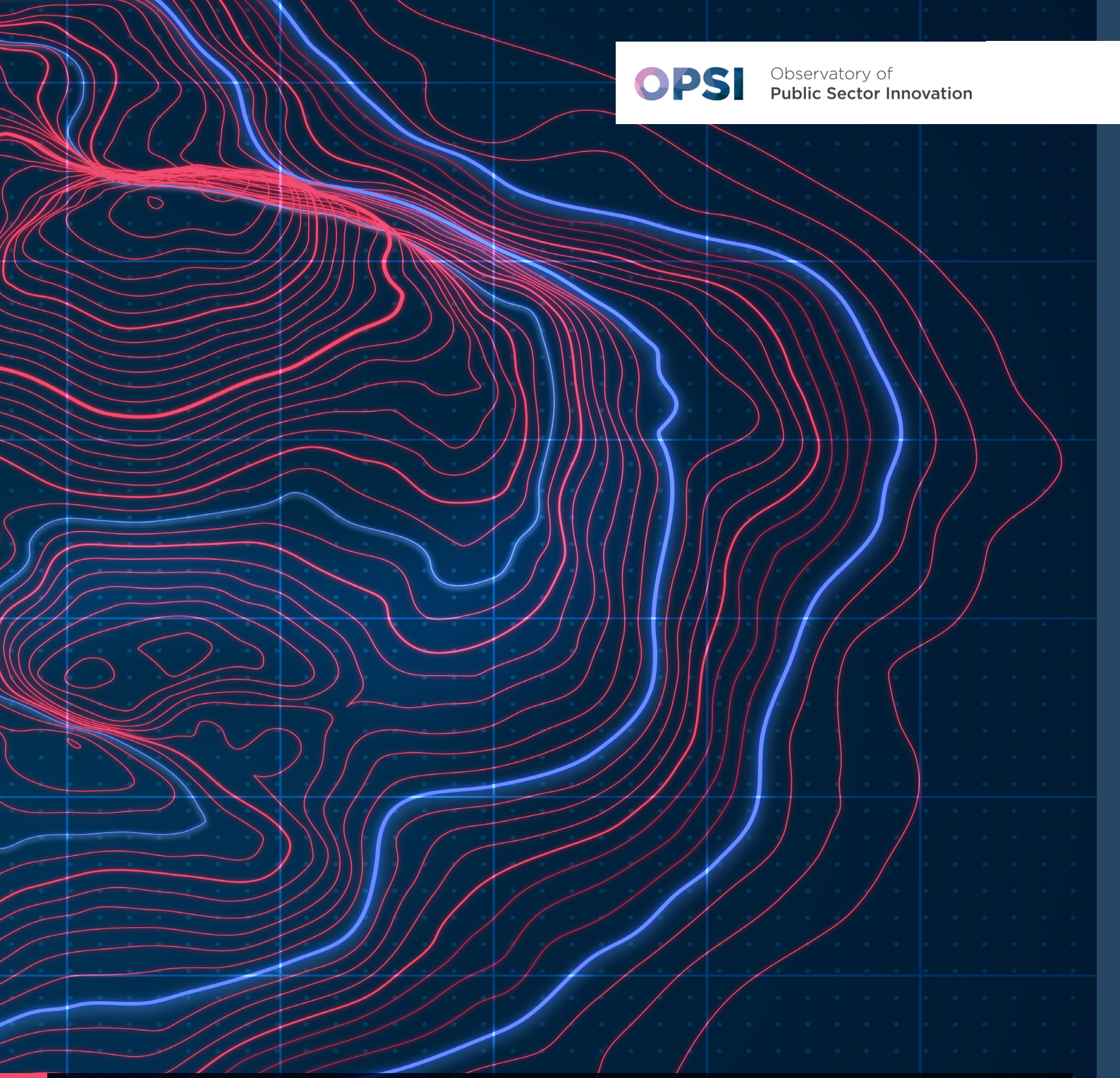


OPSI Observatory of Public Sector Innovation

Anticipatory Innovation Governance

WHAT IT IS, HOW IT WORKS, AND WHY WE NEED IT MORE THAN EVER BEFORE

CONTENTS

1

How did we get here?

THE CASE FOR ANTICIPATORY INNOVATION GOVERNANCE

NOT FAST ENOUGH

Today, complex systems and problems have become the norm rather than the exception and a reactive approach to setting policy is proving increasingly ineffective. A reactive approach to setting policy is proving increasingly ineffective: waiting until a crisis has struck to act has far less value than anticipating and preparing before a crisis has manifested. The traditional bureaucratic approach of narrowly focusing responsibilities into specific policy areas is no longer adequate for addressing the scale and interrelatedness of emerging complex challenges. This approach is especially inadequate in coping with fast-paced change, uncertainty and unpredictable events as well as the cascading consequences that come with them.

THE TIME TO ACT

Those interested in public governance – including public officials in governments and researchers in academia – now recognise what this state of affairs demands: a governance approach that considers the nature of complex problems, the importance of systems thinking, and the roles of innovation and foresight. We propose a new approach to the governance of anticipatory innovation.

ANTICIPATORY INNOVATION GOVERNANCE IS

the broad-based capacity to actively explore possibilities, experiment, and continuously learn as part of a broader governance system.

THE ROLE OF INNOVATION

Through innovations (defined as novel to the context, implemented and public value shifting products, services and processes) and bold innovative practice, it is possible to actively shape the uncertain future. This is where we diverge from traditional anticipation, futures thinking, and foresight approaches: the aim is to not only create knowledge about what might happen, but also shape and prepare for it through innovation.

ACTION-ORIENTED

By using an action-oriented approach to frame policy development, governments can dynamically shape the future in the making.

Here we explore the rationale for anticipatory innovation governance as well as ways of supporting it in practice. Our multi-year project involves government partners around the world. Together we will apply anticipatory innovation governance mechanisms to real-world policy challenges and learn from this practice to develop a model for others. In the face of unprecedented changes resulting from the automation of work, climate change, ageing, novel pandemics, deployment of disruptive new technologies, and other events on the way, anticipatory innovation governance is a new way to embrace uncertainty and complexity.

NOVEL
to the context

IMPLEMENTED
in the real world

SHIFTS PUBLIC VALUE
via products, services, processes

THE NEED FOR CHANGE IN POLICYMAKING

TRADITIONAL FUTURE-ORIENTED POLICYMAKING IS BROKEN

Policymakers face a difficult task of maintaining continuity and confidence in the public system and public services, while rapidly adapting to a new environment of fast-changed and constantly evolving demands, volatility and complex problems. The deployment of new and disruptive technologies and digitalisation are transforming the production and distribution of goods and services, changing the status quo for economies and societies, and resulting in new inequalities. This will have, and is having, serious implications on future employment, skills, income distribution, trade and well-being.

THE FUTURE ISN'T WHAT IT USED TO BE

Unanticipated events can be a source of both disruption and opportunity for governments. New technologies promise greater economic efficiency and better quality of life, but they also bring many uncertainties, unintended consequences and risks. The benefits and risks of new technologies and other socio-economic changes are not generally borne by the same people. Dealing with up-and-coming challenges requires acknowledging the complexity of policymaking; it requires recognition that today's issues have become too complex to successfully manage through linear policymaking processes.[1]

Governments face many challenges in policymaking today. These are connected to factors such as uncertainty, pace of change, technological change, multi-causality, ad hoc approaches and short-termism, and overall risk avoidance.

Governments face many challenges in policymaking today. These are connected to factors such as uncertainty, pace of change, technological change, multi-causality, ad hoc approaches and short-termism, and overall risk avoidance.

1 OECD (2017), Systems Approaches to Public Sector Challenges: Working with Change, OECD Publishing, Paris, https://doi.org/10.1787/9789264279865-en.

UNCERTAINTY AND COMPLEXITY

The existence of uncertainty in policymaking runs counter to the traditional model of policy design. However, situations in which inputs, outcomes or both are unknown create incalculable risks. Traditional policy design and logic revolves around models of causation, instrumentation, and evaluation that often favour or assume one potential future or outcome over another. Moreover, in an effort for politicians to present themselves decisively, they often fixate on specific angles of a problem for which they can present a concrete policy solution, rather than approaching issues holistically or in a dynamic manner.

