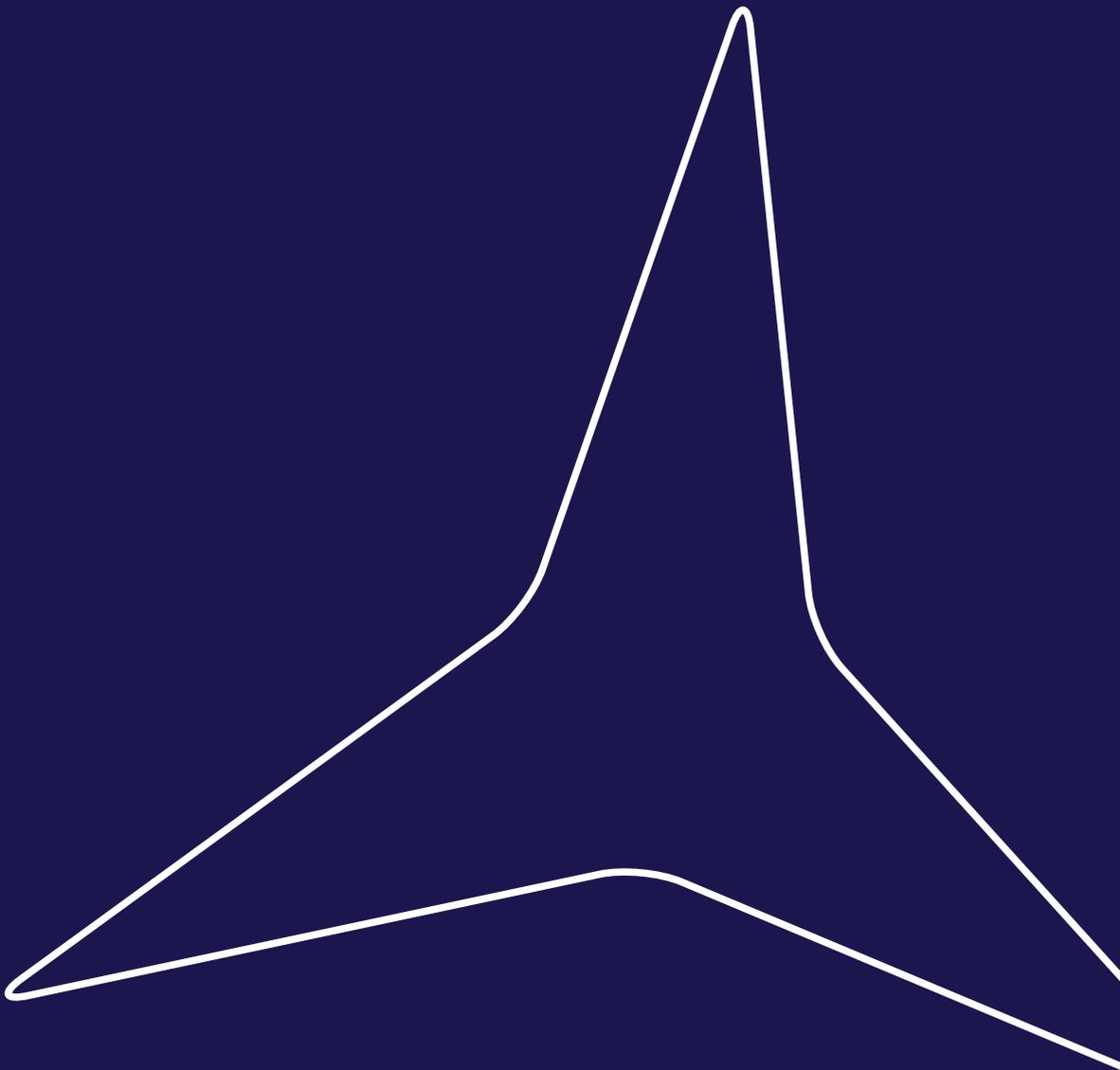


# **WHITE PAPER**

**ON LITHUANIA'S FUTURES ECOSYSTEM**





# **WHITE PAPER**

## **ON LITHUANIA'S FUTURES ECOSYSTEM**



LIETUVOS RESPUBLIKOS  
SEIMAS

2025

EDITED BY

Arūnas Augustinaitis

PREPARED BY

Committee for the Future of the Seimas of the Republic of Lithuania  
and Research Unit of the Information and Communication Department  
of the Office of the Seimas of the Republic of Lithuania

DESIGNED BY

Tomas Rastenis

Bibliographic information is available on the portal of the Lithuanian  
Integrated Library Information System (LIBIS) at *ibiblioteka.lt*

ISBN 978-609-8143-47-8 (pdf)

ISBN 978-609-8143-46-1

© Office of the Seimas of the Republic of Lithuania, 2025

# Table of contents

Glossary of terms .....	7
Abbreviations .....	12
Introduction .....	15
<b>THE WHITE PAPER AS THE CORE OF THE SYSTEM OF MEASURES FOR IMPLEMENTING THE STRATEGY ‘LITHUANIA 2050’ .....</b>	<b>20</b>
1. Conceptual foundations of Lithuania’s futures ecosystem.....	23
1.1. Lithuania’s futures ecosystem. Prospects of applying a new public governance paradigm .....	25
1.2. Lithuania’s futures ecosystem and anticipatory innovation public governance .....	35
2. Current participants in Lithuania’s futures ecosystem, their specific features, and outline of their potential roles .....	48
2.1. Roles and areas of activity of state institutions and their divisions .....	48
2.2. Role of business in Lithuania’s futures ecosystem .....	62
2.3. Role, professionalism and multi-level interest representation activities of civil society organisations.....	65
3. Structure and principles of organisation of Lithuania’s futures ecosystem.....	70
3.1. Assessment of the current state of Lithuania’s futures ecosystem .....	72
3.2. Architecture of Lithuania’s effective futures ecosystem .....	74
3.3. Application of the quadruple helix principle in designing Lithuania’s futures ecosystem .....	76
3.4. Application of the principle of multi-level approach in designing Lithuania’s futures ecosystem.....	78

4. Institutional prerequisites for Lithuania’s futures ecosystem: structure and functions.....	83
4.1. Structure of Lithuania’s futures ecosystem .....	84
4.2. Systems of parliamentary assessment of technological development in Lithuania.....	87
4.3. Modernisation of monitoring and assessment of futures policies.....	90
4.4. International dimension of Lithuania’s futures ecosystem .....	97
4.5. Analysis of the human resource needs of Lithuania’s futures ecosystem, an assessment of the status and needs of the qualification potential and measures to strengthen the human potential.....	107
 CONCLUSION. Steps for implementing LFE	
Vision of Lithuania’s futures ecosystem: <i>quo vadis?</i> .....	113
Recommendations.....	123
 APPENDICES	
Appendix 1: Composition of the Working Group for the Development of a Draft Concept of Lithuania’s Futures Ecosystem (White Paper) .....	127
Appendix 2: Models and experiences of effective foresight ecosystems .....	130
Appendix 3. Futures ecosystem for anticipatory governance (OECD methodology).....	143
Appendix 4. Conditions for the emergence of an effective foresight ecosystem and its key features and operating principles.....	145
Appendix 5. OECD recommendations on the development of Lithuania’s foresight ecosystem.....	153
Appendix 6. Themes and outcomes of the White Paper drafting sessions moderated by OECD experts .....	156
 Bibliography and sources.....	 165

## Glossary of terms

This glossary contains the main terms used in the White Paper on Lithuania's Futures Ecosystem and related to foresight, and the futures ecosystem of Lithuania and its creation. It should be noted that each concept can be defined differently, thus it is possible for the definitions and explanations provided in this glossary not to reflect all the specific features of the concept in question. This glossary of future-oriented terms, just as the futures ecosystem of Lithuania that is being created, is 'alive', i. e., it is constantly being updated and supplemented. A more detailed version of the glossary can be found in the works of the Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania (RU OSRL 24/48).

'Anticipatory innovation' means the creation and implementation of new, value-changing innovations in an environment of high uncertainty with a view to better exploring and influencing future-oriented priorities in a certain direction. Anticipatory innovation involves responding to signals indicating change, investigating emerging problems, analysing assumptions, and exploring radically different possibilities. When implementing such innovations and learning during this process, it is essential to ensure a continuous, iterative response to the changing future as well as the response of new technology and other types of innovation to both immediate issues of the present and the challenges of the future. Anticipatory innovation is usually based on knowledge about the future(s) in order to create something new that has an impact on societal values.

'Anticipatory innovation governance' refers to large-scale government actions grounded in the ability to actively explore opportunities, experiment, and continuously learn in order to cope with rapid change, uncertainty, and unpredictable events and their consequences.

'Disruption' means a sudden and significant change in the pattern of a trend brought about by advanced technology, management and governance paradigms, or new business models, which raises the desire or even the need to call into question the usual operating practices that have become established as socially acceptable norms or on which industries or markets rely.

Such fundamental change is characterised by the replacement of established products, services or concepts with newer, more efficient or simply more attractive alternatives. Disruptions often have the potential to transform prevailing assumptions about entire areas of life or the world itself (paradigms), thereby changing the competitive environment and creating an implied requirement for organisations and individuals to adapt.

'Foresight' means the result of a systematic, creative, multidisciplinary analysis, anticipation, and formation of possible future trends and events. It is most often used to justify and steer present-day decisions in the most appropriate direction. Foresight also includes the results of research into various future scenarios and their impact on decision-making using quantitative and qualitative methodologies, such as horizon scanning, megatrend analysis, or scenario building. Foresight is not an attempt to predict the future, it is rather an effort to prepare for future possibilities, thus aiming at reflecting on choices and increasing the resilience and ability of a particular entity (company, organisation, state, etc.) to adapt to the changing environment and growing uncertainty context.

'Future/futures' means the most important concept in futures studies, focusing on various development scenarios in the future and the possibilities of constructing them.

'Futures ecosystem' means a network of freely interconnected participants (communities or individual actors), including institutions, undertakings and other entities jointly developing their capacities in the areas of innovation and futures thinking, sharing knowledge, technologies, skills, and resources, and cooperating and competing. The ecosystem differs from a conventional network in that it focuses not only on the aspect of connections, but also on the creation of value and collective knowledge. Ecosystems are defined not by regional proximity, like clusters and innovation systems, but by collective functionality, emphasising the self-organisational nature of systems.

'Futures studies methodologies' means the techniques, as employed in futures studies, of getting to know the future, generating foresight, creating scenarios, and applying technology. Some futures studies methodologies, such as the Delphi technique, are specific to futures studies. However, conventional social science methods, namely, qualitative, quantitative, and mixed techniques, are also used for the above purposes, such as expert interviews, source and document analysis, focus groups, discourse analysis, big data

analytics, bibliometrics, patent analysis, etc. In addition, futures studies are characterised by methodological flexibility and the combination of a wide variety of research methods.

'Gini coefficient' means an indicator of income inequality among a country's population; one of the most common indicators of income differentiation among the population. It shows the gap between the ideally equal and actual distribution of income among the population. The value of the Gini coefficient is calculated using the Lorenz curve. The coefficient can range from 0 (complete equality) to 1, or 100% (complete inequality). The Gini coefficient would be 0 if the income of all the country's population were completely equal, and it would be 1 if a single person received all the income in society.

'Infrastructure of Lithuania's futures ecosystem' means analytical, expert, information provision, data analysis, or foresight centres, divisions, institutions, and NGOs that, within their respective remit, possess the will, qualifications, and means to form futures analysis and decision-making structures and to employ them for the adoption of strategically oriented decisions at various levels.

'Megatrends' means long-term trends in the development of an era, encompassing several interrelated phenomena, or a process of large-scale change that is expected to have a significant impact on the future. Megatrends are often global in scale and can include demographic, social, economic, technological, and environmental transformations. The broad view provided by megatrends helps to narrow and focus attention on smaller-scope trends and weak signals.

'Paradigm' (Gr. paradeigma – example) in social sciences means a totality of theoretical and methodological assumptions underpinning a certain research.

'Participant of Lithuania's futures ecosystem' means an entity operating within Lithuania's futures ecosystem, interconnected with other entities in the ecosystem, cooperating with participants of other countries' futures ecosystems within international networks, and/or developing foresight capabilities. Participants can be divided, according to their functions in the ecosystem, into those building capacities; leading and being in charge of processes; providing feedback and support; providing quantitative or qualitative data and ideas; representing interests; formulating orders; creating foresight; supporting the futures ecosystem (organisationally, expertly, informationally, communicatively, technologically, etc.) and steering it towards

a common goal. The main and necessary participants of Lithuania's futures ecosystem are the participants in Lithuania's strategic governance system as established by law.

'Scenario building', 'scenario generation' means 1) a method whereby coherent images of a possible future are developed based on major identified uncertainties of the future, current trends, or even events that are unlikely to occur. This method is used to create a number of different snapshots of the future. When describing such scenarios, the present tense is most often used, and the probability and significance of a scenario are also discussed; 2) the development of scenarios describing potential paths from the present to the desired future.

'Strategic foresight' means foresight that is closely linked to strategic thinking and strategy development and is intended to promote specific decision-making and harness support for such decisions. Such foresight is usually developed before preparing strategies or plans. This term is also often used as a synonym for foresight, as strategic foresight is almost always directed towards specific actions or at least intended to promote them.

'Uncertainty' means generally an unknown degree of variability that prevents an objective assessment of the probability of events or the nature of their consequences. Uncertainty leads to a lack of clarity, predictability, and control when considering and making decisions. Controlling uncertainty is one of the goals of foresight and futures studies.

'VUCA' means an acronym describing the volatility, uncertainty, complexity, and ambiguity of the world. These are the challenges faced by authorities. A situation becomes complicated and wicked due to bottom-up and top-down challenges, which may be global or local. In such conditions, governments must make decisions even when the direction of change, future developments, and impact are unclear and cannot be predicted. The 2020 study *Science for Policy Handbook* prepared by the European Commission's Joint Research Centre states that, although changes in the elements of a VUCA world cannot in principle be predicted (the objective of foresight is not to provide the most accurate prediction of the future) and there is no evidence or facts about the future because it does not yet exist, a well-prepared and adequately resourced foresight process can help to provide a fairly good understanding of what may happen in the future and how to deal with it (JRC 2020). The abbreviations 'TUNA' (turbulent, uncertain, novel, ambiguous) and 'BANI' (brittle, anxious,

non-linear, incomprehensible) are also used to describe social, cultural, and economic realities of the modern world.

'White paper' means a political document or a study that discusses a strategic issue, its substance, key aspects, and proposals for the development of certain areas. The white paper's purpose is to set out guidelines for the development and functioning of the phenomenon, issue, or system in question, the roles and broader responsibilities of the parties involved, but not the necessary financial resources, success indicators, etc. The white paper is not an action plan, but rather certain strategic development directions that indicate how a particular new phenomenon should be understood and interpreted, and a definition of the principles of how this phenomenon works.

'Wicked problems' means methodologically complex public policy issues that reflect global uncertainty trends, covering a wide range of variables and related to different perspectives and value orientations regarding possible solutions that may or may not be acceptable to various social groups. Such problems are unique and contextual, and typical or model solutions cannot be applied to them. Their emergence and complexity are determined by the complexity and uncertainty of the modern world and the trends of growing of divergence and gaps. Examples of wicked problems include poverty, crime, climate change, and gender inequality. All 17 sustainable development goals formulated by the UN can also be classified as wicked problems.

## Abbreviations

AI – Artificial Intelligence

CfF – Committee for the Future of the Seimas of the Republic of Lithuania

CoE – Council of Europe

CPMA – Central Project Management Agency

DG REFORM – Directorate-General for Structural Reform Support of the European Commission

DG RTD – Directorate-General for Research and Innovation of the European Commission

EC – European Commission

EP – European Parliament

EIPM – evidence-informed policymaking

EPRS – European Parliamentary Research Service

EPTA – European Parliamentary Technology Assessment

ESPAS – European Strategy and Policy Analysis System

ESS – European Social Survey

EU – European Union

EUCO – European Council

GoRL – Government of the Republic of Lithuania

GSF – Global Science Forum

ICSC – International Civil Society Centre

INGSA – International Network for Governmental Science Advice

IPU – Inter-Parliamentary Union

JRC – Joint Research Centre

LCI – Lithuanian Confederation of Industrialists

LFE – Lithuania's futures ecosystem

MMNLL – Martynas Mažvydas National Library of Lithuania  
NCP – national contact point  
NGOs – non-governmental organisations  
NPP – National Progress Plan  
OGO RL – Office of the Government of the Republic of Lithuania  
OECD – Organisation for Economic Cooperation and Development  
OSCE – Organization for Security and Co-operation in Europe  
OSRL – Office of the Seimas of the Republic of Lithuania  
PACE – Parliamentary Assembly of the Council of Europe  
PTAS – parliamentary technology assessment system  
R&D&I – research, development and innovation  
RCL – Research Council of Lithuania  
RI – research infrastructure  
RRF – Recovery and Resilience Facility  
RU OSRL – Research Unit of the Information and Communication Department  
of the Office of the Seimas of the Republic of Lithuania  
SAM – Scientific Advice Mechanism  
SAPEA – Science Advice for Policy by European Academies  
SANE – Solidarity Action Network  
S3 – smart specialisation strategies  
SDA – State Data Agency  
SIA – science and innovation advisors  
SITRA – Finnish Innovation Fund Sitra  
SOIF – School of International Futures  
SPC – State Progress Council  
SPI – Social Progress Index  
SRL – Seimas of the Republic of Lithuania  
Strategy ‘Lithuania 2050’ – State Progress Strategy ‘Lithuania’s Vision for the  
Future ‘Lithuania 2050’  
STRATA – Government Strategic Analysis Center

STOA – Panel for the Future of Science and Technology

UK – United Kingdom

UN – United Nations

UNDP – United Nations Development Programme

UNEP – United Nations Environment Programme

UNESCO – United Nations Educational, Scientific and Cultural Organization

WHO – World Health Organization

# Introduction

*We will take a plough, a book, a lyre, and we will walk  
down the path of Lithuania!* (Maironis)<sup>1</sup>

The objectives of the modernisation and development of **Lithuania's futures ecosystem** are included in the documents of the **State Progress Strategy 'Lithuania's Vision for the Future 'Lithuania 2050'** (hereinafter: the 'Strategy 'Lithuania 2050') which are intended to implement and provide support for it, as well as to establish measures for its development. The Strategy 'Lithuania 2050' outlines the general contours of the LFE and discusses the organisational and functional directions for its further development. A more in-depth analysis of these aspirations and various contexts comprise the contents of the **White Paper on Lithuania's Futures Ecosystem** (hereinafter: the 'White Paper'). The subject-matter and contents of the White Paper are derived from legal regulation, however are purely recommendatory and indicative in character. Therefore, the White Paper is not treated as a final document; it is ongoing work and must be continuously supplemented and improved in the light of domestic and global developments, emerging opportunities, and conditions. The White Paper should be updated and republished every few years.

