessibility in buildings for wheelchair users. One team built a sign language dictionary app. "The team had this idea for a long time knowing it would be incredibly useful to their community, but never found the right type of funding to make it a reality," Annelies recalls. "The use of AI also made it much more feasible to execute."

AMAI! fosters unique collaborations. Interviews with applicants revealed a key insight: it brings together two distinct groups — AI experts/academics and citizens/civil society organizations — who rarely interact. This program creates a space for them to work together on solutions grounded in real-world needs. Were it not for the AMAI! program, the probability of these groups collaborating would be minimal.

Spreading the approach

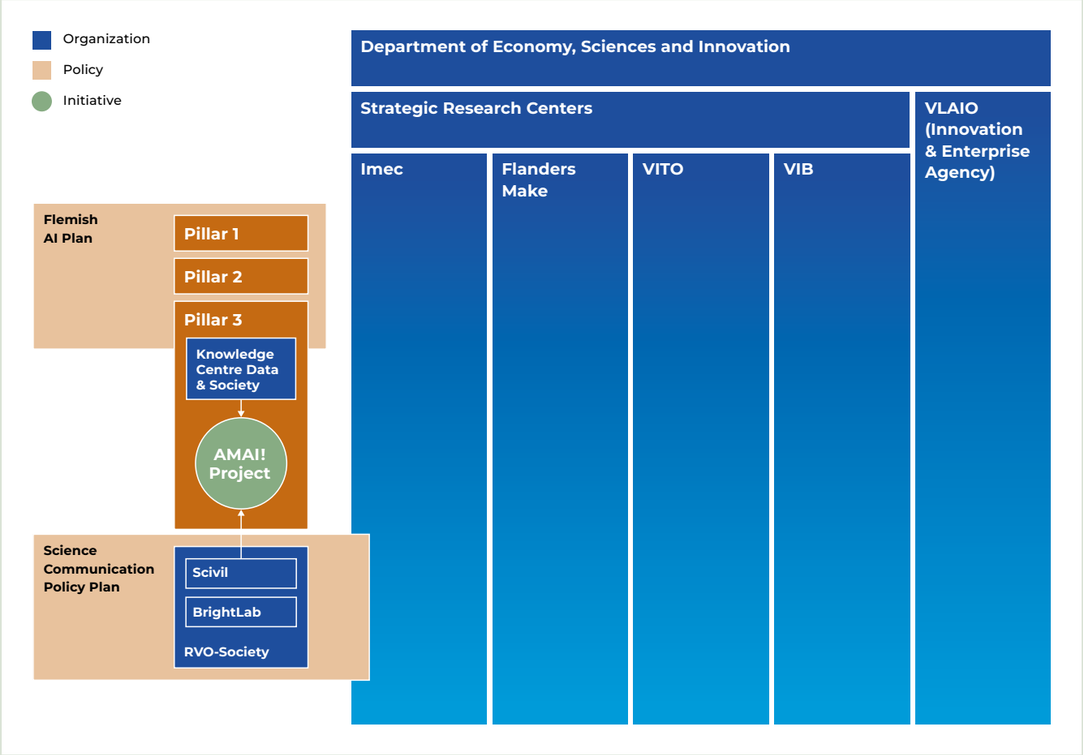
The AMAI! program's dual mission — educating citizens about AI and applying it to real-world problems — caught the eye of Peter Spyns, the coordinator of international R&I policy and senior advisor for AI at the Department of Economy, Science and Innovation of the Flemish Public Administration. Recognizing its potential beyond AI, Peter has been actively promoting the AMAI! approach within his extensive network across Flemish and European innovation systems.

> **"If it is relevant for industry, it doesn't automatically mean it's relevant for society"**
>
> – PETER SPYNS

Peter's efforts are already showing results. Shortly, the prototypes developed in the first pillar focused on research in the Flemish AI Plan will have a citizen panel assessing its societal impact. Moreover, Imec (one of the four Flemish Strategic Research Centers, or SRCs) will incorporate a citizen element

in its industry–academia project format. This industry–academia research cooperation program traditionally has “user commissions” with industry representatives. Inspired by AMAI!, Imec plans to involve civil society representatives in such projects. Peter sees this as a readily replicable model for other research centers, broadening citizen involvement in innovation.

Besides the low-hanging fruit, Peter hopes the SRCs and VLAIO, the Flemish Innovation and Entrepreneurship Agency, can embrace citizen engagement throughout the entire innovation process. Following the AMAI! program’s success, Peter believes citizens can help set research agendas and ensure innovation tackles issues that truly matter to them. This, he argues, is crucial for a mission-oriented approach to innovation.



Lessons learned

Despite setbacks, AMAI! remains flexible to continuously improve the program’s design. Reflecting on their journey, the Scivil team and Peter Spyns share key learnings:

Advice 1: Embrace the learning curve. It will take time to get it right. Annelies reflects, “in the first year, we were always running behind.” Looking at the improvements in AMAI!’s third year, she advises: “You need to give it time, to build experience yourself, and give the wider community time to adjust to the new program”.