SIMPLIFYING COMPLEX POLICY PROBLEMS INTO DISCRETE MODELS DOES ALLOW GOVERNMENTS TO TAKE DECISIVE ACTION, BUT OFTEN CREATES BLIND SPOTS; ACTION MUST START WITH THE WILLINGNESS TO EMBRACE RADICAL UNCERTAINTY

PACE OF CHANGE

Government is often slow to respond to contemporary challenges. They are facing a 'pacing problem' [2]: given the speed of innovation, especially in the digital economy, regulatory challenges can evolve and change during the policy cycle. Decisions, judgments, and priorities are based on past information and evidence, and thus responses are often **REACTIVE** when governments encounter rapid change and unexpected events.

Governments' strengths in specialising in specific areas has morphed into rigid silos, hindering their ability to gain a complete picture of a complex multidimensional challenges, further reducing their capacity to respond. Matching the pace of change requires a shift towards a more **PRO-ACTIVE**, real-time and iterative policymaking to influence the design of solutions as they form.

GOVERNMENTS ARE OUTPACED BY QUICKLY EVOLVING ISSUES. NOT ALL DEVELOPMENTS CAN BE PREDICTED OR REDUCED TO MANAGEABLE PRACTICES WITHIN A SINGLE POLICY FIELD; THEY MUST BE CONTINUOUSLY EXPLORED IN REAL-TIME AND IN AN ITERATIVE MANNER.

CASE: KOREA'S R&D PIE MODEL

Korea's R&D PIE model[3] leverages machine learning of research, patents, and economic and market data to assess the pace of changes in the technology landscape, and to identify opportunities. Through this, the government has a way of addressing fragmentation and identifying missing links in innovation initiatives; fostering collaboration among agencies, universities, and companies; and solving social problems. The model provides an evidence-based policy platform, improves the quality of public service to citizens, and enhances credibility of government innovation policies. More than 300 academic, industry, and technical experts participated to develop the PIE model, which has been recognised as one of the best policies of the Ministry.

2 Marchant, G.E., 2011. Addressing the pacing problem. In The Growing Gap Between Emerging Technologies and Legal-Ethical Oversight (pp. 199-205). Springer, Dordrecht.
3 https://oecd-opsi.org/innovations/rd-platform-for-investment-and-evaluation-rd-pie/

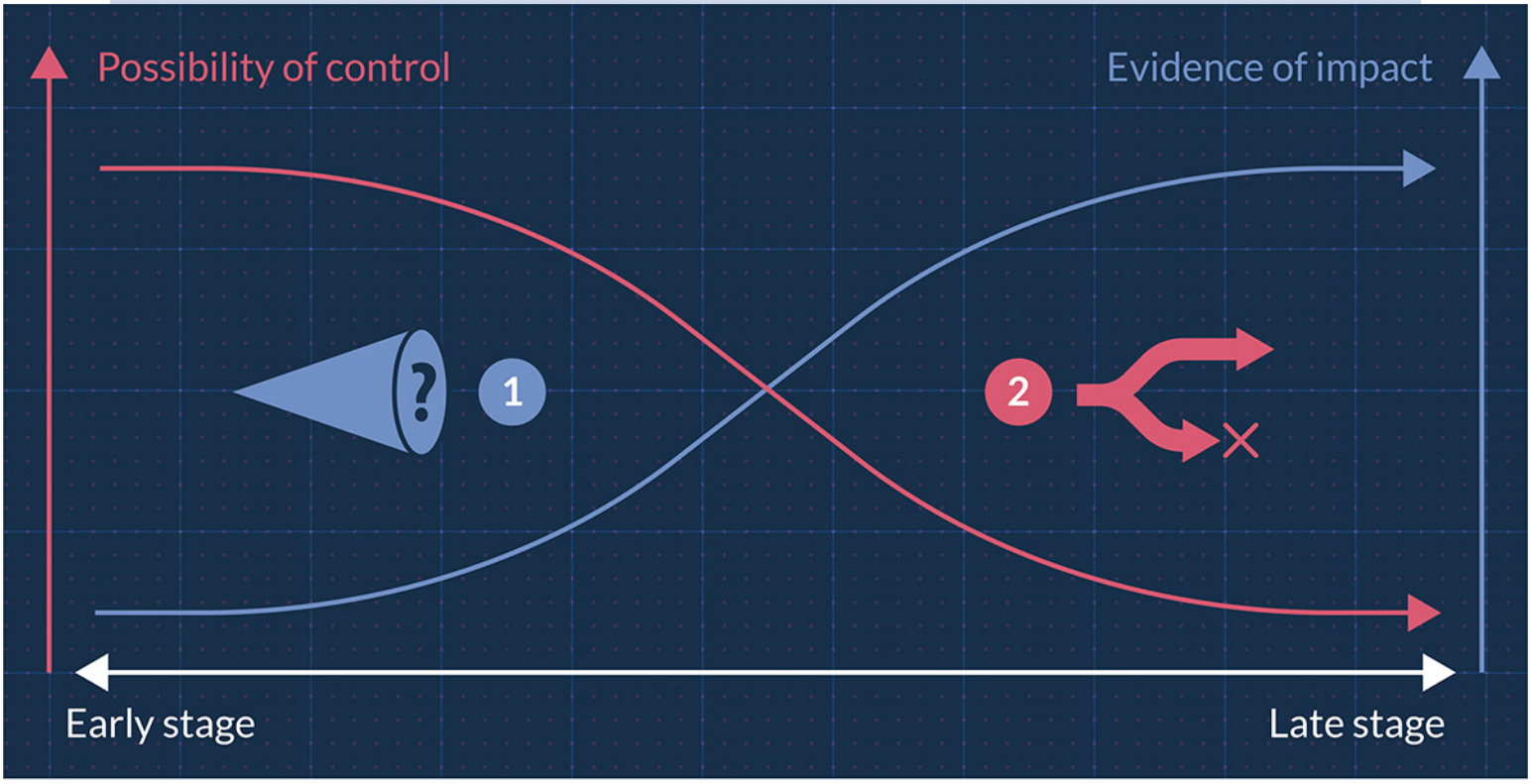
TECHNOLOGICAL CHANGE

The far-reaching impacts of technological change tend to be unpredictable. The Collingridge Dilemma (see Figure below) captures this challenging trade-off between clearly understanding the impact a given technology will have on society, and the ease with which interested parties are able to influence the social, political, and innovation trajectories of this technology. When change is easy the need for it cannot be foreseen; when the need for change is apparent, change has become expensive, difficult and time consuming.[4]

From a governance perspective, this means that the point at which it is simplest and most likely that a new technology can be effectively regulated through policy is also the point at which the least is known about what the potential impact of that technology, or the act of regulating that technology.

GOVERNMENTS CAN ONLY ADDRESS RAPIDLY DEVELOPING TECHNOLOGIES WITH A DEEPER KNOWLEDGE OF THEM IN EARLY STAGES AS WELL AS OPEN UNDERSTANDING OF THEIR CHARACTERISTICS THEIR POSSIBLE IMPACTS, WHILE EVOLVING POLICY SIMULTANEOUSLY.

COLLINGRIDGE DILEMMA



1 • Easy to control
• Hard to know the impact

2 • High evidence of impact
• Hard to control

4 Morozov, E. (2012) 2012: What is your favorite deep, elegant, or beautiful explanation? https://www.edge.org/response-detail/10898

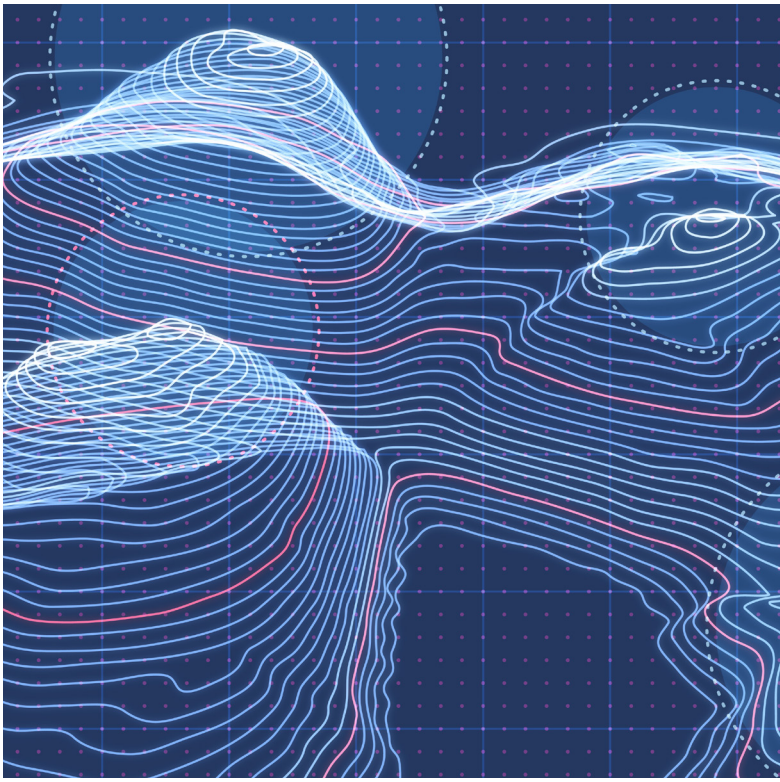
MULTI-CAUSALITY OF SOCIAL CHANGE

Policymakers often rely on simulations and predictions based on linear causality. Linear causality draws on the dominant pattern within the policy field and pushes towards closed futures. Closed futures connect policy problems to specific reference points; they tend to extrapolate from past events and help maintain specific values and norms.