The White Paper, which is intended to shape, improve, and develop LFE, is based on new paradigms of strategic thinking and action that allow for the formulation and adoption of political and public governance decisions focused on megatrends in the global context of accelerating and growing sweeping changes. The White Paper discusses and justifies the methodological assumptions of LFE, conceptual provisions of contemporary strategic governance, organisational principles, and foresight-driven, informational, organisational, methodological and technological aspects of shaping future-oriented political and public policy decisions and their alternatives. The White Paper sets out

<sup>1</sup> *We will take a plough (work), a book (language, science, and history), a lyre (culture and art), and we will walk down the path of Lithuania!* 100 years later, Lithuania's strategic priorities remain unchanged. Let us take the path of the green course, science, education and technology, digital culture, as this is the path to our survival and a networked state in the information world!

and substantiates the principles on which LFE could be improved and developed, as well as justifies future-oriented policy alternatives and possible ways of modelling long-term policy agendas. These principles form the basis for the strategic development and improvement of LFE, which is necessary for the step-by-step implementation of future-oriented policies in all areas of public life. Essentially, this is the basis for changes in public governance necessary to form innovative, foresight-driven decision-making systems or networks, which are described as **anticipatory public governance**, also as **evidence-based public governance**. Another particularly important aspect is the need for **improvement of the legislative process** and its modernisation, namely, the need to strengthen the foresight- and expert-based support for public governance by drafting high-quality laws and other legal acts that reflect contemporary reality.

The formation of LFE is dictated by the demands of time. The general context is linked to profound changes in human development, new stages of globalisation in the contemporary philosophical sense, while fundamentally rethinking the relationship between humanity and nature, and the emerging information environment that is changing the logic, forms, and methods of (self-) governance in society. With the recent profound, dynamic, and universal changes, fundamental issues and opportunities for the country's further development have become apparent, which increasingly requires future-oriented political and public policy decisions. This necessitates a change in **strategic thinking paradigms**, methods, and implementation principles. These issues take on particular significance in light of the need for public governance reform (modernisation), the necessity of increasing the country's **geoeconomic competitiveness** and the effectiveness of solutions for social development and progress.

The idea of developing LFE is natural and arises from the needs of political and state activities. Expert potential has been developed in a number of Lithuania's public governance institutions. The nature and activities of these institutions are not sufficiently modern and functionally well-developed, however they form the basis for a future-oriented transformation at the level of the expert-, analysis- and foresight-based ecosystems and networks of developed European countries and the member countries of the OECD required for the shaping of future-oriented public policy decisions and strategies.

In general terms, the futures ecosystem represents a complex and

integrated approach to social development, which encompasses a number of different factors, such as technology, economics, culture, politics, and the environment. Societal development is not just about technology or business but has a broader political, social, and economic dimension that is linked to people's quality of life, environmental protection, and social welfare and, even more broadly, to the development of the civilisation's potential and progress. LFE is aimed at building institutional 'brainpower' and synergy, and is therefore **understood as a totality of institutions of various levels, subordinations, and purposes, capable of generating and communicating expert-, foresight-based, or strategic knowledge when making future-oriented political or strategic decisions. LFE is based on complex communication links connecting various participants, areas of activity, and contexts and relies on a modern network infrastructure of information provision functions designed to support anticipated decisions.**

**The goal of LFE is to create a future-oriented decision-making culture, methods, and capabilities in the country that would enable the state and public governance system to achieve real efficiency and competitiveness.** LFE is formed as a set of expert-, analysis-, foresight-, and research-based activities aimed at the practical implementation of the goals set out in the Strategy 'Lithuania 2050'.

The idea of LFE has been raised in one way or another and has matured conceptually over the past five years. The biggest impetus for it was provided by the establishment and activities of **the Seimas Committee for the Future (CfF)**, which coordinates and gives substance to future-oriented politics. At the request of the CfF, a group of qualified researchers was formed in the **Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania**, which analyses various future problem areas and aspects in accordance with the needs of the political agenda. The RU OSRL, in cooperation with the Office of the CfF, compiled a systemic collection of analytical studies in which it developed and structured the most important ideas for the formation of LFAE. The content and ideas of these works constitute a significant part of the White Paper. The **Government Strategic Analysis Center STRATA** made a particularly significant contribution to the preparation of the White Paper through its activities, reviews, and analytical studies on various aspects of futures ecosystem development. They constitute a significant part of the White Paper's content. The White Paper

was prepared on the basis of the experience of foreign countries and international futures ecosystem formation, in particular the futures ecosystem practices of the OECD, Finland, and other countries.

On the initiative of the Cff and under the respective decision, the Board of the SRL set up the Working Group for the Development of a Draft Concept of Lithuania's Futures Ecosystem (White Paper) (SRL WG LFEC 2023). The Working Group combined the efforts of the Seimas and the Government in forming the legal and methodological basis for the country's anticipatory (strategic) governance infrastructure. The co-chairs of the Working Group (the list of its members is appended in Annex 1) are the highest-ranking state officials in the area of strategic governance and futures policy formation: Prof. Raimundas Lopata, Chair of the Cff, and Darius Žeruolis, Adviser to the Prime Minister of the Republic of Lithuania on Strategic Planning, Public Administration, Reform and Change Management. The coordinator of the working group Prof. Arūnas Augustinaitis, Adviser to the Office of the Cff, members of the coordination team are Agnė Grigienė, Ieva Lavišienė, Miglė Paulauskė, and Dr. Giedrius Viliūnas, Advisers to the Office of the Cff. The Cff carried out significant analytical work, investigating the possibilities for forming LFE and justifying the key problem areas in the context of shaping Lithuania's future. The results were presented at the **international conference *Development Prospects for the Futures Ecosystem in Lithuania***, which was held at the Seimas and was organised by the Cff. The aim of the conference was to discuss aspects of the development of LFE and its role in implementing the Strategy 'Lithuania 2050'. During the four years of the Cff's work in the Seimas, the relevance of creating and developing the country's futures ecosystem has become apparent. The participants of the conference discussed the accumulated experience of shaping the future and sought to answer the fundamental questions about the strategic development of the Lithuanian state and society determining the country's development dynamics, competitiveness, and resilience in the context of global change and uncertainty<sup>2</sup>.

The **State Progress Council** was represented by Dr. Aleksandras Abišala, a member of the Council's coordination team. Business positions within the Working Group were shaped by the **Lithuanian Confederation of**

<sup>2</sup> Conference materials and discussions dedicated to the activities of the Working Group set up by the Seimas together with the OGoRL in preparing the White Paper on Lithuania's Futures Ecosystem: [https://www.lrs.lt/sip/portal.show?p\\_r=40403&p\\_k=1](https://www.lrs.lt/sip/portal.show?p_r=40403&p_k=1)

**Industrialists**, represented by Vidmantas Janulevičius and Tomas Garuolis. Representatives of the Research Council of Lithuania and science and innovation advisors to ministries played an important role in preparing the White Paper. Their ideas and assessments reflected the situation on the ground and problem areas, providing facts and data on the overall view of the current state of institutional activity. Special thanks should be given to Dr. Vita Juknevičienė, a member of the Working Group and Science and Innovation Advisor to the Ministry of the Interior of the Republic of Lithuania. Jekaterina Šarmavičienė, Head of the Public and Private Partnership Department of the Central Project Management Agency and member of the Working Group, also played an important role in shaping the concept, methodology, and models of LFE. Special mention should be made of the contribution of the RU OSRL and the sincere and highly professional input by Dr. Alvydas Lukošaitis, Dr. Ligita Šarkutė, Dr. Veronika Urbonaitė-Barkauskienė, Giedrius Kanapka, Linas Šimašius, and other colleagues.

The main sources for the White Paper are studies, analytical and review reports prepared by individual authors or institutions, as well as advisers to the Office of the Cff. Most of the texts used are analytical studies conducted by the RU OSRL, the topics and issues raised in which were planned over several years in accordance with the needs of the Cff and the logic of the anticipated strategic aspects of the futures ecosystem. From a methodological point of view, the most significant influence came from the use of Finnish experience and the material of the project carried out by the OECD in cooperation with STRATA in Lithuania (OECD 2023a; OECD 2024).

# The White Paper as the core of the system of measures for implementing the Strategy 'Lithuania 2050'

The White Paper is a **facilitative and recommendatory public policy measure** aimed at establishing a relationship between LFE and the implementation of the goals of the Strategy 'Lithuania 2050'. The White Paper is intended to discuss the prospects for the further formation, support, evaluation, and improvement of the LFE institutional network. The **institutional network** is required for the future-oriented political decision-making and strategy formation **infrastructure and its foresight-based capability** strengthening measures. It is based on:

- a) utilising the potential of expert analytics;
- b) developing foresight methodologies and mainstreaming them across public governance structures;
- c) institutionalising science-based policy;
- d) technology-based data analytics;
- e) improving the information provision system;
- f) optimising the communication, coordination, and governance model;
- g) improving the legal environment;
- h) integrating into European and international futures ecosystems;
- i) a system for improving the professional, methodological, and technological competencies and qualifications of foresight and strategic governance professionals.

## **Objectives of the White Paper:**

- to conceptually justify the need for LFE and its relationship with the current European and global context of the development of the State;
- to present concepts and alternatives for the development of LFE;
- to shape a concept of LFE, propose options for its development and organisational forms;
- to set goals, objectives, and tasks for the development and improvement of LFE;

- to define the internal structure and operating principles of LFE;
- to plan institutional changes, qualification requirements, and develop governance, coordination, and communication mechanisms;
- to prepare for the deployment of anticipatory innovation and evidence-based public governance models and a culture of future-oriented policy-making;
- to incorporate solutions for integrating science and research into policy-making;
- to create a solid expert basis and forms for the purpose of improving the quality of legislation;
- to increase the role of new methodology and technology in developing strategies based on foresights, evidence, and expert assessment;
- to define the role, functions, and forms of implementation of the participation of state, academic, civil society, and business institutions in the LFE framework;
- to create the conditions for the planning, organisation and financing of future-oriented research;
- to model the processes of institutionalising the preparation and assessment of future strategies and foresight, and to develop criteria for improving the operation of foresight and strategic planning units;
- to expand the scope of functions and competences of science and technology advisors.

### **Purpose and genre of a white paper.**

- A white paper is an **analytical study** or a **guide** that provides concise information about an issue and its key aspects. It is designed to help readers understand the issue and find ways to solve it.
- The purpose of the white paper is to set out **directions of political action** and principles of such action and to provide recommendations on how to solve a complex issue (in this case, the directions of LFE development, its implementation principles and methods).
- The white paper **is not a final document**. It should be improved and, where necessary, supplemented, incorporating new data, new interpretations of the issue, solutions, and technological and methodological substantiation.

- The present White Paper **does not overlap with** the Strategy ‘Lithuania 2050’. On the contrary, the White Paper defines the prerequisites and measures for the implementation of the Strategy, namely, the development of organisational, legal, communication, and information support for future-oriented political decisions, expert assessment, the implementation of a foresight-based model, data analytics, evidence, and research at all levels and in all areas.
- The White Paper contains **recommendations** on the practical modelling, organisation, and means of implementation of the Strategy ‘Lithuania 2050’.
- The White Paper **does not provide final solutions**, rather, it is designed to define the current situation and to present general provisions and methodological options in line with the spirit of the times, geared towards specific practical solutions based on best global practices.
- The White Paper provides a basis for the creation and development of LFE, its structure, organisational features, and relationship with political decisions as an integral part of the implementation of the Strategy ‘Lithuania 2050’.
- The White Paper provides for the creation of the infrastructure necessary for the implementation of the Strategy ‘Lithuania 2050’, its structural features, operating principles, pools a set of measures for future-oriented decision-making, and defines ways of cooperation and communication as well as other essential aspects. **The LFE infrastructure consists of analytical, expert, information, data analysis, and foresight centres, divisions, institutions, and NGOs that, within their respective remit, possess the will, qualifications, and means to form future analysis and decision-making structures and to employ for the adoption of strategically oriented decisions at various levels.**

The White Paper will enable to highlight the **mission and vision of LFE**, give substance to changes in the culture of political and public policy decisions, and outline the possibilities and prospects for the transformation of an innovative, future-oriented public governance system.

# 1. Conceptual foundations of Lithuania's futures ecosystem

The work of the Seimas CfF has highlighted a fundamental issue, namely, **the need for a governance paradigm, governance culture, and governance methodology** (including organisation), given the scale of profound global changes. The White Paper aims at presenting **a collective concept, structure, and principles of operation of a realistic future change management tool that would lead to the transformation of all public governance chains in the country, including the creation, implementation, and improvement of future-oriented political decision-making mechanisms, as well as fundamental qualitative changes in the drafting of legal documents.** Without the institutionalisation of expert assessment, i.e., without the formation, networking, and activation of the institutional structure of LFE, it is hardly possible to even talk about the implementation of evidence-based innovation governance. The White Paper reveals what the futures ecosystem could, and should, look like and how it should function, which is the most important significance of this document.

In a rapidly changing global environment, the improvement and development of LFE is necessary primarily because only modern strategic thinking and future-oriented governance can achieve the most important goal of all states, namely, the **prospect of national security, resilience, and comprehensive development.** Conceptually, LFE is perceived as a path to a **networked state of public administration**, linked by **global competitive relations** in all areas covering not only language, culture, and identity but also technological innovation and the enhancement of economic potential. The universal and increasingly deepening digitisation of the world and the green course are two inevitable objective external forces that determine a specific relationship with the future.

The Strategy 'Lithuania 2050' has become the main stimulus and pretext for the idea of the White Paper, as the world of change requires a different way of thinking and acting. The role of the futures ecosystem in the modern world is extremely important, as it is the only one capable, from an instrumental point of view, of responding to the pressure of a variety of different factors and megatrends, such challenges as the sweeping changes in life brought about

by the digitised world and the green course. This involves decision-making in **VUCA** environments, where it is necessary to respond quickly to changing conditions and adapt relevant strategies to them. However, the role of futures ecosystem foresights in the context of global change is related to challenges limited by their actual coverage, perception, and possibilities for effective adaptation in the country's contemporary society. This requires addressing the issue of how to properly identify and interpret future trends so that they could be effectively used in political decision-making, as well as in public governance, business, and other areas.

The futures ecosystem is an essential element in shaping and implementing **innovative and sustainable development scenarios** that respond to contemporary challenges and needs. It is clear that a new approach to strategic planning, decision-making, and implementation is needed, based on **holistic and sustainable logic** and **state-of-the-art technology**. An anticipatory ecosystem is essential to ensure the sustainability and well-being of society in the future. There is an awareness of this in all global regions, including the European concept of virtual worlds. Without a real instrument for future transformation, namely, a modern institutional network of LFE, visionary goals will not only fail to be achieved, but will not even be directly pursued in practice, unless they are used to substantiate project funding on the basis of values. Virtual worlds are persistent, immersive environments, based on technologies including 3D and extended reality (XR), which make it possible to blend physical and digital worlds in real-time, for a variety of purposes such as designing, making simulations, collaborating, learning, socialising, carrying out transactions or providing entertainment (EC 2023, point 3.4.2).

Thus, the White Paper does not 'flow out' of the Strategy 'Lithuania 2050', but rather 'flows into' the fairway of creating the future. It is unclear which future scenarios will come true in the long term, but if we have a future-oriented approach, the quality of this future will undoubtedly be incomparably better. Therefore, it is necessary to see the links between the White Paper and the realistic public policy mix, namely, the modernisation and quality of the **Comprehensive Plan of the territory of the Republic of Lithuania, regional development strategies, smart specialisation strategies**, the conceptual nature of the **NPP** and the interrelationships and interactions between other strategic documents, as well as the improvement of the legal framework, etc. All these components of strategic governance and future-oriented decisions

should be synchronised and coordinated at various levels, such as political, organisational, financial, technological, methodological, strategic programming, etc. The interaction of all components of the public policy mix would provide the basis for the practical implementation of the Strategy 'Lithuania 2050' and its adaptation to the megatrends of the distant future.