Advice 2: Be wary of the work needed to meaningfully engage with citizens. Annelies believes that governments tend to heavily underestimate the effort citizen science and engagement takes. “It’s not something you can just quickly do on the side of your other assignments,” Annelies clarifies. She explains that AMAI! has four full-time staff, highlighting that half their budget goes to personnel, not just project funding. Bottom line: dedicate proper resources for real citizen involvement.

Advice 3: AMAI!’s success highlights two key areas for improvement: integration and scale. Currently confined to the third pillar of the Flemish AI Plan, Peter envisions stronger links across all three. This would allow promising citizen-driven projects, like those funded by AMAI!, to access larger budgets and have a wider impact in the second pillar. Aligning the program with broader EU Missions instead of general categories (health, mobility, etc.) could further strengthen the projects by finding new synergies and sources of funding.

> **“One of my dreams is to create a similar program on climate change. I think you can use the same approach on various topics. It’s about getting people to talk about the issue, reflect on it and see how they can apply new insights in their own lives. These things should be everyone’s concern.”**
>
> **– ANNELIES DUERINCKX**

AMAI! demonstrates the power of citizen engagement to steer innovation towards real-world needs. Dedicating appropriate resources and embracing continuous improvement, as seen in AMAI!’s journey, are crucial for amplifying this impact.

These learnings offer valuable insights for maximizing the potential of citizen-driven innovation. By breaking down silos and fostering scale, governments can empower citizens to shape a more relevant and desirable future.

READ MORE

AMAI! website

03

LOOKING FORWARD

Building on the foundations laid out in the previous chapters, this section explores the future of the mission-oriented approach and delves into its evolution and examines its potential for even greater impact. Leading practitioners and theorists share their insights on unlocking its full potential. The chapter concludes by examining the evolving role of policy actors in mission-oriented approaches and provides concrete advice to help them step into these new responsibilities with confidence.

Evolution of an approach

The introduction explores the historical evolution of mission-oriented innovation, highlighting the shift in focus from technological challenges to societal ones. Traditional technology-driven missions, exemplified by the Apollo program, were spearheaded by a single government agency (NASA) with substantial public funding. In such cases, civil servants spearheaded bureaucratic innovations, such as public procurement tools to help achieve mission goals[7].

Transformative missions, on the other hand, require a broader governance structure beyond a single agency. They involve collaboration between various government departments and levels, universities, businesses, and civil society organizations. Funding comes from the pooling of resources, leveraging synergies and aligning with appropriate business incentives. Delivering transformative missions demands a portfolio of instruments, not just isolated policy tools, to achieve systemic change.

While implementing the mission-oriented approach takes time, promising practices are emerging. The Blekinge Region exemplifies how European and regional governments can collaborate effectively. The Leading Companies initiative demonstrates successful public-private partnerships, where businesses contribute both funding and expertise to address societal challenges.

Experimentation with transformative missions has grown rapidly since the late 2010s. Following the introduction of the five EU Missions in 2021, there has been an acceleration of such experimentation taking place across Europe. Member states have responded differently to the task of engaging with the EU Missions based on their national contexts. The cases of Austria and the Blekinge Region illustrate how the EU Missions have spurred experimentation with missions-oriented approaches at national and regional levels.

Nicole Loeser.

As more policy actors embrace new approaches, common challenges will inevitably arise. Looking ahead, Nicole Loeser, Director at the Institute for Art and Innovation (IFAI), anticipates "...practitioners trying to integrate missions into policy frameworks, aiming at fostering cross-sector collaborations and leveraging social innovation and convenient technology integration for sustainable solutions." However, achieving this is not always easy.

Joanna Franzén, Strategic Lead for Missions at Vinnova, believes that there will be more stories like that of Erika Augustinsson from the Blekinge Region. "Civil servants attempting to coordinate policies will find that things don't always play well together, but mission-oriented methods will bring more clarity on how to weave things together." In these situations, Joanna is expecting some frustration when missions are not "completed" in a traditional sense. She emphasizes that "...working with missions will rock many boats along the way that need attention, you can't just drive straight on without tending to tensions that crop up."

7 Mazzucato, M. (2022). Rethinking the social contract between the state and business: A new approach to industrial strategy with conditionalities. UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2022-18). https://www.ucl.ac.uk/bartlett/public-purpose/wp2022-18.

Conditions for acceleration

Addressing the common challenges that arise with the mission-oriented approach requires collaborative efforts to identify the conditions that can accelerate positive change. As highlighted earlier, when policies don't play well together or change is too radical for current structures to adopt, it is necessary to take a step back.

Matthias Weber suggests zooming out and examining underlying conditions can lead to faster progress. One such condition is revisiting organizational structures to implement changes and establish more suitable institutional frameworks. He argues that:

> The public sector will also need to remove red tape and offer incentives for civil servants to become 'mission managers' and policy entrepreneurs more generally, taking a lead in changing institutions and handling conflicting tensions, for instance by rewarding proactive and experimental initiatives, which is often not part of the genetic code of public administration.