> *» Forecasts are not always wrong; more often than not, they can be reasonably accurate. And that is what makes them so dangerous...sooner or later forecasts will fail when they are needed most: in anticipating major shifts that make whole strategies obsolete «*
>
> Wack, 1985

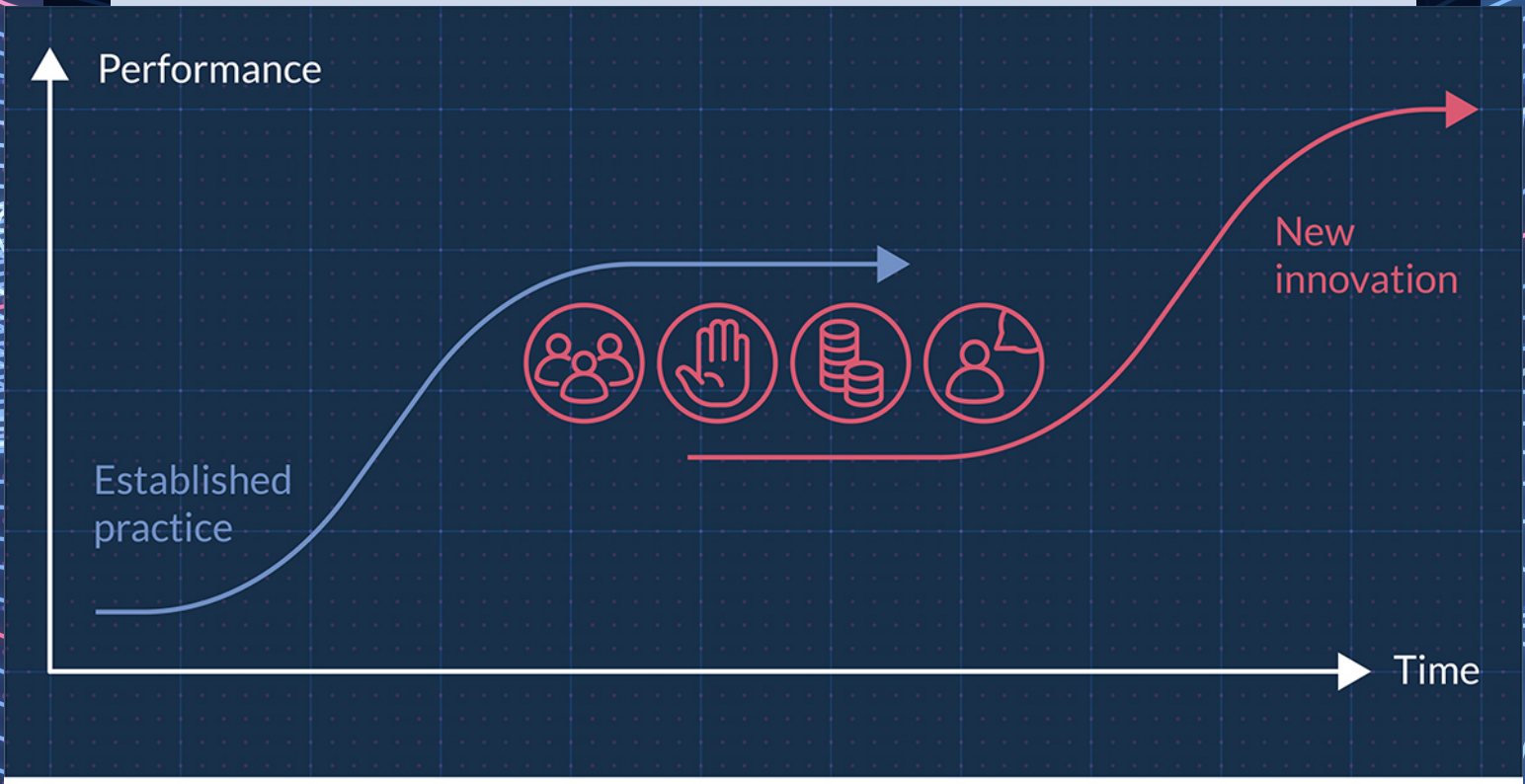
Multi-causality assumes that many future possibilities exist and that they are layered and contextually diverse, such as the social responses to the emergence and spread of an infectious disease. This starting point enables policy makers to consider "open futures," i.e. a multiple and open-ended understanding of future possibilities.[6] Causality models are only useful until the underlying normative assumptions made by the architects of these models cease to hold, which is unfortunately the case with complex problems and radical change.

GOVERNMENTS TEND TO SELECT SINGLE SCENARIOS AND ARE UNABLE TO WORK WITH AN OPEN-ENDED UNDERSTANDING OF THE FUTURE. THIS MAKES GOVERNMENTS SLOW IN PICKING UP SIGNALS THAT THE WORLD IS CHANGING. EXPLORING VARIOUS POSSIBLE FUTURES ALLOWS GOVERNMENTS TO AVOID LOCK-IN TO A SINGLE PATH.



5 Wack, P. 1985. Scenarios: Uncharted Waters Ahead. Harvard Business Review. September 1985-1986.
6 Bussey, M., 2014. Concepts and effects: ordering and practice in foresight. Foresight.

INNOVATOR'S DILEMMA



Stakeholder needs

Successful organisations concentrate on what their stakeholder needs, on developments that are technologically feasible, not nurturing disruptive technologies. As such there are essential organisational dynamics that devalue disruption and potential anticipatory innovation activity.

Resistance to change

There can be a lot of resistance to change to radically new innovations inside organisations if they go directly in conflict with established practises. Usually innovations that create totally new areas of engagement are more easily adopted.

Strategic intent

Current activities invariably have bigger financial portfolios, thus, in organisational terms they outweigh new, smaller radical projects.

User focus

Feedback from current users and customers can steer organisations away from radically new products and services as they usually (at least initially) under perform established products and services.

AD HOC APPROACHES AND SHORT-TERMISM

Policymakers are often driven by events rather than visionary or forward-looking practises and changing context. Crises can sometimes act as ‚focusing events – as is the case with covid-19 – providing the political coverage which can allow for major policy resets and visionary decisions. However, this way of making policy depends on chance rather than intention: it is an ad hoc and not a systematic practice. Further, the continuous pressure to seek out quick wins towards political imperatives and manage crises reduces governments' capacity to proactively tackle long-term trends such as climate change, rising world population, demographic changes, urbanization, and non-sustainable consumption patterns.

POLITICAL PRESSURES FAVOUR SHORT-TERMISM AND RESPONSIVENESS, CROWDING OUT FUTURE-ORIENTED PRACTICES. GOVERNMENTS MUST SET LONG-TERM INTENTIONS TO AVOID JUMPING FROM CRISIS TO CRISIS REACTIVELY.