## 1.1. Lithuania's futures ecosystem. Prospects of applying a new public governance paradigm

### **General assumptions for the creation and development of LFE**

The need to form LFE is determined by the conditions and circumstances of the historical development of modern society, which embrace existential challenges of mankind, including the planetary living environment, technological progress, the formation of virtual worlds, multicultural environments, neoclassical forms of economy and social coexistence, the prevalence of media and innovation society paradigms, the prospects and consequences of the fourth and fifth industrial revolutions determined by AI, and many other megatrends dictated by globalisation. All of this creates a need for new strategic thinking and ways of acting, which is why most advanced countries are developing various types and models of futures ecosystems. Decision-making systems of this type are becoming essential in order to sustain the pace of global competitiveness. This issue is currently becoming increasingly important at the EU level. The institutional formation of a futures ecosystem on a European scale is proceeding at a rapid pace, accompanied by a growing awareness of the role of **futures governance** in the context of global competition.

The specific characteristics of Lithuanian society, both present and future, permeate all aspects of the capacity or lack of capacity of futures ecosystem development. For the futures ecosystem to function effectively, every decision regarding its formation must be socially and culturally acceptable and justified, taking into account the social, cultural, and economic contextual factors specific to Lithuania. Stagnant, rigid, bureaucratic structures may lack not only the political will to respond to contemporary challenges, but also capabilities and intellectual potential.

The specific factors that should be distinguished are the **values** prevailing in society, the degree of social **trust**, the nature of **institutional culture**, and **social and economic** factors, such as the particularly high degree of social

exclusion characteristic of Lithuania. The ability to accept and adapt to changes in life, dynamically change qualifications and skills, and the peculiarities of understanding and evaluating cultural globalisation determine the overall mental state of the country's society and political reactions to the growing 'pressure' of global changes.

It is also important to consider the external context, namely, the **meg-trends** that directly affect the futures ecosystem, the most relevant of which are currently the changing global security paradigm, climate change, global digital connectivity, challenges to democratic values and governments, and global demographic developments.

The social and cultural context shapes the factors that facilitate or limit the development of the futures ecosystem (see Table 1).

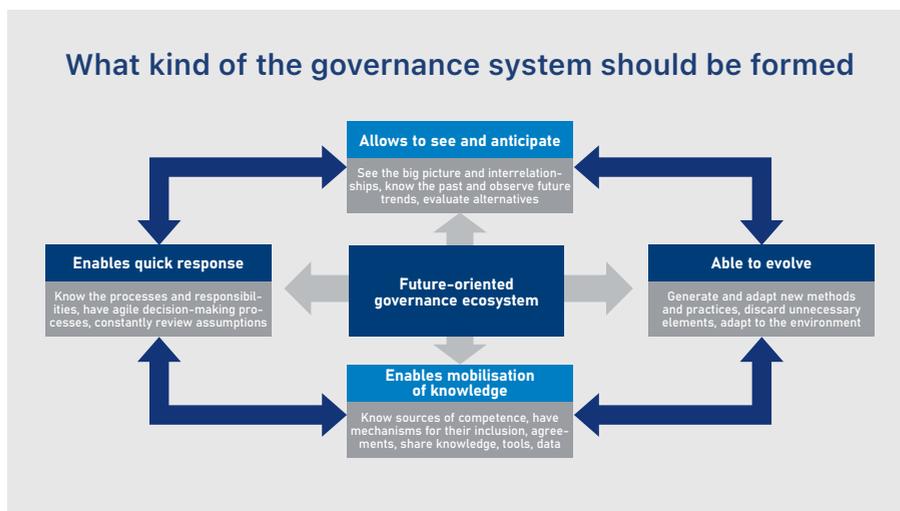
**Table 1.** Factors of the development of LFE

Facilitating factors	Limiting factors
<p><i>External geopolitical uncertainty</i> may encourage the development of futures ecosystems in the areas of national defence and security, stimulate scientific and technological progress in these areas; the real threat of the geopolitical situation may become an important and socially acceptable niche that promotes trust, justifying the relevance of the futures ecosystem and developing this ecosystem.</p>	<p>The <i>high degree of social exclusion</i>, which makes it difficult to consolidate society, and the future-oriented policy goals are seen by some in society as serving only the interests of the elite; in addressing this issue, it is important to evaluate alternative models of socio-economic development that increase social inclusion in terms of income, age, geography, and other factors.</p>
<p>In order to achieve the development of a value-based futures ecosystem and effective public communication, it is important to take into account the basic survival needs of the State and its population, primarily <i>strategic national defence</i> and the enhancement of <i>economic prosperity</i>.</p>	<p><i>Low social trust indicators</i> and a weak sense of community show that the social and cultural environment is currently not very conducive to sustainable, trust- and democracy-based participation of the population in public policy processes.</p>
<p>Given Lithuania's cultural profile, which is conducive to the adoption of Western structures on an imitative basis, <i>external initiatives by the EU and other international organisations</i> to develop the application of scientific results in political decision-making and the <i>promotion of EIPM</i> can catalyse the faster development of LFE.</p>	<p>A <i>rigid institutional culture</i> characterised by risk aversion, intolerance of mistakes, and a culture of punishment does not meet the needs of a futures ecosystem that requires innovative, creative thinking, and initiative.</p>

One of the most important tools for creating more favourable conditions for the development of LFE, addressing the issues of social trust and confidence in public authorities, and achieving institutional cultural transformation is a long-term **educational transformation encompassing future preparedness and futures literacy competences**, which are directly related to the knowledge and deployment of state-of-the-art technology, innovative teaching and learning methods, creativity education, attention to megatrends and potentially world-changing challenges – climate change, global migration, resilience of individuals and institutions to disruptive changes (RU OSRL 24/39).

### LFE as a tool of future-oriented public governance

The White Paper on LFE is a response to the changes in life that Lithuania is experiencing in a particularly rapidly changing Europe and in the world. The need for LFE is determined by requirements for the country’s **competitiveness, modernisation, security (risks), and resilience** in the context of deepening globalisation. LFE should create and implement new political decision-making mechanisms and strategic thinking (governance) models. This would allow for the formation of strategic positions, political decision-making instruments, and governance structures that best serve Lithuania’s interests in relation to developments in Europe and the world (Figure 1).



**Figure 1.** Specific features of a future-oriented governance ecosystem (Šarmavičienė 2024)

**Causes of and preconditions for strategic paradigm change.** It must be acknowledged that the strategic paradigms currently used in the country are based more on methods of **situation description** than on **foresight methodologies**, which also include data analytics technologies. Current strategic thinking does not correspond to the logic of the realities of the modern world and is based on the **linear-hierarchical tradition of strategic thinking** inherited from the industrial era. It is incompatible with the dynamics of a changing world, its three-dimensional structure, and the increasing degree of holism, which create uncertainty and, as a response to it, the mobile and multifaceted environments that support sustainability. Lithuania is facing a contradiction where political decisions require new methods and culture, however the quality of decisions is determined by the inertia of tradition. The implementation of future-oriented decisions must be based on a new strategic paradigm that is consistent with the principles of the information age. The essence of this strategic paradigm is to seek innovative and effective political decisions by public governance institutions, taking into account the development, impact, and requirements of virtual worlds, based on sustainability and harmonious development approaches, methodologies, and technologies.

### **Challenges of uncertainty and futures ecosystem prospects**

Uncertainty is an increasingly prominent feature of contemporary reality with a growing direct impact on public life, particularly on the quality of political decisions (AVNS Cff 2022; Augustinaitis 2022). Uncertainty is a consequence of information globalisation, which manifests itself in alternative possibilities and a risk-based structure of world perception, social relations, and the existential environment, requiring fundamental changes and different ways of life. The information world accumulates the **entire historical space and time of human experience and culture into a coherent information constellation** that provides endless opportunities to create various scenarios for the future development of society. A man becomes a **proactive** creator of history, not merely a passive 'plaything' of history. This means that education, creativity, the all-round development of human intelligence, as well as social capital are beginning to determine success and competitiveness in all areas of life. Essentially, this is the collective generation of the potentials of new ideas and creative alliances, constantly striving to form more effective future paradigms and competitive advantages for new life models. From a political point of view,

states and societies in different regions of the world are competing to see which one will be more successful in generating the most effective 'formula' of strategic thinking and action from among the opportunities offered by the virtual world. In fact, this is a struggle for **cultural and technological** innovation. This trend is expressed as a **megatrend of the innovation society and the innovation economy** which is leading the way in the current stage of human development in order to create ever greater added value. Incidentally, anticipatory governance is also defined as **innovation governance**, where the effectiveness and competitiveness of society and its public governance are expressed in terms of the scale, universality, and quality of innovation.

Uncertainty represents the biggest 'headache' for political governance, since innovative solutions are always solutions for the future and progress. Or more precisely and vividly, they are solutions 'from the future', where the **extrapolation chain is being increasingly broken** in order to achieve the greatest possible creative leap into the future, breaking away from the inertia of tradition. This competitive battle for innovation is currently determined not by individual sectors, but by the ability of society as a whole to create and develop the highest quality culture and informationally integrated education models. In practice, this means combining innovative social and humanitarian thinking with forms of technological implementation, scientific evidence, and aesthetic solutions of structural implementation. This is design thinking, which represents a qualitative measure of the uniqueness and effectiveness of a solution.

### **Concept of VUCA**

How does uncertainty, described by the acronym VUCA, manifest itself in concrete terms, and how should we respond to it? Modern mankind is increasingly living in a gigantic information hypertext that is constantly changing and moving, where everything is interconnected, diverse, unsustainable and where the probability of chaos, Brownian motion, as well as volatility and uniqueness are on the rise. For these reasons, the role of systems, order, linear-hierarchical thinking logic, and stable order is diminishing, so today's political decisions, strategic thinking, and the preparation of legal documents are increasingly oriented toward possible factors of uncertainty and changed conditions for organising reality. Moreover, unlike mechanistic thinking, holism and the principle of sustainability reflect changing universal ties and

interconnections between them. This logic underpins sustainability or sustainable development, which a dynamic and hyper-connected interrelationship, interdependence, and harmony among all components and contexts are acknowledged. In social relations, these changes are expressed as social inclusion. This rhetoric, which reaches Lithuania primarily from documents of the EC or the OECD, expresses a changed reality of life, which determines the search for and substantiation of alternatives to decisions 'from the future'. The greater the degree of uncertainty, the more complex, unique and strategically decisive future decisions are required. This is reflected in the establishment of the Seimas Cff and the Government's strategic course and the political course of forming anticipatory (evidence-based) governance.

### **Influence of risk factors**

In his works (primarily in *Risk Society*), sociologist Ulrich Beck explained the origins of today's new modern society ('new modernity') as the **interactions of increasing risks** of all kinds (technological, natural, cultural, geopolitical, military, health, pollution and, in particular, economic and production risks). Therefore, today's strategic decisions are based on assessments, simulations and calculations of various risks and possible crises, seeking innovative solutions that can ensure **resilience and an adequate response to likely or accidental future impacts**. Foresight, horizon scanning, emergence of weak signals and 'wild cards' are effectively preparing society for unexpected and, most importantly, existentially dangerous developments. Each of them is, in principle, possible and has the potential for catastrophic or extremely negative consequences. Taking into account the likelihood of risks, the aim is to develop strategic solutions that would be in line with the most likely developments. As a 'machine' for future decisions, LFE increases the resilience and preparedness of the country and society for possible future scenarios, searches for the best solutions, and strives to implement them proactively.

The reality of the modern world is determined by deepening systemic interconnectedness, complexity, instability, incredible speed, anxiety, and global uncertainty. In a reality of enormous speed and unimaginable amounts of data, the very logic of how societies function is changing, described by social scientists as hyper-connected, chaotic, and overheated (Eriksen 2016).

According to the **chaos theory**, contemporary society, just like any 'chaotic' system, is dynamic and particularly sensitive to changes in the initial

conditions. This means that the current state of the system determines its future, but due to the numerous interconnections between the actors in the system, threshold effects, and feedback loops, the state of the system is highly unstable and difficult to control. Since small differences in the initial conditions can lead to very different outcomes in such chaotic systems, long-term predictions of their behaviour are very difficult (Kohler 2021).

All countries existing in this new VUCA reality are affected not only by internal tensions, but also by external uncontrollable factors arising from megatrends, such as climate change, geopolitical tensions, rapid technological progress, etc.

In adapting to the challenges of a hyper-connected world that bring abrupt and far-reaching changes, traditional strategic planning tools are no longer sufficient in either the public or private sector. In today's reality, the traditional strategic planning assumption that external circumstances will remain unchanged while the strategy is being formulated and implemented no longer applies. Today's VUCA world is dramatically different, with changes constantly increasing in a chaotic manner, expanding, and becoming increasingly difficult to define and predict. That is why it is important to think about risk perception and assessment, as well as the **multitude of potential future scenarios** and how to prepare for them (RU OSRL 23/06).

According to the OECD, the challenges of today's world, namely, climate change, automation, an ageing society, the development of AI, etc., will have consequences that are difficult to anticipate, both at the global and individual levels. Complex systems and wicked problems have become the norm rather than the exception. It is becoming increasingly clear that, in such an environment, policies that passively respond to global challenges are becoming ineffective. Waiting for a crisis to strike and only then looking for solutions to the situation is becoming too costly in terms of both financial and human resources. As the COVID-19 pandemic has shown, we need to invest in anticipation, i.e., in building knowledge about the future (OECD 2020a). Futures literacy, i.e., the ability and skill to better understand the role of the future in what we see and do today, is identified by UNESCO as the key competence of the 21st century (UNESCO FL; RU OSRL 24/18).

Wicked problems show that the linear-hierarchical decision-making model was well suited to the objectives of industrial society and reflected the philosophical and sociological narratives of the time (as presented, for example,

in the works of sociologist Max Weber), but it is becoming increasingly less effective in the context of modern society. The concept of wicked problems reflects aspects of problem solving, affected by uncertainty, dynamics, multi-contextual connections, comprehensive changes, and design thinking. The key characteristics of decision-making in order to contain vague, multifaceted, changing, and ambiguous circumstances and their communicative forms are as follows:

- ✓ the problem being solved is always *unique*;
- ✓ the problem is *multidisciplinary*, *has more than one cause*, and is solved within a *multiscale* system;
- ✓ each problem *indicates a set of risks*;
- ✓ the problem being solved reflects the state of *other problematic situations accompanying or branching off from it*;
- ✓ the solution to the problem is increasingly dependent on the *perception of the cultural context, qualification- and value-based assessments*;
- ✓ the solution to the problem is more effective, the more it *integrates solutions to contextual problems*;
- ✓ incorrect or incompetent substantiation of the problem is a *factor of failure*;
- ✓ the problem is always *holistic*, as it viewed from several different perspectives;
- ✓ the content of the problem is also scientific, methodological, experimental, cultural, technological, and aesthetic (a reflection of the logic of design thinking);
- ✓ the organisation of problem solving is always *hybrid*;
- ✓ the problem *has no definitive solution*, as it is always evaluated on a scale of better/worse;
- ✓ the solution to the problem always involves *different degrees of creativity and innovation*, creating *different amounts of added value*;
- ✓ the problem *is not definitively resolved*, as its solution always has room for improvement;
- ✓ partial, fragmentary, or one-off solutions have *short-term consequences*;
- ✓ problem solving takes the forms of 'one strike', 'one shot', 'main thread', etc.

Only the problems being solved in this direction acquire a real relationship with the changing reality and are able to handle it in practice. Otherwise, there is an increase in 'running on empty', where decision-making becomes increasingly bureaucratized, constructive content is increasingly 'washed out', efficiency decreases, and the administrative burden of decision-making increases exponentially, while the effectiveness of decisions and the pace of implementation decrease accordingly or simply fall below the target.

In times of particularly rapid change and tension, the strategic foresight methodology is a more effective tool for considering and, to a certain extent, controlling the complexity of possible factors and the diversity of future scenarios, as well as preparing for possible challenges, large-scale social, economic, technological, and other disruptions. This methodology is used when considering and making strategic decisions at various levels in the public, private, and non-governmental sectors, as well as in science and other fields (RU OSRL 24/18).

The **Strategy as dystopian thinking** directly expresses the significance and scale of risk growth and the need for comprehensive governance. In response to uncertainty and emerging risks, the collapse of social development dystopias is increasing. These include scientifically (evidence- or data analysis-) based foresights, individual or collective scenarios of social and political thinking, works of art in the dystopian genre, namely, literature, cinema, theatre, media, and social network production, and, certainly, the state political strategies associated with them, which take account of the impact of potential risks and possibilities of increasing resilience in the geostrategic or geoeconomic context. Strategic thinking, supported by risk modelling methods, is associated with the creation of dystopian 'standards', i.e. the most likely future scenarios. Dystopias seek to anticipate and prepare for unfavourable and threatening scenarios of the development of society or humanity. From an everyday perspective, such way of thinking is entirely realistic in every area of life, for example, the threat to the country posed by the collapse of the unreformed education system or the impact of agricultural production on the health of the population, labour market mismatches, etc. One or another dystopia becomes the 'standard' of a certain period of social development or the norm of political thinking and action. Moreover, it does not matter whether it is the ideology of a 'great power', the universal hypertrophy of human well-being, rights, and equality, or the vision of the Kingdom of God.

Dystopias, or strategic ‘technologies’ of contemporary social thinking, range from social constructivism to socio-technological innovations in digital space.