Another key accelerator is to "...generate high-level political backing for mission-oriented policies to secure legitimacy, commitment, resources and room for exploration of uncharted territory." These factors were critical to the Apollo-program's success in achieving groundbreaking results.

Rainer Kattel, Deputy Director and Professor of Innovation and Public Governance at the UCL Institute for Innovation and Public Purpose (IIPP), see a complex role for the European Union in this regard. "The EU has been, in many ways, at the cutting edge of developing policies aiming to take on the thorniest challenges like the climate emergency." The policy agenda is incredibly ambitious, but the challenges hinder the pace of change necessary. "However, the practice tends to be anything but ambitious. Most policymakers use missions to update their existing instruments incrementally," Rainer continues.
The EU plays a crucial role in setting the stage for all member states and European actors. To avoid missing the opportunity of realizing this ambitious agenda, Rainer suggest that:

Rainer Kattel.

> European policymakers should reinforce and broaden the mission agenda: first, by enabling wide-ranging bottom-up experimenting in cities and regions; second, by initiating reforms in financial regulations and central banking to support core missions of the EU; third, by enabling the upgrading of existing instruments and regulations to be deployed for mission (e.g., procurement); and fourth, build public sector capabilities to design and implement missions.
>
> – Rainer Kattel

Changing the conditions is perhaps the action that carries the most leverage in these circumstances. However, working at the level of bureaucratic structures and policy actor mindsets is incredibly difficult. It requires a unique set of capabilities and increased capacity among the policy entrepreneurs who aim to accelerate change.

Building the capacity

This playbook has highlighted the need to bring many pieces together in the mission-oriented approach. This ranges from aligning diverse funding instruments, as seen in the Austrian and Finnish cases, to fostering collaborations among traditionally siloed actors, as exemplified in the Blekinge and Flemish cases. To cultivate more success stories like these, public sector capacity building is essential. This includes fostering a culture of experimentation, embracing lessons learned from both achievements and setbacks, and adapting to evolving knowledge and circumstances.

Building a dynamic public sector requires cultivating new roles and attracting individuals with the necessary skillsets. Christian envisions:

> **“By 2030, mission management will be a sought-after job profile for a new generation of open-minded, skilled and socially responsible policy entrepreneurs”**
>
> **– CHRISTIAN NACZINSKY**

He continues with a commitment to lay the right conditions: “we will work hard to provide the knowledge and experience for educating this new generation of mission managers for the public and private sector, in collaboration with higher education institutions and agencies from Europe and beyond.”

According to Joanna, such policy entrepreneurs and mission managers need to develop capabilities in design methodology. “I still believe in starting small and successively prototyping towards scaling transformative change. The changes needed for achieving the EU Missions are massive and demand many engaged institutions.” Among the lessons learned in the Blekinge Region, Erika highlighted the need to design prototypes and pilot projects earlier in the process. Joanna agrees, pointing out that:

> **“The successful examples carry a big significance since they engage and mobilize others to find the courage to join the coalition of the willing.”**
>
> **– JOANNA FRANZÉN**

From the perspective of these practitioners, successful missions not only require funding for innovation activity but also investment in people who play key roles in operationalizing the mission-oriented approach.

To the pivotal policy entrepreneurs

The TRAMI Missions Playbook is designed for policy actors who are either actively experimenting with the mission-oriented approach or curious about learning more. Whether in formal leadership roles or not, the work of the pivotal policy entrepreneur[8] requires leading, serving as a bridge between the need for a stable yet agile bureaucracies.[9] To get more policy actors to take on this role, Nicole believes it is essential to start "...investing in interdisciplinary education and research, creating supportive (policy) environments, and establishing robust networks for knowledge exchange and leveraging collaboration opportunities for systemic change."

In Joanna's experience, the work often comes down to building relationships and developing leadership skills. She adds that "to challenge established ways of working, there needs to be clarity around the legal, administrative and institutional boundaries.

Joanna sees many brilliant, smart and passionate people in the civil service, "an invaluable asset we must hold dear." These people thrive when given the trust to explore uncharted territory beyond the usual boundaries.

On a similar note, Nicole's message to the policy actors out there is to "embrace experimentation, learn from failures, but also from role models, and persist in your mission." These are the kind of stories that the Missions Playbook has set out to tell. There is a growing community of practice around the mission-oriented approach. As you close this book, we hope that you join the community, begin to write your own chapter in this bigger story, and share the insights gained along the way. Working with missions is not a sprint but rather a marathon (or mountain climb). As the famous proverb says: If you want to go fast, go alone; if you want to go far, go together.

> **"It is often our assumptions that steer the ship, and as leaders, we must ask questions such as: Why are we not allowed to do this? What is the worst thing that can happen?"**
>
> **– JOANNA FRANZÉN**

8 This wording is inspired by the phrase "pivotal civil servants" which were mentioned during a Mutual Learning Exercise on Missions workshop. It refers to policy actors who can walk across different organizational and cultural boundaries and translate between these to accelerate change.

9 Kattel, R., Drechsler, W., & Karo, E. (2022). *How to make an entrepreneurial state: Why innovation needs bureaucracy.* Yale University Press.

trami
MAKING MISSIONS WORK