THE COST OF DOING NOTHING

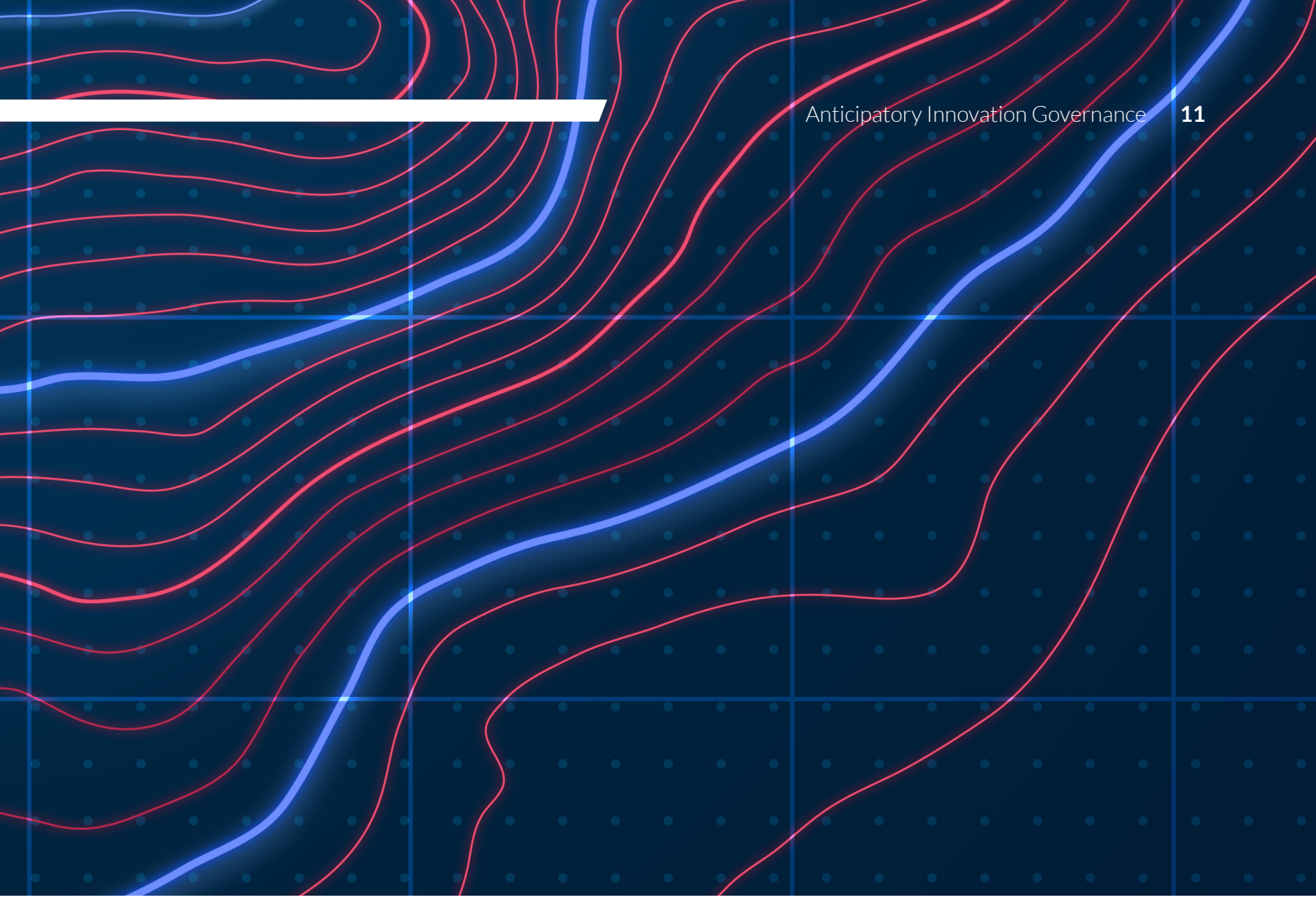
Governments are generally known to be risk-averse and rule-driven, based on stable structures and predictable decision-making. Avoiding risks is often justified for political and reputational reasons. However, it means that by design, governments do not tend to take action quickly when confronted with new challenges. From the position of 'wait and see', governments are pushed to act when hazards (moral, ethical or even physical) materialize, or they are called upon to sort out relationships between industry incumbents and new business models. When faced with uncertainty, laissez-faire is sometimes easier than intervention: it frees authorities from having to justify risky or uncertain interventionist policies. For governments, the classic "innovator's dilemma" is compounded by the sometimes uncertain legitimacy of governments to play particular roles. However, the "wait and see" approach is sufficient until the future catches up with policymakers and negative outcomes arrive.[7] These tensions can be seen in government responses to self-driving cars, cybersecurity, and even questions of responsibility for social media platforms.

GOVERNMENTS – TRADITIONALLY RISK-AVERSE, RULE-DRIVEN, AND BASED ON STABLE STRUCTURES – OFTEN FALL SHORT OF RECOGNISING THEIR ROLES AND RESPONSIBILITIES IN INTRODUCING NEW TECHNOLOGIES AND INNOVATIONS. THE OPPORTUNITY COSTS AND THE NEGATIVE SIDE EFFECTS OF DOING NOTHING SHOULD ALWAYS BE CONSIDERED WHEN FACING UNCERTAINTY.

CASE: FUTURE OF CIVIL SERVICE

To combat inherent tendencies toward short-termism and ad hoc or approaches according to administrative or political cycles, both the Governments of Slovenia and Ireland are envisioning and putting into practice what the future of the public service should look like. Their focus will include skills and capacities, future workforce planning, and innovative organisational structures to increase flexibility and give anticipatory agency to civil servants.

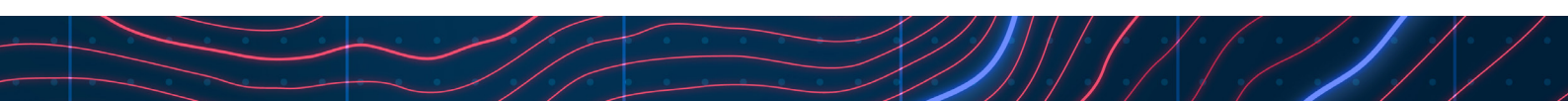
7 Guler, A. and Demir, F., 2020. Identifying Security Challenges in the IoT for the Public Sector: A Systematic Review. In Beyond Smart and Connected Governments (pp. 69-84). Springer, Cham



An anticipatory innovation governance approach has the potential to turn the policy-making process on its head. Rather than policy determining the activities of individuals and groups within a system, policymakers instead must experiment in a real-world environment — ideally with a subset of the individuals or groups that would be affected by government intervention — in order to determine effective policy.

Proactively entering the uncertain space is key to understanding and governing it.

So what is anticipatory innovation and how can it be governed?



2 Anticipation, innovation, and governance

INNOVATION PORTFOLIOS

Governments need to learn to anticipate – that is, create knowledge about the future ahead – but also make that actionable through implementing real innovation on the ground. For this to work, governments need a new governance approach to support future-oriented learning and action based on empirical experimentation. Importantly, this work must be integrated into a larger portfolio of innovation activity.