### **Compliance with megatrends**

This extremely dynamic, changing, and uncertain world creates so-called megatrends, which are the most important directions of global development representing the major directions of change in mankind and reveal the ‘fashion trends’ of future aspirations. This raises the fundamental question of how to achieve or pursue these aspirations from a civilisational point of view and, in the best case scenario, how to create them and outline strategic contours for the future. We need to address the issues of how to politically manage the complexity of our societies and regions so that we not only keep up with these trends, but also achieve new qualitative changes that would lead to a breakthrough in innovation, identify new megatrends, or significantly modify existing ones.

In its current political governance system, Lithuania has not achieved a more or less significant measure of determining the strategic relationship with the global uncertainty. This means that the relationship with the reality being shaped by the future is not sufficiently adequate, as the assessment of the present and political decision-making are unable to keep up with the rapid pace of megatrends rushing into the future. In general, new strategic terminology is already being used in public governance practice, though a mature practical relationship with strategic reality, encompassing hyperlinks and interconnected holistic relationships between multi-level environments, has not yet been established. As a result of such mismatch, the country’s political decisions often sound declarative, rhetorical, and unrealistic, more like exhortations or unattainable expectations, when it seems that everything is lacking, from culture and education to resources and common sense (reality governance). This encompasses both the country’s overall strategy and all public policy sectors without exception, which is why ecosystems of innovative thinking such as LFE are necessary to respond to the pressure of uncertainty in the most effective way possible. In fact, all government activities should focus on innovative solutions as the development and implementation of formulas for future success in order to keep pace in this global competitive environment while maintaining cultural traditions and the desired speed of improvement of the quality of life. The current *status quo* may be satisfactory, however from a geopolitical or geoeconomic point of view, it is completely

unclear how things will unfold in the near future in the unpredictable global information and technology field.

Given the many possible trajectories for the future, LFE would bring together intellectual and professional potential to generate possible political responses to future challenges for Lithuania. It should be noted that LFE should not remain an autonomous vertical or sectoral policy-maker. In other words, it should end up 'trapped in silo mentality'. Certainly, depending on the context of change, there may still be some differentiation in terms of breakthroughs or areas of exclusive competence, however these areas are under pressure in the context of a common strategic concept. Thus, each sector should address the issue of how to respond to the growing impact of VUCA by seeking the optimal and most future-oriented solution or model.

## 1.2. Lithuania's futures ecosystem and anticipatory innovation public governance

Anticipatory innovation public governance is at the heart of implementing a new paradigm of strategic thinking and future-oriented political decision-making. It involves the formation of a **future-oriented culture of political decision-making**. Here we face a fundamental dilemma of public governance system and cultural change. We can call this governance by any other scientific term that is currently in vogue, yet the essence remains the same: any contemporary governance decision is, firstly, multi-level, i.e. vertically and horizontally linked (as an expression of a holistic and sustainable perception of reality) with other actors and platforms, and, secondly, current issues are addressed from the perspective of the furthest possible realistic future, i.e. employing data analytics, expert research, culture and the highest possible qualifications of decision-makers. Thirdly, it is necessary to acknowledge the hyper-connectivity or hyper-interconnectedness of the modern world, whose principles are manifested as holism and whose practical application is sustainable development or, in other words, harmonious development.

In the activities of the Cff, the programmes of the 18<sup>th</sup> and 19<sup>th</sup> Governments of the Republic of Lithuania, and the Strategy 'Lithuania 2050', massive attention is devoted to public governance issues and public governance reform. The effectiveness of public governance is a prerequisite for survival in a turbulent globalisation environment, ensuring social and economic

development, public welfare and prosperity. Fundamental factors such as citizen trust, the balance between private and public interests, the success of regional development, and the resolution of a number of currently pressing issues, ranging from the Gordian knot of demographic problems to the implementation of digital sovereignty, education, and the development of critical technologies, all depend on the effectiveness of state governance.

Improving state governance has many interrelated components and aspects. Understanding, evaluating and applying them in practice is a highly complex task. One thing is clear: as the logic of global development changes, so must the forms of public governance. Public governance must not only respond to the realities of a changing world, but must also be able to create them and innovate, and provide the greatest **possible added value** to the country and society. One of the key features of changes in state governance is the relationship with the future, which is becoming increasingly close to everyday practice. This is by no means the case of entrenchment of utopian thinking or its imposition from outside. The ongoing (out)burst of the digital world is growing stronger by the day, changing everything in its path like an uncontrollable tsunami. The traditional relationship between time and space is disappearing from the structure of the information world, and the future, like once in works of science fiction, is beginning to spin in loops, as if projections of the future were encoding the present and altering the possible consequences of decisions. This constantly increases the uncertainty and complexity of our lives, and it is under such conditions that state governance decisions are made. It is precisely due to the increasing uncertainty of life that the emerging management and governance capabilities are based on the effectiveness of applying the **future dimension** in all branches and processes of state governance.

The Cff understands very well the strategic importance of the future of state governance and is making every effort to speed up preparations for inevitable fundamental changes. To this end, it is rallying highly qualified experts, while engaging the academic community and bringing together state governance institutions as well as political and civic organisations. The work done so far is only the 'first swallow' in a series of future analytical works currently in progress. State governance is being prioritised as a key issue and guiding principle. The issue of state governance is becoming even more important at a time when there is political debate about the reform of the civil service and its impact on the reform of public governance as a whole.

In Lithuania's public governance system, the focus of improving anticipatory or evidence-based governance (in the administrative sense) should be on futures ecosystems that 'produce' future scenarios and the know-how in their application in the Lithuanian context, a concept that already requires a governance culture, qualifications, and abilities to fundamentally and effectively transform into a paradigm of 'leap into the future'. From a practical point of view, this means reducing the cost of bureaucratic processes by increasing the effectiveness of qualified decisions.

The OECD argues that today's rapidly changing, complex, and difficult-to-define world requires a different approach to public governance, namely, one that is forward-looking, proactive, rather than reactive and passive (OECD 2020a). This is anticipatory governance, an important provision of which is the understanding that there is not just one but several possible, desirable futures for which we must be prepared and that in solving today's issues, we must also think about the long-term future and the introduction of a foresight-based culture in public governance. This process has so far been very limited. In 2020, the Cff was established at the Seimas, the principle of future assessment was enshrined in the Law on Strategic Governance, and the Strategic Governance Methodology introduced the preparation of alternative scenarios as one of the stages in the preparation of strategic planning documents. Certain analytical capabilities are being pooled at the OSRL, the Government, STRATA, and the MMNLL. For the first time, foresight has served as a basis for the preparation of a national progress strategy, namely, the Strategy 'Lithuania 2050'. However, the demand for foresight in Lithuania is still taking shape, and formally it is only linked to the preparation of strategic planning documents, rather than to the day-to-day activities of anticipatory governance (RU OSRL 23/06).

OECD experts suggest integrating foresight into other key public policy coordination processes, not just strategic governance, i.e. in legislation and budget formation, and to that end, considering strengthening foresight capacities in the public sector (OECD 2021a). Lithuania's strategic planning system has already become well institutionalised over two decades, however experts consider it to be still very complicated, formalistic, and lacking in modern strategic thinking. In recent years, considerable attention has been paid to evidence-based governance and efficiency improvement in the public governance sector, though there is still a lack of innovation, and there exist barriers

to its introduction, such as insufficient involvement of the public and stakeholders. Furthermore, in order to institutionalise anticipatory governance, the broader socio-cultural and political context in which the system operates must also be taken into account. The country's political and administrative culture is generally described as legalistic, with the country's civil service being characterised by rule-following, risk aversion, and excessive regulation rather than innovative activity. Therefore, in order to make governance more future-oriented, it is not enough to simply create the necessary processes and structures and to train staff. A qualitative systemic shift in public governance is needed, involving a **change in a well-established culture and behaviour**, which is much more difficult to achieve (RU OSRL 23/06).

In today's world of complex challenges, uncertainty, and rapid change, reactive managerial practices often prove to be ineffective. As the events of the last decade, such as the 2008-2009 financial crisis, the COVID-19 pandemic, Russia's war against Ukraine, have shown, many governments were unprepared for them. Moreover, the challenges faced are complex and multifaceted (ranging from climate change to global demographic trends) and cannot be addressed by the efforts of any single sector alone. Ground-breaking future technologies in quantum computing, robotics and AI, biomedicine, and in other fields are rapidly changing reality, with legal regulation often lagging behind. According to experts, governments should not only develop foresight capacities, i.e. integrate foresight methods in public policy-making processes, but also develop comprehensive capacities to create innovations or innovative practices, the products and processes that would help to enter the uncharted territory and provide tools to handle them (Tönurist, Hanson 2020).

### **LFE as a prerequisite for competition and progress**

Futures ecosystems are a practical tool for the new paradigm of strategic governance. The scale of their development may vary and depends on a number of factors, such as political will, funding, human resource potential, managerial skills, etc.

A futures ecosystem is not just a few isolated institutions providing foresight, statistical or prognostic information to government bodies. A futures ecosystem has its own philosophy, which influences the way in which the government, society, business, and science perceive themselves and operate. Essentially, it is a holistic, over-arching, collective attitude of positive and

progressive thinking and action, encompassing, albeit to varying degrees, the consciousness and connections of society as a whole in terms of the European and global dimensions of well-being, technology, and social development. This means that the futures ecosystem is continually oriented towards a more advanced and higher-quality future, deeper social relations involving key actors in the communication process, such as the **quadruple helix (government, civil society, business, academia)**, and connecting them all within an ecosystemic context. This is both a method of **communication** and a **style of governance**, as well as a **model for political decision-making**, where people think, consult, discuss and make decisions together, taking into account the opinions and priorities of civil society or clarifying its preferences through technological means (e.g., **crowdsourcing** tools). This deepens democratic processes and the maturity of state self-awareness, therefore the futures ecosystem must become a new cultural layer and have the capacity to shape progressive forms of future formation and strategic action, compete on a global scale and promote the development of innovation. In this regard, LFE, as the backbone of the practical implementation of the new paradigm of strategic governance, would contribute significantly to the country's survival and the strengthening of its competitiveness. In terms of competitiveness, LFE reflects the strategic significance of the country's innovative potential, as it creates preconditions for the formation of the exclusive competence of the State in the global competitive environment.

### **LFE and legislative improvement. Prospects of applying a new paradigm of public governance**

LFE, as a means of applying a strategic governance paradigm that reflects new changes in society, directly affects legislative processes, model, and quality. Today's demand for high-quality legislation and a slowdown of the 'legislative mill' is one of the country's key strategic objectives. As the literary tradition shows, mills are associated with empty, meaningless, illusory, and ineffective actions. The specifics of legislation are the issue of historical period and maturity of thought, which has little to do with the will of an individual. In fact, the legislative model operates depending on the maturity of understanding of a goal, progressiveness, and ethical potential. Today, we rely on a formal legislative process scheme without a defined value or substantive content (see Figure 2), the first four components of which are directly related to the

factors of thinking culture, qualifications, and strategic thinking. Given the conservatism, inflexibility, bureaucratic fragmentation of today’s public administration system, inertia of linear thinking, and generally outdated operating model, there is no reason to expect legal solutions to be effective and progressive. The fourth component of the legislative process, namely, public consultations, is not effective enough, does not provide a high-quality legal substantiation of new phenomena, and is unable to overcome the inertia of everyday perceptions of the current situation. In order to achieve compliance of legislation with contemporary requirements of public administration, the strategic (or future) dimension of lawmaking needs to be brought up to date. The use of LFE in improving legislative processes would allow for the direct linking of legislative activities with future contexts of social, technological, cultural, and economic development and giving substance to the futures ecosystem itself, its prognostic impact on the creation of structurally advanced and effective laws. Thus, the strategic legislative perspective effectuated through LFE would allow formal lawmaking, reflecting formal public governance, to be brought closer to the changing reality and contemporary criteria of progress, which are reflected in the global development trends of the wider society, and to be adapted to the implementation of specific strategic goals of the country.

### Open and evidence-based legislative process



**Figure 2.** Open and evidence-based legislative process (available online at: <https://lrv.lt/lt/apie-vyriausybe/geresnis-reglamentavimas/teisekuros-procesas>)

### **Smart specialisation strategy. A tool for implementing a new paradigm**

One of the fundamental **definitions of globalisation describes it as the interaction and competition of regional structures at all levels on a global scale**. From this perspective, regions, regardless of their size – from local (e.g. a ward, a municipality) to global (the EU, the United States, China, etc.) – are united by the information space and form complex and multifaceted three-dimensional relationships.

When sketching the contours of the futures ecosystem, questions inevitably arise about where to start shaping the country's futures ecosystem, what legal changes are necessary to actually implement the futures ecosystem and adapt it to Lithuania's conditions, and find optimal conceptual, organisational, functional, and human resource solutions. As part of the hubs for organising the implementation of the futures ecosystem, a modern operating mechanism for a **smart specialisation strategy** should be created. The S3 is a multi-stage networked structure that, taking into account a number of factors such as traditions, culture, heritage, resources, style of working and living, human resources, people's choices, etc., models new challenges for regional development. In accordance with the S3, all areas of life and heritage (cultural, natural, economic, etc.) in the region are digitised, while at the same time creating preconditions for smart governance using the cutting-edge technology that ensures full interoperability, the widespread application of AI tools, and the possibility of modelling 'digital twins' of various regional structures in order to continuously increase competitiveness at the global level. This is a multi-level and dynamic system that is regularly monitored and adjusted based on the results of the data analysis, combining elements of smart governance, increasing the potential of social capital and innovation, creating jobs and, most importantly, responding to changes and new technological or modernisation trends allowing for the rapid creation of innovations and increase of competitive potential. In this way, the **S3 becomes a link between the implementation of public policy and the actual needs of communities or regions. Therefore, the implementation of the S3 is a way to transform the current linear-hierarchical model of public governance into an anticipatory model** based on data, analysis, foresight, horizontal links and dynamic strategies supported by knowledge and technology (Augustinaitis 2017, pp. 23-31; Augustinaitis et al. 2022; Carayannis, Grigoroudis 2016).

It should be noted that the current S3 does not validate the principle of a regional S3 within the coordination, implementation, and governance scheme, leaving only the governance (strategic), coordination, implementation and expert levels. The regional S3 is neither provided for within the institutional framework for the preparation and implementation of the concept (R&D&I GoRL 2022, pp. 48-57). Without an understanding of the S3, which would enable a practical response to the real impact of megatrends on the development of society, it is hardly possible to talk about the implementation of the Strategy 'Lithuania 2050', let alone the possibility of deploying anticipatory governance.

### **LFE and national interests**

Another requirement of the futures ecosystem is related to the **formulation and implementation of strategic national interests** in a hyper-connected world dominated by uncertainty. The justification, refinement, and improvement of national interests is one of the essential conditions for the life, functioning, and development of a state. A full understanding of national interests (including such factors as economic competitiveness, social model, cultural relations, discussions and initiatives, etc.) and the political and strategic interpretation of accelerating changes in the world is a task at the national level, which requires the mobilisation of the entire intellectual potential of the country, encompassing both research institutions and specialised analytical centres. Without the necessary expert support, data analysis, and special methodologies indicating the impact of global changes, without the assessment of dual-use and critical technologies and the transfer and specific adaptation of other megatrends to provide the impetus for the development and enhancing of the prosperity of Lithuanian society, the justification and strategising of national interests will not be able to adequately ensure the strategic alignment of the country's development with global change vectors.

### **LFE and the implementation of the Strategy 'Lithuania 2050'**

The Strategy 'Lithuania 2050' is the country's latest strategy, which in terms of its purpose and content is close to the concept of a Grand Strategy. Its key feature is the application of the foresight methodology for the maximum strategic planning period of 30 years. It is not possible to set goals for such a long period, let alone define them in detail, hence the degree of abstraction and the aspirations of the State is such that the forms of implementation are not

always predictable. In this respect, LFE becomes a necessary tool which, by adopting the furthest 'visible' realistic political decision alternatives, **should help to guide the (strategic) steps for the implementation of the Strategy 'Lithuania 2050'**. Without the mechanism for political empowerment provided by LFE's analytical foresights and the continuous improvement of its effectiveness, the realistic implementation of the Strategy 'Lithuania 2050' is hardly possible. Without restructuring and modernising LFE, the role of the Strategy 'Lithuania 2050' in Lithuania's progress will inevitably diminish, since a vision of the future that is not supported, monitored, and promptly adjusted quickly becomes a poster declaration whose provisions have no direct bearing to real life. This will also affect the correlation between the Strategy 'Lithuania 2050' and **national security policy, foreign policy, and other public policies**.

The implementation of the Strategy 'Lithuania 2050', by employing the LFE analytical apparatus, is possible by bringing it closer to the **Grand Strategy concept**, the way in which it is modelled and applied. According to Kristina Baubinaitė, "a Grand Strategy is the purposeful and targeted use of all available means of power and influence to ensure the survival and security of a nation, a state, or a group of states. It is a long-term strategy, most often implying the global interests of the State and the aspiration to participate in global political processes. In its form, structure, and content, it differs from other strategies in a certain aspect of 'totality'. The purpose of the Grand Strategy is to coordinate and direct all the resources of the nation or the group of nations towards long-term goals defined by fundamental political decisions" (Baubinaitė 2011, p. 135). "The goals of the contemporary Grand Strategy do not differ from those stipulated in so-called traditional grand strategies, namely, the **state's security and comprehensive development**. In the Grand Strategy of the 21st century, the concept of the state's 'presence under the sun' should be replaced by the concept of 'networking', which would mean the state's efforts to exploit the opportunities offered by the global **network state** for the purposes of national development" (Ibid., p. 133). From this perspective, the maturity of LFE should be assessed in terms of its ability to shape, support, and develop a comprehensive Grand Strategy for Lithuania.

The task of creating LFE is a direct strategic response to the challenges of increasing uncertainty. It is a fundamental tool in the broadest sense of

the word, enabling change in increasingly digitalised living environments. From the point of view of public governance, the improvement of futures ecosystems and their integration into public governance structures create a compensatory mechanism for VUCA environments gaining momentum in all areas of life.

### **Relationship between the Law on Strategic Governance and the development of LFE**

The improvement of the LFE legal framework is directly linked to the activities of the Cff, which formulated and substantiated the need for future-oriented political decisions and initiated the initial amendments to the Law of the Republic of Lithuania on Strategic Governance. The most important change in the Law is the recognition of the future as a normative principle of the strategic governance system, supplementing strategic governance with foresight outcomes. The institutions of the strategic governance system stipulated by the Law have been placed under the obligation to take account of this principle. This is a principle based on complementarity, which does not fundamentally alter the model or paradigm of strategic governance, but supplements it with elements of foresight.

The relationship between the Law and the development of LFE is limited, as it only defines a formal strategic governance hierarchy that is not based on future-oriented decision-making processes and interactions. The role of the future dimension in the overall structure of strategic governance has not been established as a priority; the assessment of the future is not linked to the development of the futures ecosystem and is limited to the application of foresight in assessing future opportunities, leaving aside other analytical expert technologies and methodologies. Foresight in Lithuania is currently specifically linked to the preparation of strategic planning documents, as established in Articles 4, 14, 15, and 16 of the Law on Strategic Governance and supplemented by the Strategic Governance Methodology (SMM GoRL 2021): the Law establishes the principle of future assessment, and the Methodology provides for the preparation of alternative scenarios as one of the stages in the preparation of strategic planning documents. However, foresight is not directly linked to the processes of lawmaking, budget formation, conceptual NPP assessment, and alignment with global changes, enhancing competitiveness or resilience, and is more reflective of linear planning methodologies.

From the perspective of future assessment, there is a lack of more precise involvement of science, business, and civil society organisations, as well as a more meaningful validation mechanism that goes beyond the mere possibility of participation by appropriation managers. The only provider of foresight for strategic governance (and currently the monopoly holder) is STRATA. The Law on Strategic Governance stipulates that the principle of future assessment means that “strategic governance must be based on foresight, i.e. when preparing planning documents, various future possibilities and their impact on Lithuania in the context of European and global changes must be systematically and comprehensively analysed and assessed, and the results of the assessment, together with the planning documents, must be submitted to the participants in the strategic governance system for approval. Strategic goals must be formulated by assessing the impact of national progress scenarios on Lithuania as a whole and on individual areas of state activities” (point 8 of Article 4 of the Law on Strategic Governance).

The Law on Strategic Governance also stipulates that when preparing the Strategy ‘Lithuania 2050’, the preparation of foresight and environmental analysis is to be organised by STRATA (Article 14 of the Law on Strategic Governance), and when preparing national agendas, the same is done, but obviously for a different purpose, by national agenda coordinators (Article 15 of the Law on Strategic Governance). However, it should be noted that the Law itself, in terms of its essence and content, appears to be oriented more towards a strategic planning system than towards a strategic governance system or strategic thinking processes, let alone a developed ecosystem of foresight. Nevertheless, when designing LFE, it makes sense to build on the participants in the strategic governance system listed in the Law, by providing for their specific roles in the structure of organisation of future-oriented decision-making.

The Law of the Republic of Lithuania on Strategic Governance provides for the following participants in the strategic governance system (point 17 of Article 3 of the Law on Strategic Governance):

- 1) Seimas of the Republic of Lithuania;
- 2) Government of the Republic of Lithuania;
- 3) institutions headed by managers of state budget appropriations and budgetary institutions subordinate to them;

- 4) National Regional Development Council;
- 5) regional development councils;
- 6) municipal councils;
- 7) bodies headed by managers of municipal budget appropriations and other budgetary institutions established by municipal councils;
- 8) public establishments performing functions specified by law<sup>3</sup>;
- 9) State Progress Council;
- 10) Government Strategic Analysis Center;
- 11) Judicial Council;
- 12) national development bodies<sup>4</sup>;
- 13) legal persons or organisations without legal personality, their branches and natural persons implementing projects aimed at implementing progress measures and/or follow-through measures.

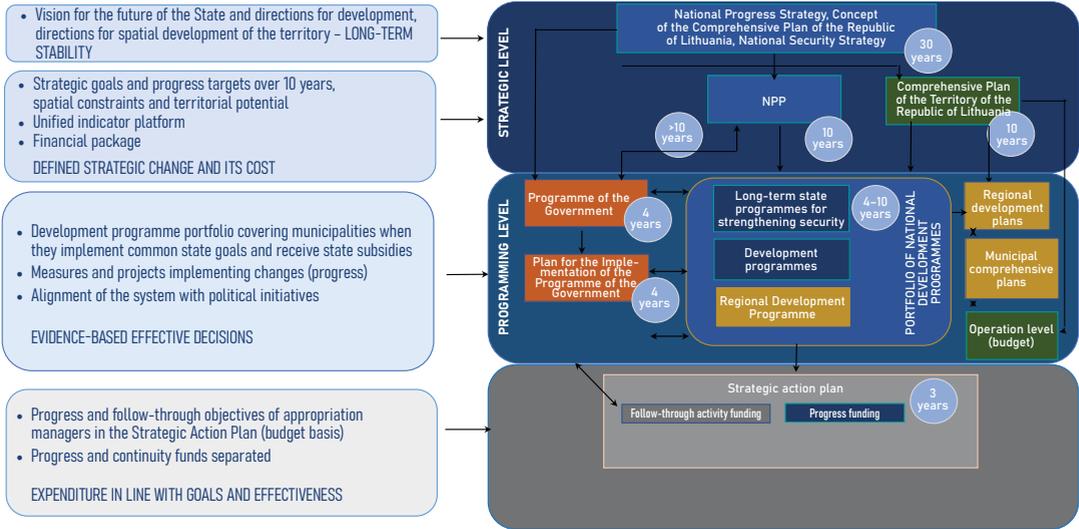
Looking at this list of participants in the strategic governance system, it can be seen that the emerging LFE already covers most of these actors and could include all of them in the future. Studies and official reports mention institutions such as the CfF, divisions of the OSRL and the OGoRL, STRATA, the SDA, the MMNLL, future anticipation divisions operating in some municipalities<sup>5</sup>, etc. These institutions are also mentioned in the final guidelines for the implementation of the Strategy 'Lithuania 2050'. Jekaterina Šarmavičienė clearly structures the modernised system of strategic governance (see Figure 3).

<sup>3</sup> Pursuant to Article 13(2) of the Law of the Republic of Lithuania on Strategic Governance, these are bodies that administer projects and/or provide methodological assistance, recommendations and consultations to other participants in the strategic governance system in preparing and implementing national development programmes, the progress measures and projects implementing them, and administering projects in accordance with the procedure established in the Strategic Governance Methodology and/or by the institution authorised by the Government.

<sup>4</sup> Pursuant to point 3 of Article 2 of the Law of the Republic of Lithuania on the National Development Institution passed on 5 June 2018, these are financial institutions authorised to carry out promotional financing activities (<https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/14333ed06b1811e8b7d2b2d2ca774092/asr>)

<sup>5</sup> For example, the Committee for Future Vilnius commenced its activities at the Vilnius City Municipal Council in 2023.

# NEW STRATEGIC GOVERNANCE SYSTEM



**Figure 3.** New system of strategic governance (according to Šarmavičienė 2024)

As noted in the Cff report of 12 December 2022 titled “Governing futures in the face of uncertainty” (GFFU), futures thinking must become a universal governance feature of all branches of government, every sector and every municipality (GFFU Cff 2022). The report also notes that “the 2021-2030 National Progress Plan highlights horizontal principles, with the Prime Minister’s portfolio projects focusing on common challenges in several sectors. However, actions aimed at responding to these wide-ranging challenges lack coordination structures. The programmes within the National Progress Plan are strictly sectoral. The Strategic Governance Methodology does not allow for cross-sectoral agendas that are absent from the laws regulating the respective area of state activities and have no equivalents in EU directives. Agencies subordinate to ministries operate in their own sectors, while efforts have already been made to ‘refine’ institutions with dual or triple subordination by assigning them to a sector. It is symptomatic that legally established cross-sectoral policy coordination platforms, such as the Council for Science, Technology and Innovation and the National Commission for Monitoring Human Resources, are ineffective. It should be noted that “the parliamentary body for envisioning the future, namely, the Seimas Committee for the Future, which is horizontal rather than specialised in nature, appears to be quite exceptional in this context” (Cff 2022-2023, p. 22; RU OSRL 24/22), however due to the nature of its work and capabilities, it is not capable of ensuring in practice the desired results of strategic governance.

## 2. Current participants in Lithuania's futures ecosystem, their specific features, and outline of their potential roles

### 2.1. Roles and areas of activity of state institutions and their divisions

The list of LFE participants below is not exhaustive, and the information provided neither reflects the specific roles of individual institutions within LFE. Several examples are presented to illustrate the diversity of participants, the specific features of roles of their activity, and the potential for networked and hierarchical cooperation.

**Seimas Committee for the Future.** Established on 8 December 2020 at the SRL, the CFT provides recommendatory decisions of political nature in the following areas: 1) the future development of society and the State and its modelling; 2) innovation and technological progress; 3) emigration, migration, and demographic processes; 4) modernisation of the State and/or state governance system (RU OSRL 24/22). Since the establishment of the CFF, future issues in the field of political governance have not only taken root, but have also risen to a new level of understanding and practical significance, becoming linked to the implementation of the principles of proactive innovation governance, the need to develop analytical and foresight-based potential, the influence of the futures ecosystems of the EU, the EU Member States, and the OECD, and opportunities for cooperation. Therefore, a conceptually justified review of Article 58 of the Statute of the Seimas of the Republic of Lithuania is needed to specify and consolidate the relationship between political decision-making on the future and other government institutions.

The CFF is the most recently established Seimas committee and the one which is most oriented towards political reflection on global changes. This is particularly evident in **wartime, with global changes increasing and intensifying in all areas, from technological developments to political decision-making.** Lithuania is forced to increase its competitiveness, resilience and, undoubtedly, its level of national security; otherwise, our State and

society might not be able to withstand pressure from external forces at the economic, technological, social, or cultural levels.

- 1. Cff and national resilience.** The most important task of the Cff is to provide solutions for ensuring the future of the Republic of Lithuania. Currently, this includes the **country's strategic modernisation objectives, setting priorities, effective solutions, and the most efficient practical actions. The Cff addresses the most significant risks to the country's development. Risks are assessed not only from the perspective of national security and defence, but also in terms of improving the country's resilience, competitiveness, and social development, as well as accelerating modernisation.** These areas are vital because without them, Lithuania cannot be an equal player in European and global politics, primarily with regard to the implementation of digitisation and digital independence (Resolution No XIV-732 of the Seimas of the Republic of Lithuania of 7 December 2021 on Future Digital Transformation and Digital Sovereignty in Lithuania), which includes the development of AI, big data, and large language models (the Artificial Intelligence Working Group was set up by the 18<sup>th</sup> Seimas on the initiative of the Cff). Equally important is the contribution of the Cff in promoting research into quantum technology, the development of which requires an even greater impetus. Another key area is the demographic development strategy (Resolution No V-2022-1785 of the Committee for the Future of the Seimas of the Republic of Lithuania of 22 February 2022 on the Future of the Country's Demographic Policy and Social Development; Resolution No XIV-2075 of the Seimas of the Republic of Lithuania of 15 June 2023 on the Future of Lithuania's Demographic Policy), and the search for strategic solutions for the modernisation of culture and education.
- 2. Cff and the Strategy 'Lithuania 2050'.** The banner of the future raised in the Strategy 'Lithuania 2050' expresses the expectations of Lithuanian society and the State. The Strategy should be viewed more as an act of will, confirming the determination to pursue the modernisation of the country, focusing on the entire spectrum of issues to be solved in a different way than before. First and foremost, this involves the ***search for implementation solutions and political decisions***. This is a complex set of tasks, the formulation and implementation of which is no less important than the creation of the Strategy 'Lithuania 2050'. The most general task is ***to configure a new legal environment that would fulfil the continuity and sustainability of long-term strategic policy, regardless of changes***

*in political values and party leadership.* In this case, the policy course would allow to search for solutions that are consistent with ideology, but would not halt strategic development. Implementation is directly related to evidence-based governance or anticipatory innovation public governance, as well as the improvement of S3 and the conceptuality of the NPP.

3. **What ensures continuity and implementation?** In its activities, the Cff has identified *a set of measures for the practical implementation of the Strategy 'Lithuania 2050' in public policy.* The interaction and complementarity of these measures should create a combination of policy measures that allows for the optimal coordination of measures with different effects. The Strategy 'Lithuania 2050' effectively serves as a future benchmark, guiding daily work in making *future-oriented decisions.*
4. Another equally important instrument is the introduction of an *anticipatory innovation or evidence-based governance model*, the essence of which is the ability, through the exploitation of LFE capabilities and qualification potential, to find the most effective forward-looking solutions suitable for day-to-day public governance practices. Making future-oriented, innovative public policy decisions requires a fundamental modernisation of information provision, coordination, and communication models, the identification and adaptation of globally proven methods that would directly integrate science-based solutions into political decision-making structures. This requires an analysis of existing models and their operational effectiveness criteria.
5. As an instrument within the public policy mix, the *alignment of the Strategy 'Lithuania 2050' with the comprehensive plan of the territory of the Republic of Lithuania* should be emphasised. This is a document of equivalent status, requiring new analytical, foresight-based, and technological mapping methods relying on perspective assessment and data analytics monitoring tools that allow for the anticipation of complex dynamics of the country's territory in the future. In order to update and modernise the comprehensive plan of the territory of the Republic of Lithuania, it is necessary not only to adjust its status, but also to consolidate the relevant qualification and analytical capabilities at the national level on the basis of LFE.
6. The fourth instrument is the improvement of the link between the Strategy 'Lithuania 2050' and the NPP in order to conceptualise and substantiate the NPP not only as a financial instrument but also as a means of qualitative change and modernisation. To a large extent, this depends on the development of LFE.

7. The fifth component of the implementation of the Strategy 'Lithuania 2050' is the modernisation of the **S3**. This is a direct way of implementing anticipatory governance, while maintaining the balance between regional development, enhancement of competitiveness, and social and economic development in the context of globalisation, making the best use of the region's full potential (including at the national and supranational levels) and harnessing it for development and progress.
8. A particular role is assigned to science, technology, and innovation policy, as linking this policy to the country's strategic objectives is vital. Improvement of the strategic planning, governance, and prioritisation of education, higher education and research, experimental development, and innovation (R&D&I) is an inevitable necessity in promoting the country's development and increasing the potential of LFE. On 11 April 2024, the Seimas adopted Resolution No XIV-2538 on **Approving the Description of Directions for Development of Lithuania's Long-term Policy on Science, Technology and Innovation**, revealing a new approach to the formation of long-term policy on science, technology, and innovation in Lithuania which is determined by increasing dependence on technology, developments in the labour market emerging due to automation and AI, and consequences of the rapidly changing information dissemination and communication environment, which pose new challenges to Lithuania's political, social, and economic development and require innovative policy solutions, as well as national development and security strengthening alternatives. The first requirement is to transform the paradigm of Lithuania's education system into the training of knowledge creators and workers, emphasising the development of highly qualified talent. This is the basis for a real breakthrough in establishing the principles of a knowledge society being part of the country's life and developing the structures of an innovation economy (Augustinaitis, Reimeris 2012). A mature **knowledge environment** employing a variety of resources, primarily digital, information, data, culture, and experience is the most important prerequisite for the modernisation of work processes in order to create new high added-value products and services. The knowledge society is built by enrolling knowledge workers in the business and public sectors, by training talent at higher education institutions and by engaging students in high-level R&D&I activities. The strategic development of R&D&I is perceived as a horizontal priority, combining the overall impact of the digital and green economy on the transformation of the country and society. Competitiveness is also redefined as

the totality of factors that increase the effectiveness of innovation and the productivity of society, allowing for the creation of the greatest possible added value by combining all potential social, economic, cultural, political, and other factors and resources with effective forms of their organisation, technological implementation, and governance.

9. The realistic implementation of the Strategy 'Lithuania 2050' includes ***strategic initiatives in the areas of digital sovereignty, demographic policy and the implementation of the Green Deal*** (Resolution No XIV-2620 of the Seimas of the Republic of Lithuania of 9 May 2022 on the Principles of Use of Artificial Intelligence Technologies in the Public Sector), and a special **Artificial Intelligence Working Group** was set up on a proposal of the Cff.
  10. Another essential level of implementation of the Strategy 'Lithuania 2050' is ***sectoral (branch) strategies*** (development programmes), such as energy, transport, education, health, regional policy, etc., which are constantly at the centre of the Cff's attention and subject to parliamentary scrutiny.
  11. At the ***supranational level***, the Seimas is paying increasing attention to interparliamentary diplomacy and international integration, ***involvement in the futures ecosystem of the EU, global issues affecting future generations, and the UN agenda***. It is evident that Lithuania is not taking full advantage of the opportunities offered by EU institutions in terms of information, strategic planning and effective practical application. It is necessary to look for forms that would allow to become more integrally and effectively involved in the EU's long-term policy-making processes, to use the collective experience of the entire EU in shaping Lithuania's futures policy directions and strategies, with a view to increasing competitiveness, resilience, strengthening the maturity of society and ensuring the development of historical and cultural traditions for future generations in the changed context of global development.
- The methods for analysing and implementing future solutions as developed by the Cff create a model for political culture change and modernisation. The practical objective is LFE, which is emerging as a future-oriented structure that plays a decisive role not only in implementing the Strategy 'Lithuania 2050', but also in shaping a modern paradigm of public governance. This is a fundamental difference from the everyday perception of the future as contrivance, fantasy, or vision. It is clear that in the context of the Cff's activities, the future is not perceived as a key element of fantasy

or prophecy, but rather as the political modelling and legitimisation of the latest strategic development trends in a global environment and in a rapidly changing context of geopolitical crisis.