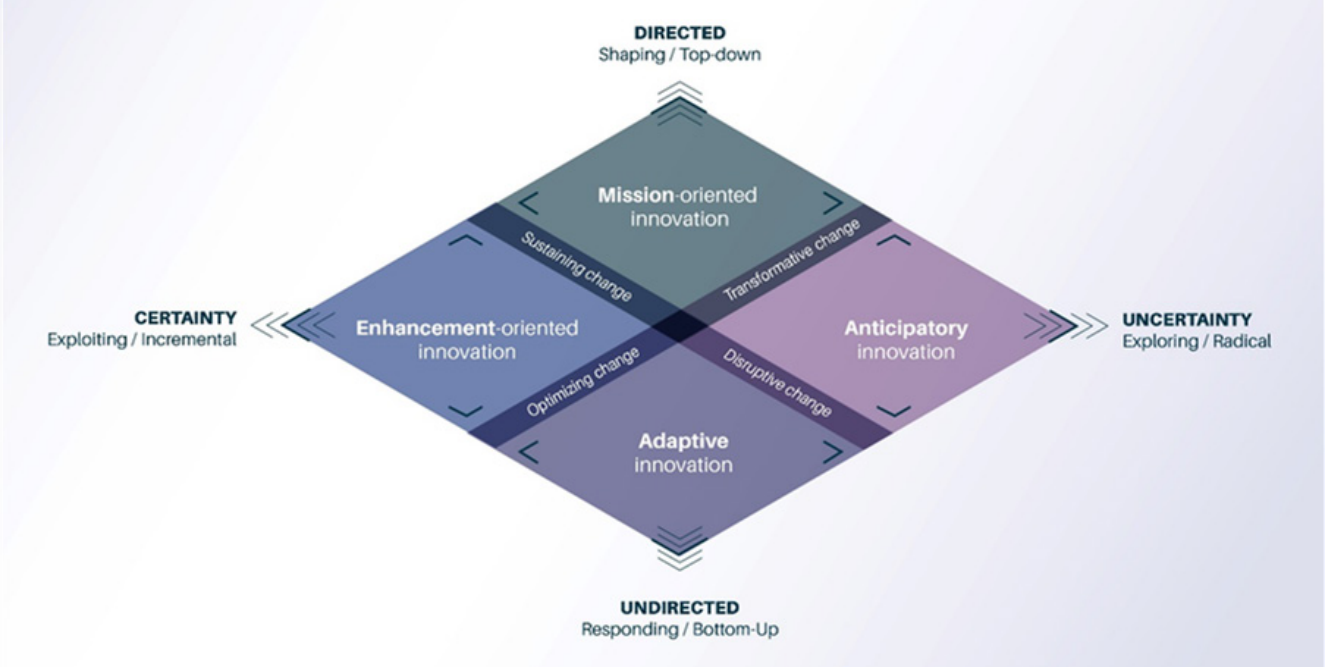
DIRECTIONALITY AND UNCERTAINTY

The Observatory of Public Sector Innovation has developed an innovation facets model for governments along two central characteristics – uncertainty and directionality. Anticipatory innovation is one of four innovation facets in this model. To balance a government's approach to innovation, all facets require government attention.

We want governments to have:

- more effective and efficient products and services (enhancement-oriented innovation);
- directed innovation to solve societal challenges (mission-oriented innovation);
- space for undirected entrepreneurial discovery (adaptive innovation).

Anticipatory innovation is an important complement in this innovation model that embraces uncertainty and experimentation to explore possible futures and steer towards preferred ones. However, given the tendency of governments to apply technology and change to existing value networks, not future, it is difficult to create space for anticipatory innovation, which is always aligned with the current paradigm.



WHERE DOES ANTICIPATORY INNOVATION FIT?

Anticipation is about creating knowledge about the future so that we may act in the present to help bring about the kind of futures we decide we want.[8] Anticipation helps us engage with alternative futures, learn from weak signals, understand public values, and visualize their consequences in the form of multiple possible outcomes.[9] Anticipation can shape people's perceptions about the future and develop their capacity to make sense of novelty.

Anticipatory innovation is acting on this knowledge for the purpose of exploring and experimenting with emergent issues or future scenarios. By probing in a complex environment, this action creates additional knowledge about how a system responds while it also actively shapes it. If done iteratively and with intention, it can actively shape a system toward a preferable future.

Anticipatory innovation governance is a broad-based capacity to actively explore possibilities, experiment, and continuously learn as part of a broader governance system. This capacity must be intentionally and persistently supported since the dominant system will tend to crowd out or deprioritise anticipatory innovation as part of a portfolio of activities.

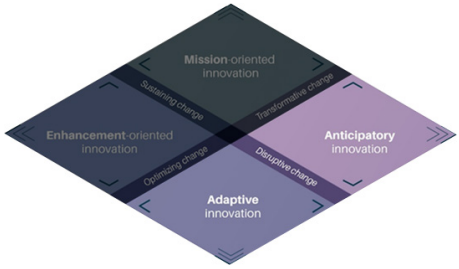
> *» Anticipation is more about practicing, rehearsing, or exercising a capacity in a logically, spatially or temporarily prior way than it is about divining a future «*
>
> Guston, 2014

The model is *anticipatory* in that the frame of interest is uncertain futures.

Innovation is both the process and the strategy to explore these futures.

This *capacity* must be intentionally and persistently supported since the dominant system will tend to deprioritise anticipatory innovation.

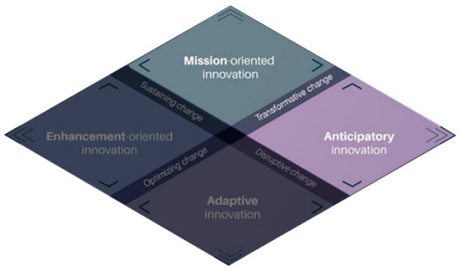
8 Guston, D. H. (2014). Understanding 'anticipatory governance'. Social Studies of Science, 44, 218–242.
9 Fuerth, L.S. 2009. Foresight and anticipatory governance. Foresight. 11: 14–32.



ADAPTATION VERSUS ANTICIPATION

Adaptation must be disentangled from anticipation. Adaptive resilience or anti-fragility is suited for the unexpected in the world as we know it, while anticipatory innovation focuses on preparing for and shaping the unexpected world.[10]

Anticipatory innovation is more predictive and proactive than adaptation, but both are needed. There will always be risks that suddenly emerge, requiring government response. While adapting to changes in the current system, anticipatory innovation must also explore options that may also challenge the current systems and how they function



MISSIONS VERSUS ANTICIPATION

Mission-oriented innovation can be plagued by lock-in: over-committing to a specific problem while getting stuck on alternative courses of action in solving it, all while the world continues to change and new problems arise. Anticipatory innovation can question the continued relevance of missions and also prepare for their unanticipated effects. Anticipatory innovation can also detect emerging problems and challenges that can become missions in the future.

ANTICIPATORY INNOVATION INVOLVES :

1

Outlining parameters around which policymakers wish to make changes: preferable futures or futures to avoid.

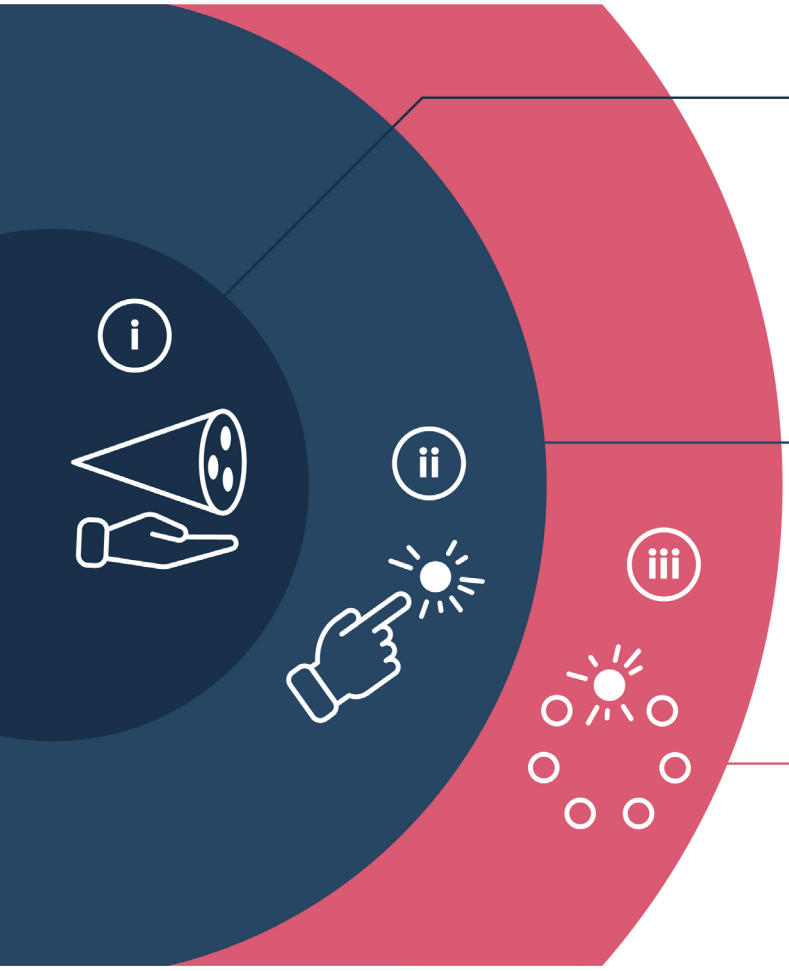
2

Experimentation in a real-world environment to determine effective policy — ideally with a subset of the individuals or groups that would be affected by government intervention, technologies or large-scale changes.

3

Based on knowledge from experimentation, policy-makers continuously reassess those preferable futures, and whether or not they are tracking towards them.