- The **necessity of futures governance** and its impact are becoming increasingly apparent in such areas as the Green Deal, the digital development of the country, the development of new technology, science and innovation, models of education and future pedagogy, social and economic transformation, and other issues that were discussed by the Cff and attracted the attention of interested parties. However, the focus is directly on the reform of public governance and the implementation of the model of anticipatory public governance. The progress in and competitiveness of all areas of public life, thus the future prospects of the country as a whole, depend on the progress in the area of public governance.
- The activities of the Cff demonstrate its growing expert and methodological maturity, the rapid growth in the awareness of futures activities and new paradigms of strategic thinking, and the accumulation of expertise. The activities of the Cff attest to the growing role of horizontal decision-making. All the prerequisites for this are in place, as over the past four years, the Cff has laid the foundations for the futures ecosystem of the State, based on the need for foresight-based strategic thinking, the necessity of expert assessment, the need for big data and analytics, and links with academic institutions, and has proposed changing the culture of public governance in Lithuania by putting forward the idea of futures governance coordination centres (divisions) within state institutions, which is currently being developed as an area of competence for the SIA. The country's futures ecosystem is a likely qualitative prospect of institutional transformation which would shape a culture of innovation governance solutions and allow Lithuania's potential to unfold on an international scale.

**Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania.** The RU OSRL is a division of the Information and Communication Department of the OSRL, but its current scope of activities, scale and expert role no longer cover the changing needs of political processes. Taking into account the prospects of LFE, the RU OSRL would have several options for expanding its activities and changing its status. One of them is the model of SITRA, which aims at developing parliamentary strategic initiatives, carrying out expert examination,

conducting foresight-based activities, and providing assessment of political decisions. Another option is a special division whose main objective is to evaluate political initiatives and projects submitted to the parliament from a future perspective.

As a possible way of the expansion and development of the unit which would strengthen both the RU OSRL itself and its analytical capabilities as well as the role of the Seimas in LFE, it is necessary to reorganise the OSRL, making the RU OSRL an independent unit of the OSRL, a *think tank* for the Parliament that could identify new trends and possible directions for development, develop future scenarios, and, on that basis, provide proposals, advice, and recommendations to decision-makers. The unit, reorganised into the Research Department, would have more functions and divisions that are not related to the current functions of the RU OSRL. This would allow the RU OSRL to have separate positions dedicated to foresight and their better integration into the agenda of the Seimas. The division should maintain its independence and impartiality in order to ensure high-quality work results and their value for the work of the Seimas. The RU OSRL should be guaranteed the opportunity to independently shape its own activity plan, taking into account the priorities of the activities of the Seimas, session programmes, and the needs expressed by the Seimas committees. While emphasising the example of the equivalent Foresight Centre in the Estonian Parliament, it is necessary to consider ways of strengthening the role and formalising the activities of the SPC, formed of experts from various fields, by providing advice on the formation of the future research agenda, as well as the issue of allocating a separate budget for such a division of the OSRL. An essential function of the RU OSRL is to act as a sieve, or filter, evaluating key future decisions and strategies before submitting draft political decisions. The RU OSRL is currently at a stage of inevitable expansion and change; a strategic decision is needed on the direction and forms of activity which this unit should take in developing LFE.

**Government of the Republic of Lithuania.** It is worth mentioning the active participation of the Prime Minister's advisers and the Strategic Management Group of the OGoRL in developing LFE and in addressing evidence-based public governance reform and change management issues.

The Seimas Cff has noted that "coordination centres in the legislative and executive branches are necessary for futures governance. Such a centre

has already been established at the Seimas along with the establishment of the Cff [...]. A similar centre should also be established at the OGoRL as the role of this institution evolves from that of a legislative administrator (the function of the office of an institution) to that of a manager of strategic reforms (the function of a centre of the Government). Similar competence centres should also be established at the supreme audit authority, Lietuvos bankas, and other key institutions” (GFFU Cff 2022, p. 29; RU OSRL 24/22). The Government should reorganise strategic planning and governance institutions in the near future, primarily by establishing foresight divisions within ministries and fundamentally retraining strategy developers and analysts in accordance with the competence requirements of their respective fields. These developments require political and cultural impetus, without which the existing strategic divisions are unlikely to organically achieve the criteria for organising activities that apply to futures ecosystems in the EU Member States. It is equally important that ministries not only mobilise their internal analytical and expert potential, but also employ the results of futures studies conducted by interested scientific, business, and civic organisations.

**STRATA.** According to the Law on the Government, STRATA has a broad mandate in the field of evidence-based governance, and in the area of strategic governance, the Center has been tasked with organisation of the production of foresight and carrying out of environmental analysis in the process of preparation of the Strategy ‘Lithuania 2050’ and the NPP. In addition, according to the Strategic Governance Methodology, this institution must provide consulting assistance and methodological recommendations to other participants in the strategic governance system when conducting environmental analysis. The OECD has noted that STRATA has a broad mandate in the field of evidence-based governance, however the totality of these powers appears to be a set of incompatible functions. Therefore, the recommendations emphasised the need to review and clarify STRATA’s mandate to monitor development programmes and its powers in the area of assessing the impact of the proposed regulatory framework. It should also be ensured that STRATA acts as a key competence centre, helping ministries to implement best assessment practices (OECD 2021b; RU OSRL 23/06). It is clear that STRATA should undergo fundamental changes in the near future, while performing the role of

a methodological centre for future studies within the LFE in strengthening its analytical and foresight potential, and connect research centres and their futures studies according to the 'science for policy' principle. One example is Finland, where a foresight research centre brings together the futures research or study centres of nine universities, which together carry out up to 40 thematic foresight and futures research projects per year.

**State Progress Council.** The Strategy 'Lithuania 2050' provides that the progress achieved will be evaluated **at least once a year** by the SPC, which has the status of a Government commission (the main institution in the Government linked to considerations of the future). The SPC has the purpose of: 1) initiating regular public discussions on the future development of the State and society and ideas of progress of the State and their implementation; 2) participating in the drafting of strategic-level planning documents referred to in the Law on Strategic Governance and, where necessary, other state strategies, and submitting proposals thereon to the Government; 3) participating in the drafting, monitoring and improvement of the implementation of the Strategy 'Lithuania 2050' (RU OSRL 24/22); 4) participating in the monitoring of the implementation of the Strategy 'Lithuania 2050', *inter alia*, by considering the progress achieved in the implementation of the Strategy 'Lithuania 2050' and the NPP, as well as submitting to the Government conclusions, proposals and recommendations related to the progress achieved. The organisational structure, functions and organisational relationship of the SPC with the political authorities are not fully legally regulated and effective. In fact, the SPC should play the role of a top-level representative political bridge between the country's main public authorities, including the media and public relations. Its remit should cover the essential links of shaping the future, such as the relationship with the responsibilities assigned to the Government, the activities and political initiatives of the Seimas Cff, and, to some extent, the implementation of the programme regulations of the President of the Republic.

It is equally important that the SPC Secretariat provided for in the rules of procedure of the **SPC** be strengthened in order to intensify the Government's future engagement with the Cff. This raises the logical question of establishing a permanent position of **Deputy Chancellor of the Government** responsible for the coordination and implementation of futures policies.

The discussed institutional participants in the strategic governance of the current government, which have been legally validated, should modernise their activities, functions, relationships, communication and networking, as well as foresight methodologies and data analytics and AI technologies in the development and improvement of LFE, which should be viewed and developed from the perspective of the future institutional (formal) and infrastructure multi-level networking of LFE, involving more institutions with specific functions, without interaction and complementarity whereof LFE will not adequately fulfil its purpose and tasks.

**Research Council of Lithuania and research institutions.** Currently, the relationship of the country's research institutions as regards solving real problems of the development of society, and the involvement of institutions in the continuous improvement of solving and implementing strategic tasks is minimal. The '**science for policy**' function of scientific advice in the field of public policy is not properly implemented or is implemented at a non-systematic or personal engagement level. Qualitative criteria for progress and competitiveness in research planning are not prioritised over quantitative formal indicators. The fundamental principle of assessing the effectiveness of contributions to the country's progress and development is not raised and is overshadowed by formal indicators of the contribution to science. Without a modern and effective solution to this principle, it is practically impossible to implement the improvement of the public governance system by moving towards the introduction of the principles of the paradigm of anticipatory innovation public governance. This is a challenge both for science policy-makers and for science and research institutions themselves, finding solutions in systems for science and research planning, human resources policy and qualification assessment, improving funding priorities, and changing systems for planning, expertise and assessment.

The Cff has noted that it is necessary for the futures ecosystem to "systematically involve the capacities of the research system, [...] and that it is necessary to reboot the country's scientific system by better linking state-funded scientific priorities with the future challenges facing our society" (GFFU Cff 2022, p. 30). This concerns the research programmes of the **RCL**, the **Innovation Agency** and **state research institutes**. Thus, foresight research programmes and/or projects implemented through the RCL or the Innovation

Agency should be considered, also the use of the RCL dedicated programme instrument should be considered in order to ensure parallel planning of research programmes and projects (RU OSRL 24/22). However, the main goal is **to ensure that scientific institutions, universities and particularly the RCL link scientific progress and research with the country's strategic tasks**. This involves highly **qualified expert assessment and strategic planning**, taking into account cutting-edge progress, societal and technological megatrends. Currently, science does not pay enough attention to public governance or business, and ultimately to 'life', i.e. social and economic development, and the results of research are not being put to effective use. Selection, qualitative assessment and performance criteria for strategic priorities should be strengthened at all stages of the planning, funding and assessment of research. This requires strengthening communication, networking and organisational managerial flexibility from the local to the international level. Based on the subject matter of the published research and proposed research, it seems that the RCL in its expert assessment, has not yet sufficiently taken into account the accompanying document of the Strategy 'Lithuania 2050' approved by the Seimas, namely, the description **of the Long-Term Policy Development Directions for Science, Technology and Innovation in Lithuania**, the purpose of which is to foresee the achievement of a realistic and **effective state of the knowledge-based society and economy in all areas of life** (LSTI SRL 2024). From the perspective of LFE, it would be useful to directly link the themes, planning and funding of research on competences between the research institutions, the RCL and the Ministry of Education, Science and Sport and the Ministry of Economy and Innovation, to the strategic tasks and needs of the State.

**Social sciences and humanities** have a crucial role to play in shaping LFE, but they are currently lagging far behind the needs of assessing the impact of global trends and shaping the analytical, value and cultural field of societal development, especially with regard to technologies, the AI boom, new models for shaping and managing the labour market, the impact of multicultural factors, etc. This is particularly important for the development of large language models for the Lithuanian language, using the full linguistic, semantic and pragmatic potential, preserving the peculiarities, competitiveness and effectiveness of the Lithuanian language and culture in the global context of digitised knowledge and large language models and

big data in other languages and cultures. In fact, this presupposes synergy and methodological and technological modernisation of all social sciences and humanities, shaping guidelines for the development of future-oriented society.

The **State Data Agency** is a Government agency whose powers are defined in Article 5 of the Law of the Republic of Lithuania on Official Statistics and State Data Governance. According to the OECD, official statistics programmes are useful for the collection and use of administrative and statistical data, as they define the data to be collected, determine the responsibilities of the institutions in a specific area, and contribute to their proper management. However, OECD experts also note that official statistics programmes are too rigid to comprehensively justify and model, based on foresight, the acquisition and use of data for analysis (OECD 2021b). To this end, it was recommended to adopt a strategy, to define policies for the interconnection, linking and re-use of data, and to simplify access to administrative data for public sector bodies. The OGoRL has already planned a progress tool to use data for better solutions (Lithuanian Longitudinal Social Survey and Fertility and Family Survey programme). International experts also note that high hopes are associated with new technologies, and although AI is not a panacea, it could be integrated into foresight processes. The OECD has recommended developing analytical skills in the public sector in Lithuania by establishing an analyst position in the civil service (OECD 2021b). The role of the SDA within LFE should grow in line with the needs of big data analytics, without considering them as databases of statistical collections or open data, which are basically attributed to small data, as they are not filtered through a digital stream sieve in real time and do not use advanced linguistic analysis technologies and modern AI techniques. The SDA should play the role of the national big data depository, bringing together both public and private data lakes, the use of which would give a tremendous boost to the start-up economy, the application of AI and the breakthrough of technological innovation.

The second possible activity of the SDA, which is no less important than statistics, is the implementation of the structures, functions and possibilities for effective organisation of foresight methodologies and big data analytics. We should talk about a national data resource policy that incorporates the state-of-the-art **concept of data sovereignty in terms of technology**,

**security, digital competitiveness, economy, culture and language.** Another challenge is to maximise the use of big data in all areas of the country's life and, most importantly, in the public sector. This requires institutions that effectively develop, pool and use data resources, work with state-of-the-art analytics technologies, integrate state, private and public data resources, and develop ecosystems of start-ups working on data innovation. At present, these tasks are assigned to the SDA in a very abstract manner, but it is already clear that this will certainly not be enough to meet even the most urgent needs of the State.

The main problem in shaping the futures ecosystem is the *information supply system*, the level of efficiency and modernity of its infrastructure, technologies, methodologies and organisation and governance. It can be stated that at present the modern national information supply system is not developed. Provision of information solutions is based on a fragmented search of international databases or Google. There are no systematic information analytical mechanisms for advanced solutions and new developments and strategic alternatives, and there are no professionals capable of doing so in a qualified manner. As long as there is no proper information-based process of political governance, there can be no high-quality public policy decision-making. Perhaps a modern analogue of the once existing Lithuanian Information Institute should be established, or similar functions should be entrusted to the **Martynas Mažvydas National Library of Lithuania** by modernising its activities, functions and technologies. Currently, the organisation, management and use of information and documentary resources is not understood as a state resource for developing the cultural economy (that being understood not as an area of economy, but as a global culture-based innovation economy (Augustinaitis, Reimeris 2012)) and increasing the effectiveness of social inclusion from a social, labour modernization and economic/innovative point of view.

**Institution of Science and Innovation Advisors.** In order to develop LFE, the engagement of the **SIA network**, its institutionalisation and involvement in the areas of analytical foresight capabilities, qualification, organisational application and deployment should also be considered. The purpose of the new RCL project is to strengthen evidence-based public policy in Lithuania, while the aim of advisors is to provide advice on strengthening evidence-based

governance practices through R&D&I and integration of results into relevant sector policies and activities, coordination of R&D&I issues within the institution, representation on R&D&I issues in EU and third-country working groups, initiatives or events, and cooperation with research and innovation communities (RCL 2023). There is a clear need to review the status and functions of SIA and to include functions that cover progress and anticipatory innovation governance issues, from the organisation, modernisation and improvement of analytical foresight capabilities to the legitimisation of the forms of integration of these capabilities through strategic planning and future-oriented decision-making at all levels, in line with the principles of the anticipatory innovation governance model.

In the futures ecosystem, the role of other **state expert institutions** is also important. These are institutions which, although not typical research institutions, rely on economic and social analysis in their decision-making. These include the **Competition Council**, as well as regulatory authorities in various sectors such as telecommunications, energy and other. **Lietuvos bankas** has two research units specialising in financial and economic research. A greater and more comprehensive contribution of **Lietuvos bankas** is desirable in terms of using foresight methods to examine Lithuania's development and the possible impact of financial markets in the global environment of changing financial technologies and economic structures. When conducting operational audits and other assessments, the **National Audit Office** provides recommendations to decision-makers on the efficiency of the budget and state programmes.

There may be a need to set up new futures research institutions (e.g. based on the experience of the Finland Futures Research Centre in collaboration with university networks or Sitra, a non-state foresight expert body). In this regard, the issue of expanding the activities, qualifications and functions of STRATA, possibly up to the status of the national centre for foresight, also integrating the activities of foresight units of ministries, should be considered.

The activities of **state and non-state agencies** should play a particularly important role. They should gather all practical experience in the field of strategic governance. The role of agencies in LFE is not only to pool professional experts, but also to maintain strategic continuity and balance in the context of a shifting political field, changing governments, politicians and party influences.

## 2.2. Role of business in Lithuania's futures ecosystem

Lithuania is the country where strategic initiatives have been developed mostly by the authorities and state institutions. However, in most OECD Member States, business structures and organisations also play an important role in strategic activities, not only by working closely with scientific institutions, but also by pooling their vast expertise. It should be noted that business initiatives often surpass state institutions in terms of scale and investment in foresight. In OECD Member States, business and public authorities coordinate strategic initiatives, research and jointly develop policy responses.

Only the first steps in cooperation between business and the State in the field of strategic planning and governance are being taken in Lithuania. Business interests in the drafting of the White Paper were represented only by the LCI. Business involvement in LFE and the planning of strategic activities of the State is currently not mature enough. So far, the Strategy 'Lithuania 2050' does not appear to be sufficiently concrete from a business point of view. The role of business in decision-making that is important for the State is an essential aspect of the implementation of the Strategy 'Lithuania 2050'. To achieve this, continued cooperation between government, business and society will be necessary. At present, business is more inclined to adapt to the current strategic directions and expresses lobbying interests, therefore the task is to make business a co-creator of the strategy, anticipating the benefits of its development and at the same time strengthening the competitiveness and welfare of the State.

Foresight is defined by the OECD as a structured and explicit exploration of many plausible futures in order to inform decision-makers. The study 'Science for Policy Handbook' by Eckhard Störmer and other authors describes foresight as "a systematic participatory process, creating collective intelligence about the medium- to long-term future". (Störmer et al. 2020. p.131). This presupposes the existence of a 'system' in which the 'elements' and the 'links' between the elements operate. For example, the Netherlands has almost 70 years of institutional experience in strategic planning, and the very structure of future-oriented analytics and policy-making is located at all levels and creates a rich, mature yet highly complex set of interconnections.

The quadruple helix model can be one of the tools to help implement this vision. This means that business must actively participate in shaping and implementing strategic decisions for Lithuania's future prosperity and

sustainability. Business representatives can play an important role in this process. The business sector could most effectively participate in the futures ecosystem through a variety of interest groups, such as associations, unions and similar organisations. However, these organisations should acquire a strategic dimension of business development in LFE in line with the State's development goals.

**From the point of view of the LCI**, business participation is still understood as a position of formal participation, and not as a position of cooperation within LFE. According to the LCI, business provides conditions for a balanced and sustainable development of the country by combining three key aspects: economic, environmental and social development. However, at present, the direct representation of the country's business in the highest-level institutions of the EU, viewed from the perspective of formation of LFE, is not yet mature. Business participation in the long term is visible at all levels of the futures ecosystem:

- regional (in the structures of the futures ecosystem of self-government);
- national (in the structures of the futures ecosystem of the government);
- international (in the EU and other international organisations of the futures ecosystem).

Ecosystem institutions at the **regional level** in which business representation is expedient:

- regional development councils;
- business representatives in municipal administrations.

Ecosystem institutions at the **national level** in which business representation is expedient:

- business representatives in the Government (OGoRL);
- the National Commission for the Competitiveness of Industry 'Industry 4.0';
- the Science, Technology and Innovation Council;
- the Tripartite Council;
- the Economic Diplomacy Council;
- business representatives on the boards of organisations implementing national economic policies (e.g. the Innovation Agency, public establishment 'Invest Lithuania', the CPMA, etc.) (1/4 of members);

- business representatives in STRATA (a permanent think-tank unit that shapes future scenarios and strategies for their implementation, etc.).

Ecosystem institutions at the **international level** in which business representation is expedient at organisations supported by these institutions:

- the Representation to the EC;
- the representative to the EUCO;
- the representative to the EP.

The representation in these institutions may be commenced by appointing a business representative to the Permanent Representation of Lithuania to the European Union.

At all three levels, the main function of a business representative is the **diplomacy of economic interests**, in line with the EU's long-term development policy and its alignment with the strategic business and industrial goals of the country. However, in addition to the expressed need for lobbying interest representation, all business associations should be seen as strategic co-creation partners, who would see the strategic interests of society as a whole and of the country in the structure of LFE.

Added value generated by business representation:

- balanced formulation and implementation of futures policies based on economic, social, ecological and security principles;
- expertise, awareness of decision-makers. This improves the quality of decisions. In the context of double industrial transformation, involving changes in value-creation models and the transformation of a part of the international value-added chain, activities requiring political attention are identified which fall outside the remit of ministries and which are not assessed in the relevant decision-making;
- credibility: a business representative responsible for business interests increases the transparency and accountability of decision-makers' actions in relation to the economy. This may help avoid undue influence of special interests and ensure that decisions are in line with wider public interests, as well as reduce the risk of self-regulation by institutions;
- businesses make better use of their creative potential to offer policy solutions, to engage in strategic activities, and not just to identify shortcomings.

The key element of the foresight system, which ensures links between the participants of the system based on the quadruple helix model, are ecosystem

institutions at regional, national and international level with a sustainable (long-term) legal, administrative and financial framework.

**Business representatives must see their long-term interests in the strategic activities of the State** and, by means of analytical activities, present their position in line with the principle of win-win when assessing the relationship between the State and business. Businesses must be able to explore and find opportunities for their benefit by participating in the structures of LFE; this is a business interest that should encourage the establishment and financing of analytical centres, develop foresight, and conduct expert studies that would bring the greatest benefit to both business competitiveness and welfare and development of the State.

The first steps of business associations could be the setting up of a pool of foresight. Such a pool would decide what foresight should be financed in order to contribute to business development and implementation of the strategic goals of the State.

### 2.3. Role, professionalism and multi-level interest representation activities of civil society organisations

In order to successfully build the futures ecosystem, it is essential to make strategic and **culturally and socially acceptable** choices for the interventions or investments needed, building on the examples of functional futures ecosystem (SOIF 2021). The construction of the ecosystem is inseparable from the country's historical, geographical and cultural context, as well as the functioning of public authorities, the course of politics, the nature of the civil service, and the relations of the ecosystem with politicians and society (Augustinaitis 2005). All these contextual factors are critical for the long-term integration of foresight into public policy-making and the efficient functioning of the future's ecosystem (RU OSRL 24/16).

The influence of civil society in a democratic society is constantly increasing. It is expressed in terms of social inclusion (in economic, cultural and labour modernisation terms) and the need for social innovation. It should be noted that without the growth of social innovations it is impossible to expect effective development of technologies, science governance and other innovations. Social innovation is like a grass bed from which the hierarchy of plants grows. Civil society organisations in a democratic environment are a prerequisite for

fostering competitiveness and have a tendency to gain more and more professionalism; this analytical expertise potential implies the representation of their interests, political lobbying, and increasing influence in strategic decision-making at both regional, national and supranational level. **Highly professional NGOs are emerging in** the EU Member States, whose standing in terms of professional competition is recognised in the EU governing bodies and national authorities. An example is SITRA, founded by the Finnish government, whose strategic analytics and foresight form the basis of national policies.

Civil society, together with non-governmental and other civil society organisations, are often among the first to respond to various types of local, regional or even global crises or disasters, as they are more flexible, able to mobilise volunteers quickly, work with different groups of society and are aware of their needs, allowing rapid adaptation to the situation and helping states tackle emerging challenges (Bortkevičiūtė 2023).

All of this is a prerequisite for promoting the widest possible involvement of civil society organisations in the structures of LFE. There are important reasons for this. One of the most important is that today strategic planning and governance are inconceivable without taking into account **public expectations and opinions**. Public participation in the institutions and processes of strategic governance takes place primarily at the level of regional development and is implemented in advanced countries through the tools and methods of the S3. The S3 is inseparable from smart governance methods and technologies and is based on new data analytics technologies, crowdsourcing, and modern models for promoting social inclusion and innovation (Augustinaitis, Petrauskas 2010). All this requires the formation of 'brain hubs' of civil society at a professional level. These civil society organisations are potential actors in LFE from the outset. No less important issue is the models and techniques for their inclusion and support in LFE. Based on the experience of European countries, it can be assumed that organic involvement of NGOs in LFE is most effective in developing **knowledge (or research) regions** with their own specialisation, distinguished by living and cultural features. This includes, of course, cooperation with regional science centres and their role in shaping the future of regional life.

One of the greatest concerns of modern democracies is the alienation of citizens from political processes, so in this regard it is essential to provide citizens with an alternative means of expressing their opinions and working

for the benefit of the community (CoE 2009, p. 1). The societal benefits of NGOs and their role in ensuring more effective governance that meets citizens' expectations are widely recognised: these organisations provide the necessary knowledge and expertise to decision-makers. The body of organisations defending the interests of citizens and representing them independently of the government comprises organised civil society, which includes groups of volunteers, non-profit organisations, associations, foundations, charities, as well as communities and groups established on a geographical basis or representing different interests and engaged in advocacy (CoE 2009, p. 2).

A civil society organisation is generally understood in the EU as “an organisational structure whose members serve the general interest through a democratic process and which plays the role of mediator between public authorities and citizens” (CoE 2009, p. 4).

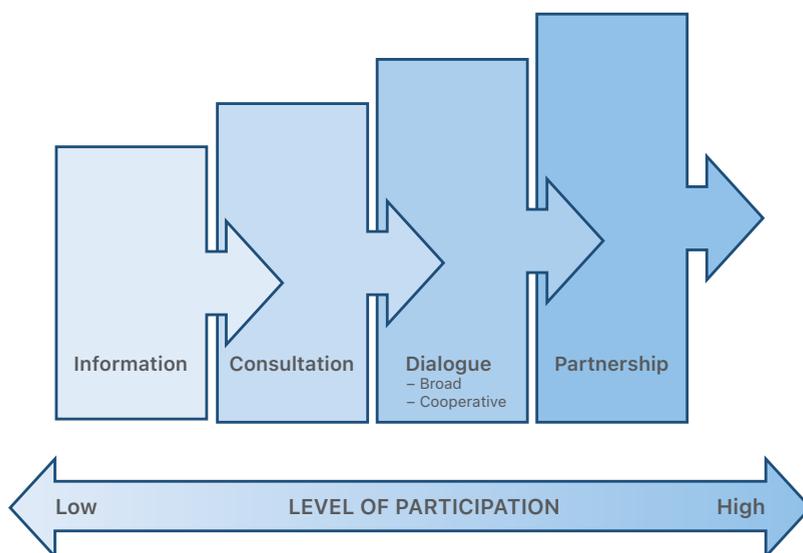
In implementing their activities, members of civil society come together in various types of organisations, which may have the following roles (WEF 2013):

- watchdog: seeking institutional accountability and promoting transparency;
- advocate: raising awareness of social problems and challenges and fostering relevant change;
- the provider of services: providing services that respond to the needs of society, such as education, health care, as well as being able to participate in dealing with the consequences of various natural disasters and catastrophes and to help prepare for such events;
- expert: providing unique knowledge and expertise that is useful in shaping public policy and finding the most appropriate policy solutions;
- skills developer: lecturing, training or engaging in other capacity-building activities;
- incubator: developing solutions which can take a very long time to prepare or whose payback periods are very long;
- representative: seeking to make the voice of marginalised or under-represented people heard;
- civic 'champion': promoting the participation and engagement of citizens and protecting citizens' rights;

- solidarity supporter: promoting fundamental and universal values;
- standard setter: creating rules that determine the functioning of the market and the State.

As addressing social challenges on a sector-by-sector basis is often difficult, civil society organisations increasingly play the above-mentioned roles in cooperation with other stakeholders from business, government or international organisations.

The participation of civil society organisations in the various phases of public policy-making varies depending on the level of participation. There are four levels of consistent participation of civil society organisations, ranging from the least inclusive to the most inclusive (see Figure 4).



**Figure 4.** Levels of participation of civil society organisations (CoE 2019, p. 9)

The ICSC was established in Germany in 2007 to support international civil society organisations in maximising their impact for a more sustainable and fairer world. It brings together 14 major international civil society organisations working on environment, human rights, social justice and humanitarian issues. The ICSC is implementing a three-year initiative (2022-2025) to strengthen the capacity of professionals working with civil society

to anticipate and prepare for the future. This initiative is implemented in partnership with SANE and Scanning the Horizon community (RU OSRL 23/89, p. 16). The main goals of the initiative “**Anticipating futures for civil society operating space**” are as follows:

- to increase awareness and readiness of civil society organisations to address current and future challenges at the intersection of civic space and crises;
- to offer a convening and collaborative space for civil society professionals to develop future scenarios in the context of civic space and crises;
- to translate developed scenarios into concrete strategies to strengthen capacities at the individual, organisational, and sector levels (ICSC 2022).

In Lithuania, some **public sector institutions** as well as some other **research centres**, including private ones, such as the “Visionary Analytics”, a research institute working in the field of foresight, have also started to develop foresight capacities. However, it would be premature to assert that organisational capacities of foresight in Lithuania are already rooted – as illustrated by the examples of most foreign countries, several professionally functioning foresight centres must emerge at the level of NGO which can effectively and authoritatively compete with the professional capacities of state institutions and have a significant influence on political decision-making in the structure of LFE. The following organisations can be mentioned as an example: the Lithuanian Free Market Institute, the Civil Society Institute, etc. The contribution of professional associations to providing foresight and expert input into futures policy decisions would be very important. This would give impetus to the maturity of trade unions themselves and their synergies with the strategic goals of the State. The ability of all stakeholders to balance their interests and to develop strategic cooperation platforms using modern models of cooperation and communication is a key factor in the development of democracy. It is clear that without qualified expert and analytical activities, communication and alignment of interests between trade unions and other stakeholders is difficult. This is another incentive for civic organisations to integrate into LFE. Precedent: NGO associations that have made a real contribution to the Strategy ‘Lithuania 2050’ and other processes and initiatives: the National NGO Coalition, Environmental Coalition, etc.

### 3. Structure and principles of organisation of Lithuania's futures ecosystem

LFE should be based on five key principles, which are essential to ensure the functioning of LFE, noting their equal importance in strengthening LFE's viability and its response to emerging challenges:

***The quadruple helix principle.*** *This principle organises partnerships between government, academia, business and civil society: The inclusion of all stakeholders in the development of foresight can contribute to optimal collective decisions. Partnerships based on this principle can help make effective future-oriented decisions even before the window of opportunity closes or crises emerge.*

***The principle of networked multi-level operation and internationalisation.*** *The futures ecosystem must be built at national, regional and local levels, forming networked structures that bring together actors of different nature and at different levels of governance. The effectiveness of the futures ecosystem would be further enhanced by learning from best practices in other countries (e.g. Estonia, Finland) and by engaging in international networks of foresight in different organisations (e.g. EPTA, ESPAS, OECD, UNESCO, etc.).*

***The principle of providing learning opportunities, experimentation and feedback*** *would help ecosystem actors to assess the consequences of alternative future developments, to test policies and strategies, while learning opportunities would allow them to keep up with the latest knowledge and trends. This would ensure a challenge and a mindset and behaviour that does not punish mistakes, but tolerates them as an indispensable condition for learning.*

***The principle of embedding foresight into the public policy cycle.*** *A smooth future-oriented thinking in a state can only be created by incorporating foresight into all stages of the public policy cycle. This would generate so-called embedded foresight, the development of which could be combined with the involvement of the actors in the quadruple helix.*

***Inter-institutional cooperation and cross-sectoral boundary capacity.*** *Addressing multidimensional, horizontal problems in an integrated and direct way, based on cooperation and trust and in accordance with common values,*

*would ensure dialogue and operational effectiveness between different actors in the ecosystem.*

From the point of view of the structure and organisation of LFE, Finland's example is important for Lithuania, as the futures ecosystem is fully operational there. A positive social context in Finland facilitates the use of future-oriented approaches: the country's society welcomes innovation and is fully aware of the importance of education. Key players in Finland's futures ecosystem include the Committee for the Future in the Eduskunta, the Finland Futures Research Centre (which brings together 9 universities and nearly 600 researchers), Sitra, the National Foresight Network, the Government Foresight Group, the ministries' joint foresight working group, and institutions assessing foresight at regional and municipal level. The fact that, during each Parliamentary term, the Government submits a report on the future, focusing exclusively on issues relating to the long-term prospects of the country and the world, makes a significant contribution to institutionalisation of the system. Such a role in LFE could be played by both **the Government** and **the State of the Nation Addresses by the President of the Republic** or **consideration of the Report on Progress by the Seimas Committee for the Future** (RU OSRL 24/19; RU OSRL 24/39). The issue of legitimisation of the remit of the Report on the Future of the State should be addressed in the next stages of development of LFE. At present, all options are open and are subject to institutional will and initiative.

**LFE infrastructure** does not necessarily have to be developed hierarchically from top to bottom, but may take the form of mobile and flexible networks, international or regional systems, foresight platforms, as well as research or expert units at national level with a specific purpose and goals. These can be organisations of different level, purpose, subordination, specialisation and technology: both civic think tanks, research institutions at national or even international level, specialised centres of expertise, regional structures of strategic governance and scientific regions, etc.

Undoubtedly, Lithuanian public governance institutions need to reflect on and assess the potential for, functions, qualification requirements and application of evidence-based solutions in their organisations in terms of the formation of futures infrastructure units, co-operation, human resources potential, formation or transformation of new links, improvement of foresight or analytical activities. All this is determined by the legal regulation, purpose

and peculiarities of the areas of activity and governance competences of state institutions and organisations. From a quadruple helix perspective, they could and/or should form sub-networks, platforms or other expert structures of linked business, science and civil society organisations within their remit.