10 Nordmann, A. 2014. Responsible innovation, the art and craft of anticipation. Journal of Responsible Innovation 1(1): 87-98.



Anticipation

The creation of knowledge about the future, drawn from existing contextual factors, underlying values and worldviews, assumptions, and range of emerging developments

Antipicatory Innovation

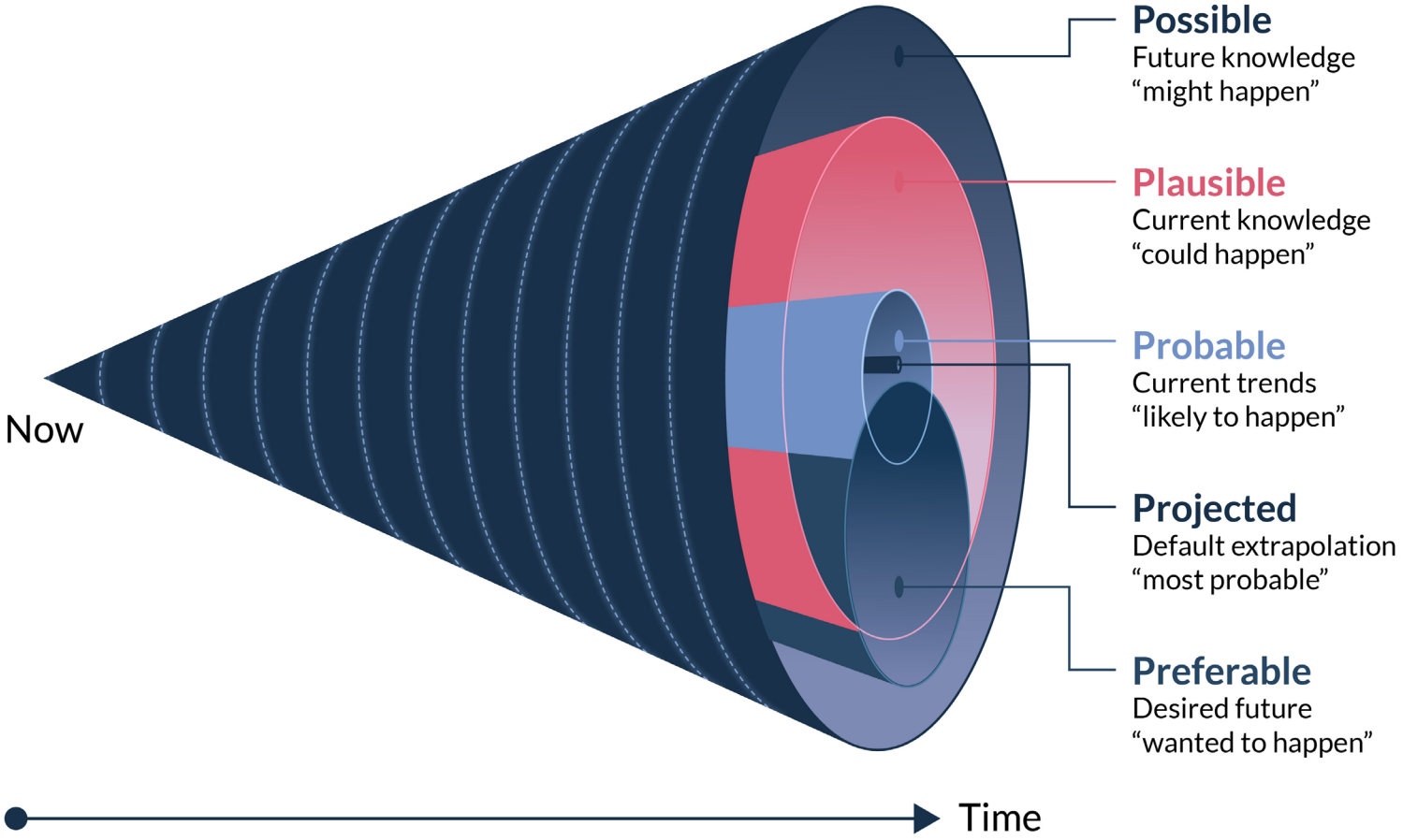
Acting upon knowledge about the future by creating something new that has the potential to impact public values

Anticipatory Innovation Governance

The structures and mechanisms in place that allows and promotes anticipatory innovation to occur alongside other types of innovation

	Traditional policymaking	Anticipatory innovation governance
Evaluation approach	Evaluation as the last stage in an often multi-year policy cycle	Continuous evaluation and assessment; exploring future effects (e.g., changes in public values, ethics, intergenerational fairness)
Policy cycle	Long research and drafting cycles, with policy implemented accordingly	Recognition that cause-effect relationships are impossible to know in advance, and that the policy implementation itself changes the problem space
Research and analysis approach	Exploring the problem space through research and analysis	Exploring the problem space through small-scale real-world experiments and innovation
Research and analysis focus	Research and analysis focused on what has happened	Research and model development focused on a range of possible futures
Participation	Policy domain experts and primary affected population	System of related policy areas and affected populations, which changes over time

Source: OECD



The futures cone, a commonly referenced model in futures studies which represents uncertainty in the future.

IS ANTICIPATION DIFFERENT FROM STRATEGIC FORESIGHT?

Some countries have been experimenting with strategic foresight and futures studies to begin to fill this gap. Strategic foresight is used to create functional and operational views of futures (possible, plausible, probable, etc.) and the opportunities that exist within them to influence today's decisions. This allows organisations and institutions to gather and process information about their future operating environment while creatively examining their current landscape for meaningful trends and then leveraging those insights to extrapolate or explore potential outcomes that can be used for planning purposes.[11]

However, foresight approaches have not been systemically integrated within government contexts and there is an overall lack of awareness and capacity for strategic foresight. Because the common tools and structures developed to create and implement policy were designed primarily to react to past events, they are often ill-equipped to value and leverage the insights developed through foresight practice.

Strategic foresight can inform decisions, but cannot on its own deliver the organisational capacity needed to constantly anticipate and respond to change. Thus, the link between foresight, planning and systemic, continuous policy change is missing.

For anticipatory innovation, strategic foresight is a critical driver of insight and knowledge to inform experimentation and innovation, but alone it is not enough.

11 OECD High Level Risk Forum (2017) Discussion Note: Preparing governments for long term threats and complex challenges. GOV/PGC/HLRF(2017)11

3

Mechanisms:
Putting anticipatory innovation governance in motion

TWO CORE COMPONENTS, MANY MECHANISMS

Anticipatory innovation governance mechanisms must be flexible and dynamic: there is no one-size-fits all governance model or best practice to deal with the future. New combinations of governance mechanisms can make room for anticipatory innovation inside the government's innovation portfolios and core architecture.[12] Consider these governance mechanisms as a web that shapes decisions at all levels over time.

Policymakers need agency to do things differently[13] and an authorising environment that gives them the authority and legitimacy to undertake anticipatory innovations that challenge current values.

» Implementation is where good ideas go to die. «

High-level Finnish civil servant on the need to connect innovation to practice, 2019

Anticipatory innovation governance mechanisms centre around two core components of any governance system:

AGENCY: public servants' and organisations' ability, motivation, and opportunity to anticipate and innovate in practice based on the resources available to them

AUTHORISING ENVIRONMENT: the system within the public sector that validates anticipatory innovation and provides feedback that there is demand, value, and use for the work.

To operationalise anticipatory innovation, it is key to explore how changes in authorising environments and agency can create opportunities and habits for experimentation, learning and innovation. Governments seeking to authorise anticipatory innovation can create learning loops, evidence and evaluation, legitimacy, networks and partnerships and that will address vested interests and cognitive biases, public interest and participation. Public servants would also need to have agency to work with anticipatory innovation on the ground: the tools and methods, institutional structures, and organisational capacity to support the work. This would require examining the traditional functions of government, including human resources, budgeting, decision-making processes, strategic planning and working methods, etc.

12 Biermann, F., Betsill, M., Gupta, J., Kani, N., Lebel, L., Liverman, D., Schroeder, H. and Siebenhüner, B., 2009. Earth System Governance: People, Places and the Planet. Science and Implementation Plan of the Earth System Governance Project.

13 Hitlin, S. and Elder Jr, G.H., 2007. Time, self, and the curiously abstract concept of agency. Sociological theory, 25(2), pp.170-191.

WHAT IS A MECHANISM?

While not as prescriptive as best practices or processes and as broad as general aspirational principles, mechanisms are instead heuristics, unspecified ways to characterise the problem space and put anticipation into action.

They may combine various forms familiar to governments - narratives, agendas, resources, time, space, technologies, information – but they will necessarily look different in every context. They are entry points that can focus actions but since they are interconnected, they should not be considered in isolation.

AUTHORISING ENVIRONMENT

VESTED INTERESTS & COGNITIVE BIASES
Ways to address incumbents' interests and biases in thinking about the future

PUBLIC INTEREST & PARTICIPATION
Involving a variety of stakeholders and new perspectives, and facilitating discussions around values

NETWORKS & PARTNERSHIPS
Working together with leading organisations and individuals with transformative ideas

LEGITIMACY
Creating trust in government risk-taking, experimentation and explored futures

EVIDENCE & EVALUATION
Evaluating future options based on value and accounting for opportunity costs

LEARNING LOOPS
Creating feedback loops from experimentation to dynamically inform policy choices

AGENCY

ALTERNATIVES EXPLORATION & EXPERIMENTATION
Ability to consider different alternatives that may be in conflict with current strategic intent

DATA & MEASUREMENT
Reading and interpreting signals, especially in real-time

SENSE-MAKING
Uncovering underlying assumptions and making sense of trends

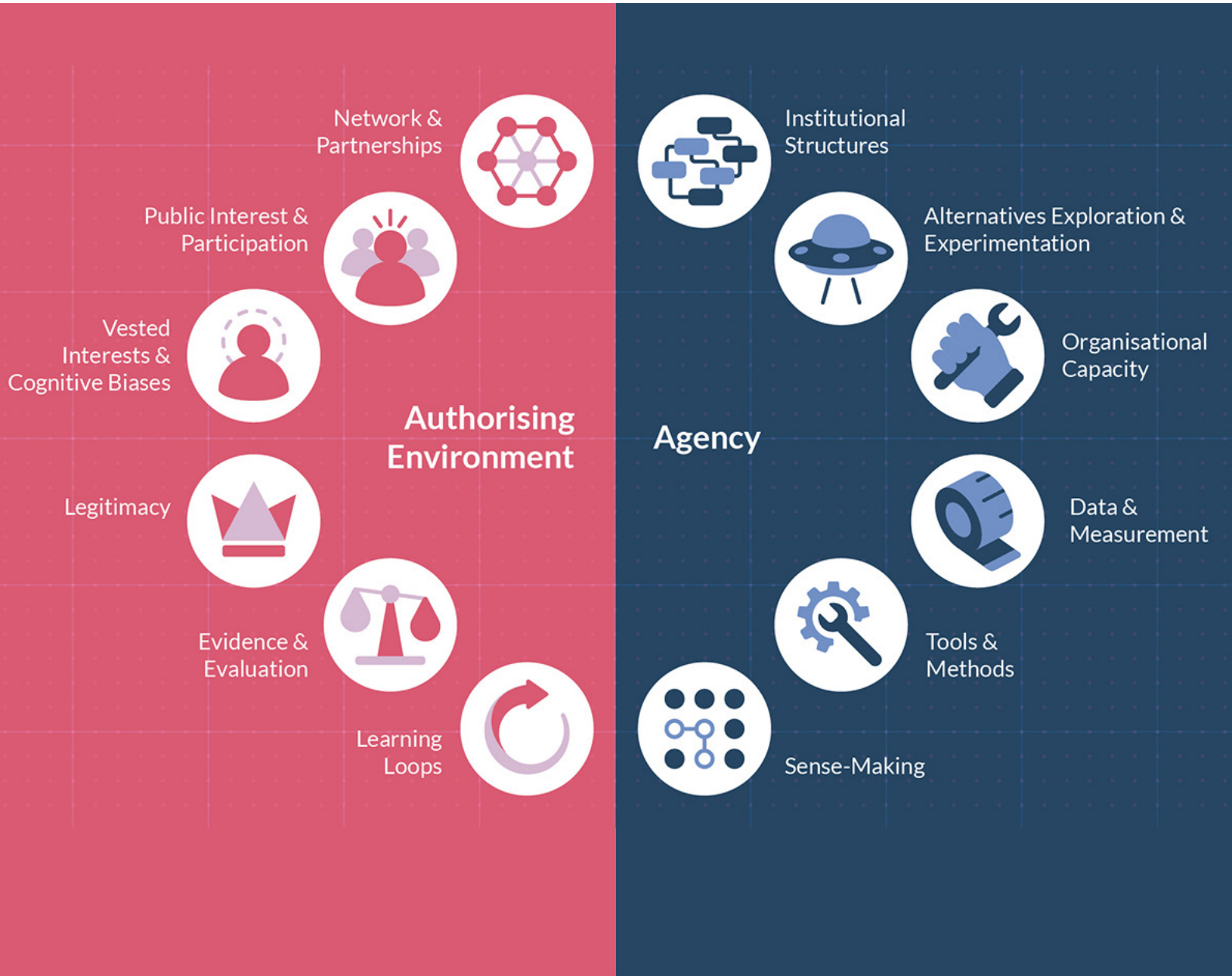
ORGANISATIONAL CAPACITY
Organisational structures that give autonomy and resources to explore transformative ideas

TOOLS & METHODS
Approaches to create new knowledge about possibilities, creativity of thought, and operationalisation of innovations

INSTITUTIONAL STRUCTURES
Institutions that make room for experimentation and testing

THE WORKING MODEL

These mechanisms often intersect and interact with traditional government functions (human resources, budgeting, procurement, evaluation etc.). More case-based research is needed to explore in depth the functioning of the enablers of anticipatory innovation governance and their relationship with established function to assess which ones act as enablers and which as barriers.



SELECTED CASES

For more detailed descriptions of the mechanisms, and detailed case studies, see OECD working paper.

UK: FCA DIGITAL SANDBOX

The Financial Conduct Authority of the United Kingdom (FCA), had been exploring the creation of a permanent digital sandbox to provide enhanced regulatory support to innovative firms so they can test and develop proofs of concept in a digital testing environment. This sandbox builds on anticipatory governance mechanisms for alternatives exploration, feedback loops with lead users in the ecosystem, as well as networks and partnerships among industry leaders. The covid-19 crisis created and exacerbated many challenges within financial services, including issues such as fraud prevention, and supporting vulnerable consumers of financial services, and provided an opportunity to accelerate the project.

NETHERLANDS: REHEARSING THE FUTURE

The PBL Netherlands Environmental Assessment Agency overcomes cognitive biases in environmental decision-making by using tools for rehearsing the future. This is done by organising regularly and over an extended period of time a series of informal dialogues in which policymakers and stakeholders in a joint and guided undertaking practice the use of scenarios, for instance, to prepare vision building, strategy development or decision-making. In the subsequent dialogues the participants identify the possible future challenges regarding the issue, to make their different ambitions related to the issue explicit and to explore how these ambitions may be realised.

UNITED STATES: COMMUNITY SENSEMAKING & FEEBACK LOOPS

The Our Tomorrows project implemented a tool to better understand what it takes for families to thrive or survive in Kansas. They utilized a complexity-informed narrative research approach and tool called SenseMaker to achieve three goals:

1. Gather stories about thriving and surviving from families across Kansas.
2. Make sense of patterns that emerged from the stories through workshops with stakeholders at various levels of the system.
3. Enable bottom-up change through Community Action Labs and micro-grants.

These goals meant developing a 'human sensor network', embedding citizen feedback loops and sensemaking processes into governance and complexity-informed decision-making through safe-to-fail project portfolios.

SWEDEN: KOMET

In 2018 the Swedish government established the Committee for Technological Innovation and Ethics (Komet). Komet stands separately from the traditional department structures and has a wide mandate to make recommendations to the Government. Their mission is to identify policy challenges, contribute to reducing uncertainty surrounding existing regulations, and accelerate policy development linked to emerging technologies, such as precision medicine and autonomous vessels. They deliver policy proposals and regulatory advice to the Government.

4

What is emerging?

THE EMERGING PRACTICE

Anticipatory innovation governance draws on a set of well-established tools and methods, each with their own bodies of literature, knowledge, and practice that are sound – while continuously evolving.

To evolve this new practice:

1. We will understand how governments today facilitate anticipatory innovation and address complex issues.
2. We will identify what needs to change in current government functions to make working in an anticipatory mode possible and normal.
3. We will generate a body of knowledge, experience, and case studies about systems-level interventions that facilitate and foster anticipatory governance, allowing for comparability, collaboration, and the establishment of good systems practices.

FORTHCOMING WORK

This work will occur within the public sector, validated by action-learning and in acknowledgement of the fact that complex systems do not function or evolve in a linear fashion. This will involve investigating how governments:

- Test sensemaking methods and approaches to pick up weak and strong signals of futures and create reflexive knowledge management systems to do so.
- Engage with signals before a new paradigm is locked in
- Create organisational capacity to incorporate anticipatory innovation practices into public sector innovation portfolios effectively.
- Actively explore and experiment with emergent issues that might shape future priorities and link the innovation practice more closely with the act of anticipation.
- Test assumptions and biases in different future possibilities and develop public value and ethical assessment tools for government to explore issues around vested interests and cognitive biases.
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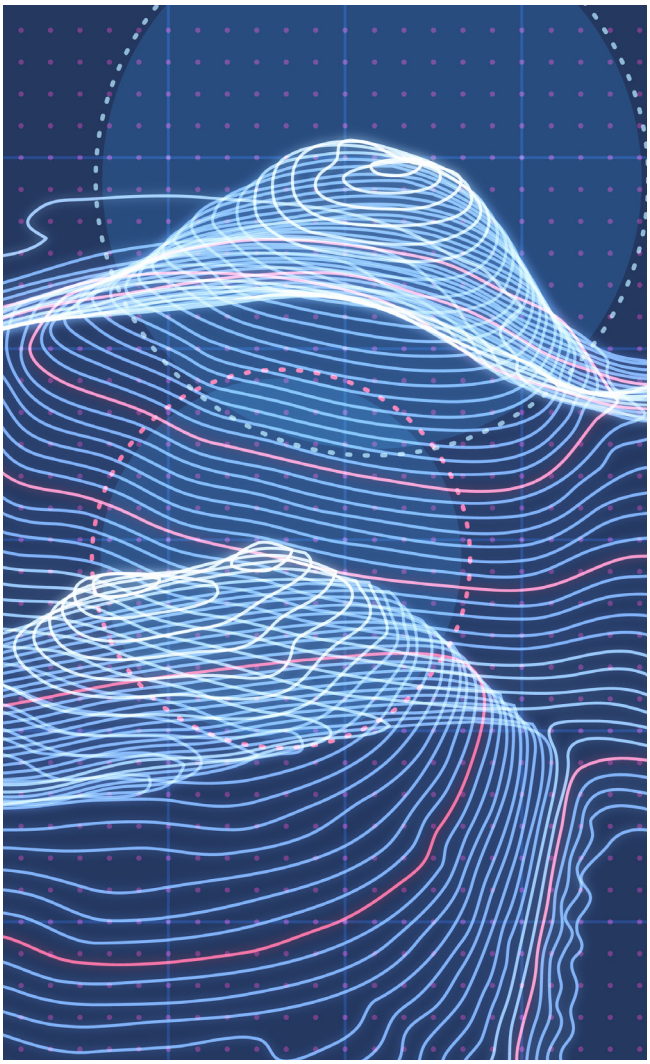
- Involve diverse sets of stakeholders into discussions around plausible, possible and preferable futures and with which tools.
- Develop reflexive practices and continuous learning loops to quickly change course.
- Institutionalise anticipatory innovation governance within the broader government system and create sources of legitimacy for the approaches.



CURRENT RESEARCH PORTFOLIO

The Observatory of Public Sector Innovation, OECD is collaborating with governments on multiple levels in 2020-2022 to understand and explore anticipatory innovation government mechanisms and to build a new governance model. The following projects are part of the OECD anticipatory innovation governance portfolio:

Finland, Ministry of Finance and Prime Minister's Office

In collaboration with the European Commission and the SRSP/TSI instrument, the project will build up a steering and governance system to address emerging, complex challenges with uncertain outcomes. The aim is to create an innovation stewardship model in the Government of Finland incorporating the anticipatory innovation function. The governance model should enable the Finnish government to adapt to transformative change in a systemic manner. The project will run from August 2020 to June 2022 and involve sectoral tests of the new anticipatory innovation governance model.

Slovenia, Ministry of Public Administration

Across the EU, the role of the public sector is changing. Effective and long-term workforce management strategies are key to respond effectively to current and future crises. The OECD is working together with the Ministry of Public Administration to address these challenges from the perspective of ageing and talent management in the public sector. What type of future skills and capacities are needed in the public sector? How might we plan human resources with an uncertain future in mind? Initiated in 2020, the project will produce deliverables to the European Public Administration Network (EUPAN) and build future anticipatory scenarios for the future of the public sector in Slovenia.

Ireland, Department of Public Expenditure and Reform

The OECD is working together with the Our Public Service 2020 (OPS2020) team towards the vision of the Irish public service in 2030, reviewing the prior plan and building up recommendations to include anticipation and strategic foresight into the core capacities of the public service. The OPS2030 aims to reflect what the world will look like in 2030, the challenges and opportunities the country may face, and the capabilities that will be needed as a public service to effectively navigate this new world.

Latvia, Investment and Development Agency of Latvia (LIAA)

Over 2020-2022, the OECD will work together with LIAA to develop anticipatory innovation governance capacity in six core national priority areas. The aim is to test different governance mechanisms on the systemic, organisational and individual level and co-create shared future visions in different sectoral fields. This should help LIAA to build up public sector capacity to deal with transformative change together with the wider ecosystem of partners.

Sweden, Vinnova

Vinnova supported the creation of the anticipatory innovation governance work in OECD and provided insights into the working paper accompanying this paper. The work started with exploring innovation portfolios, including managing anticipatory innovation within these, and evolved through learning from existing transformative change management models in practice (from supporting innovation management in public organisations to futures committees already in place, e.g., the Committee for Technological Innovation and Ethics, or Komet).

CURRENT RESEARCH PORTFOLIO

Spain, Gipuzkoa regional government, Basque country

The OECD is working with the Gipuzkoa regional government and Climate KIC on mapping out Gipuzkoa's innovation portfolio and regional innovation network and testing different collaborative governance models to emphasise anticipatory innovation governance in the portfolio. The project runs from 2020-2021.

Sweden, City of Helsingborg

The City of Helsingborg has in recent years invested heavily into anticipatory innovation and introduced a variety of mechanism to support adaptive and employee-led change within its portfolio. The efforts are driven by the global smart city expo planned for 2022 (H22). In 2020-2021, the OECD is analysing what the governance mechanisms for anticipation in an organisation look like, how to make anticipatory innovation sustainable, and how to keep the momentum on transformative change.

Finland, Itla Children's Foundation

The OECD is working with Itla on testing different tools and methods for anticipation in two cities in Finland: Oulu and Vantaa. The project introduces different futures thinking methods to the public sector and designs different ways for the city governments to keep working in an anticipatory manner around the topics of at-risk youth and youth integration.

Portugal, LabX

Governments need anticipatory skills and capacities to solve problems in new ways, change the culture, use new types of tools, and understand the changing context for public services. But where to get started? In partnership with the Observatory of Public Sector Innovation, LabX (Government of Portugal) has been developing a starter kit for anticipatory innovation. The starter kit allows teams and organisations to get practical with anticipation by using a range of tools. LabX together with OPSI are developing an initial prototype of the Starter Kit.

THE FUTURE IS BRIGHT

Transforming governments into proactive and anticipatory change-shapers is an ambitious challenge. Governments are generally intended for steady stewardship rather than risk-taking; and politically for responding to publicly recognised issues, not uncertain emerging possibilities. But pressing global challenges demand a different approach, and fast.

We know that governments' grand challenges are complex, uncertain, and constantly emerging. Challenges like climate change depend on a system of human and natural complexity that extends from the lifecycles of micro-organisms, to scientific advancement, to elections across the world. Economic and social security futures hinge on climate change, global trade flows, and how quickly and effectively the global community responds to covid-19.

Anticipatory innovation governance represents a holistic approach as well as the mechanisms that enable governments to explore and shape those futures. This government capacity must not remain static, abandoned after the first initiative or reform; it needs to adapt to societal and technological changes. We have a lot of work ahead of us but the future is bright.

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