### 3.1. Assessment of the current state of Lithuania's futures ecosystem

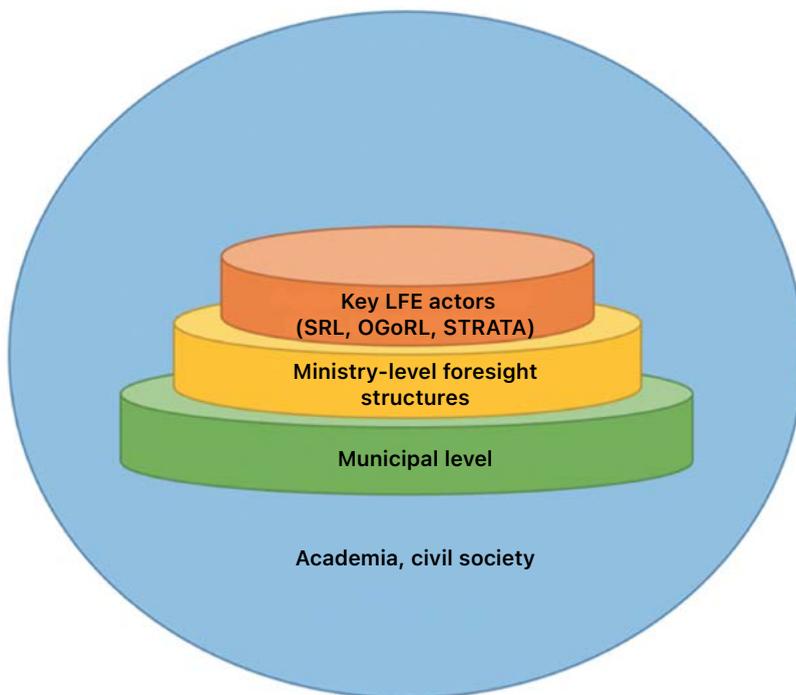
Although Lithuania has taken a number of steps in recent years to introduce elements of anticipatory governance into its public governance system, the demand for foresight in our country is still in the process of forming, and formally foresight is, for the time being, mainly linked to the preparation of strategic planning documents (RU OSRL 23/06). It is very difficult to answer the question of how strategic foresight could establish itself in Lithuania's democratic governance as a systemic practice that fundamentally changes the established culture of strategic planning and governance. It is essential to ensure a degree of independence of the foresight ecosystem from today's government or political elite, as is the case in the Netherlands and Germany. Relative independence is necessary to ensure that the objectivity of LFE's investigations and assessments is not undermined by political voluntarism or pressure. Just like in case of scientific institutions, the autonomy of LFE's most important institutions, which could be established as a principle and a legal provision, is advisable as a preventive measure.

The capacities of preparation of foresight in Lithuania are still at an early stage of formation. In 2020, STRATA, together with OECD experts, conducted a survey of ministries to find out to what extent they are aware of and apply foresight methodology. The survey data showed that the competences in this area were limited, and only the Ministry of Energy used foresight more consistently to model the futures of its sector (GFFU Cff 2022, p. 29). Currently, the OECD has already conducted a new survey of Lithuanian civil servants on future-oriented thinking in the public sector. The questionnaire was filled in by 4 366 respondents, i.e. 10.1% of all respondents.

The Cff has also noted that the expertise and analytical capacities required for the anticipatory innovation governance cannot be limited to the pooled scientific capacities, as political processes are so complex that scientific input must reach policy-makers 'processed' by special intermediary institutions

called **knowledge brokers**. This is the term that describes specialised analytical and advisory bodies that take scientific knowledge from the academic sector and make it available to policy-makers when and as needed; and vice versa, capable of ‘translating’ the language of policy needs into corresponding orders for researchers. Creating a link between such bodies in Lithuania’s public governance is an urgent step towards creating the futures ecosystem (GFFU Cff 2022, p. 30). Part of this role is already performed by SIA in ministries.

It can be stated that institutional preconditions for the emergence of an effective futures ecosystem exist in both executive and legislative power. The regional and local levels of government, as well as academia and civil society, can also be successfully involved in this ecosystem. The diagram of LFE is summarised in Figure 5.



**Figure 5.** Structure of LFE (created by the authors)

The institution of the President of the Republic could make a meaningful contribution to the monitoring and assessment of the futures policy of the

State. Although, according to the Constitution, the President of the Republic is primarily responsible for international and national security policy, he or she has the authority to speak on the most important issues concerning the life of the State, and represents the Republic in international fora. The President's annual State of the Nation Addresses or individual speeches could play an important role in reviving stalling reforms, identifying new challenges and opportunities for the future and improving LFE. It is necessary to strengthen the expert and analytical capacities of the institution of the President, to establish closer links with the general communication structure of LFE and collective foresight capabilities

Taking into account the cases of Wales or Hungary, a new body could be created to oversee the futures ecosystem: **Ombudsman for Future Generations**. However, the need for such an institution should be well considered and conceptually justified, moving away from the model of the futures ecosystem of Finland, which currently seems to be the most adaptable in the Lithuanian context, and creating a distinctive LFE architecture.

### 3.2. Architecture of Lithuania's effective futures ecosystem

LFE architecture is an internal model of multi-faceted communication among the participants of the system, enabling the formation of collective knowledge of the future and mechanisms for its efficient use. LFE architecture is based on the elements of infrastructure whose interaction aims at making maximum use of the specific expertise and specifics of various institutional structures and their synergies with a view to making the most effective strategic decisions in conditions of change and increasing uncertainty. One of the most important tasks is the institutionalisation of foresight and the organic introduction of foresight culture into the processes of the public governance system. The formation of LFE architecture is not a straightforward process. It encompasses not only the formation of foresight and expert institutions, but also the **improvement of the legal framework for their interaction, the legal principles and provisions of a new type of strategic governance**. Another important aspect of the architecture of LFE, which is related to the legal issue, is the **establishment of principles and synergies of consistence, complementarity and interoperability of political decision-making for the future**. It is a matrix of political governance, the functioning and relations

of which depend on a number of factors, ranging from the interpretation of constitutional provisions, the tradition and culture of institutional relations between political authorities, to political will and the interests of political parties. This is a question of how to develop a well-functioning formal political and legal decision-making scheme that would allow to effectively use the potential and accumulated knowledge of LFE in the field of political governance.

Institutionalisation of strategic foresight includes the following:

1) methodological and technological improvement of existing expert units of state institutions, modernisation of the organisation of activities and communication, consolidation of the principle of 'science for policy', improvement and retraining of human resources, creation and adaptation of specialised foresight, analytical or expert knowledge in formal governance schemes and legally defined processes;

2) creation of specialised foresight public institutions and units in the structure of LFE (e.g. special institutions, units, committees, networks, agencies, information supply and consultation centres, regional institutions, professional NGOs (such as the Lithuanian Free Market Institute, etc.), legislative institutions, strategic practices, etc.), giving them specific functions (such as provision of information to state institutions, communication and relations with local, national and international organisations, assessment of foresight and research results and ideas, political expertise, etc.);

3) formation of an appropriate culture and legal environment within the existing governance institutions.

The general factors enabling the anticipatory innovation governance of the futures ecosystem are as follows:

- organisational capacities;
- common understanding;
- legitimacy;
- anchoring;
- impulse.

Key participants in LFE are leaders, ministries, the Parliament, local authorities, civil society, research institutions, international organisations, citizens exposed to external 'disruption' factors.

The management of interactions between these actors may be based on different models, and the peculiarities of their effectiveness and application

should be discussed by the responsible institutions or divisions of the Government, such as strategic units, committees, expert working groups, designated scientific institutions or problem groups, etc. Different approaches and perspectives are possible here, ranging from 'hard' systemic solutions to 'soft', agile networked formations based on trust and collaborative ethics.

### 3.3. Application of the quadruple helix principle in designing Lithuania's futures ecosystem

The model of the networked multi-level futures ecosystem, which Lithuania is also oriented towards, must be organised according to the principle of the so-called **quadruple helix**. The quadruple or even quintuple helix combines academic (scientific), business, government and civic relations in the modern economy of knowledge and innovation, based on the aspect of sustainability. This type of organised partnership and well-organised communication between the government, academia, business sector, and civil society can lead to optimal future-oriented collective decisions, bringing together contexts of different levels and horizontal coverage. The Cff states that "we seem to understand that the state stands on three foundations, namely politics, business and academia (science). However, it is evident that the model of interaction between science and business, which encompasses funding of new ideas, development of research platforms, attraction of talent, engagement in international science and innovation programmes, state priorities, and development of new study and doctoral programmes, is still not working smoothly". (GFFU Cff 2022, p. 22). The widest possible involvement of stakeholders and ensuring real engagement of experts are essential for the effective implementation of the quadruple helix principle. The principle of openness and inclusion provided for in the Law on Strategic Governance, as one of the principles of strategic governance (Article 4 of the Law of the Republic of Lithuania on Strategic Governance) creates a favourable environment for the introduction of the so-called **participatory foresight** in LFE. However, this has so far been implemented only formally, either by setting up legally incapable commissions formed on the basis of institutional representation or by consulting with a view to formally representing the support for a decision already formed. Principle of **openness and inclusivity** means that 'planning documents must be prepared and implemented with the involvement of all

stakeholders in decision-making processes and in consultation with the public, social and economic partners. Information on the progress achieved and the funds used must be clear, comprehensible and publicly accessible' (Article 4 of the Law of the Republic of Lithuania on Strategic Governance, p. 6). In order to implement this provision, it is necessary to have centres of excellence or institutional units with the capacity not only to ensure participation but also to have the necessary professional qualifications and methodological capacity to integrate, synthesise and utilise the information obtained, creating knowledge suitable for substantiating real solutions and putting them into practice.

The circle of the above-mentioned public sector institutions which are already participating or could participate in LFE should be expanded and the roles of **the President of the Republic, the Public Management Agency, the CPMA, the Lithuanian Academy of Sciences, the Centre for Quality Assessment in Higher Education, the Committee on the Development of Information Society** and other potential actors should be more clearly defined.

The business sector could most effectively participate in the futures ecosystem through a variety of interest groups, such as **associations, unions and similar organisations**. For example, INFOBALT and the LCI have actively participated in the preparation of the White Paper. An example of a very successful cooperation between the business sector and government in the field of foresight could be the "Futures Literacy Company 4CF" operating in Poland.

Civil society operates through various **interest groups, NGOs, associations, professional societies, trade unions**, etc. Citizens who do not formally belong to any interest groups can be involved in developing foresight through various crowdsourcing mechanisms. The **role of the Council of Non-Governmental Organisations** is also important.

**Networking and partnerships** are also an effective mechanism for developing the futures ecosystem, encouraging collaboration with leading organisations and individuals to develop transformative ideas. The Strategy 'Lithuania 2050' provides for the establishment of "a flexible strategic coordination network by searching for common platforms across sectors and fields to address complex and long-term challenges, mobilising appropriate expert and analytical support, exploiting better linkages between state-funded scientific priorities and the future challenges of Lithuanian society, developing specialised analytical and advisory institutions as intermediaries between

decision-makers and science, and promoting the development of foresight independent of government. The aim is to make the coordination centres and analytical institutions of LFE an active part of the international ecosystem of anticipatory governance.” (Strategy ‘Lithuania 2050’, p. 50). STRATA is legally obliged to pool the existing analytical competences of state institutions and agencies and other organisations into a cooperation network and to coordinate the activities of this network. It should be noted that the most common form of inter-institutional cooperation in Lithuania so far has been various working groups, although less structured forms of cooperation have been developed in recent years (for example, the network of civil servants involved in strategic governance (RU OSRL 23/06; RU OSRL 24/22)).

### 3.4. Application of the principle of multi-level approach in designing Lithuania’s futures ecosystem

Some of the authors see effective entrepreneurial systems, including Lithuania’s foresight ecosystem, exclusively as **network-based**. Emphasising the importance of symbiotic links among the participants of such ecosystems, scientists identify the cyclical process of development of relations between these participants, which consists of the stages of initiation, development, maintenance and renewal. The interoperability element in a networked ecosystem is essential, reflecting the importance of the behaviour of the participants as a key mechanism for ensuring the ecosystem’s viability, energy and well-being. A networked ecosystem is usually difficult to decouple from the multi-level approach (Scott et al. 2022).

The Cff decision on the development of LFE draws attention to the need to base the Lithuanian public policy process on foresight and expert data analytics, highlighting the need to shape a global **multi-level** futures ecosystem (DLFE Cff 2022). Multi-level governance, in accordance with the Charter for Multi-level Governance in Europe adopted by the EU’s assembly of local and regional representatives, is understood as coordinated action between the Member States and regional and local authorities as partners, based on the principles of subsidiarity and proportionality and taking the form of operational and institutionalised cooperation in the drawing-up and implementation of the EU’s policies (CoR 2014). This promotes multilateral partnerships with social partners, universities, NGOs and groups representing civil society,

strengthens territorial links and overcomes different administrative barriers to regulation and policy implementation, as well as geographical borders. The guiding principles are also particularly conducive to ensuring an effective futures ecosystem: civic participation, cross-sectoral cooperation, institutional capacity building, and networking (Augustinaitis 2003).

Multi-level governance is based on three pillars:

1) the division of central government at different territorially interlinked levels (local, regional, European);

2) the involvement of non-state actors in decision-making, implementation and assessment processes;

3) governance through informal, flexible and horizontal relations (Kuriené 2019).

In this context, attention should also be paid to the characteristics of ecosystems highlighted by scientists, including **policentricity**, which is inextricably linked to multi-level participation and stakeholder involvement in the foresight ecosystem. Policentricity is defined as multiple nodes with adaptive functions and a grouping of spheres of influence of different levels. Other ecosystem features that also apply to the foresight ecosystem include: diversity, connectivity, redundancy and directionality (Könnölä et al. 2021).

**Horizontal and vertical sections of the foresight** ecosystem. Looking through a horizontal section of foresight, this process can be described as bringing together activities from different sectors or fields and enabling collaboration and joint prioritisation. For example, in the health sector, the horizontal development of foresight may encompass the totality of different patient groups, medical professionals, different technologies and health services. The added value of foresight is likely to grow when any potential sectoral barriers are overcome.

Through a vertical section of foresight, the ecosystem may be assessed in terms of successful application and harmonisation of foresight methods and results at local, regional, national and international levels.

The involvement of participants at different levels in the process of foresight creates an invaluable collective intelligence-driven **knowledge-generating platform**, embracing a wide range of views and approaches. By combining the horizontal and vertical dimensions of the ecosystem of foresight, it naturally converges into a networked entity. The foresight generated by such a **networked multi-level ecosystem** involving stakeholders from

different sectors and levels of governance can reshape relationships, improve knowledge processing and ensure continuous learning and joint action. The foresight process is defined as the creation or co-creation of a network that enables the emergence of new forms of interaction, dialogue, negotiation and cooperation between stakeholders (Myllyoja et al. 2022).

It should be noted that it is the networked, rather than hierarchical, principle of operation of the ecosystem of foresight that is recommended for Lithuania. It is important that the 'acceptance' of expert, analytical, research, information provision and other similar organisations into the ecosystem should not be monopolised by one specific institution but would rather rely on the involvement of ecosystem actors (however, the top-down mobilisation of ecosystem actors should not be excluded) and the initiative should be shown. Overall, the engagement, activity and enthusiasm of the so-called 'community of practice' is key to building and sustaining a dynamic and vibrant ecosystem of foresight (RU OSRL 24/22).

The multi-level nature of the futures ecosystem means that, in line with the quadruple helix principle, the foresight process has to involve government, academia, business and civil society organisations at national, regional and local levels. **Regional development councils** have a very important role to play at regional level, and the **Association of Local Authorities in Lithuania** and individual **municipalities** at local level. Currently, the activities of these institutions are based more on representative and administrative powers than on expert knowledge and new strategic methodologies. Therefore, with regard to LFE, it is appropriate to start forming expert structures that would provide regional governance with a more effective strategic development perspective. It is to be expected that the best examples of the S3 applied by European countries would be most suitable for this purpose (Augustinaitis 2017).

In order to create a comprehensive LFE, it is necessary to focus on regions, municipal level institutions or their networks. It is the lowest level of government, but it is closest to the people and enables the application of foresight to tackle the problems that are closest to the public. The Strategy 'Lithuania 2050' states that the entire territory of the country will be developed in a harmonious and balanced manner and will be based on integrated territorial development. It is also envisaged that, in implementing this ambition, Lithuania will, *inter alia*, ensure comprehensive development at the

appropriate territorial level, taking into account local conditions and regional demographic forecasts; create legal, institutional and financial conditions for joint activities of municipalities in the provision of public services and management of public infrastructure; review the network of public service bodies to determine the optimal territorial level, scope and model of public service delivery; develop and implement solutions for climate change mitigation and adaptation at local level; develop digital infrastructure throughout the country to reduce social, cultural and economic disparities and exclusion among regions (RU OSRL 23/28). There are many goals and ambitions, therefore the issues mentioned at the municipal level can also be solved by applying the foresight methods and the principles of anticipatory governance.

Finland or Spain could be the main examples for Lithuania in integrating foresight into the municipal level. The advice offered by the UK can also be followed. Finland has institutions that apply foresight at regional or municipal level. This country is distinguished by the application of foresight at local level institutions that assess technological change and independently carry out a narrower range of foresight activities (Pouru-Mikkola et al. 2023). It is true that Finland is well advanced in this area, so it might be better to start with the Spanish *Gipuzkoa* (Basque) Provincial Council's programme 'Building the Future' (Basque *Etorkizuna Eraikiz*), proposed by the OECD as a good practice. This innovative programme aims to achieve more open and collaborative public governance and citizen engagement. The programme consists of interactive experiments (experiences of participants in testing specific tools and programmes) aimed at building the future of the territory. The aim is not only to meet current needs, but also to jointly anticipate the economic, social and political future of the territory. The programme addresses strategic challenges and innovative public policies that better respond to citizens' needs. Two initiatives have been implemented in the *Gipuzkoa* region:

- “GipuzkoaLAB” is a future-oriented structure that contributes to shaping public policy and addressing strategic challenges of the future in the medium term;
- “Gipuzkoa Taldean” is an initiative that aims at identifying the demographic, economic and social challenges the territory will face in the near future (medium term) (OECD 2016).

Such and similar initiatives may initiate the familiarisation of institutions

and communities at the level of local self-government with the process and methods of foresight.

The UK Government Office for Science has produced a publication on the application of foresight for cities, which singles out the following actions for local authorities in the country:

1. **Taking into account the long-term future when taking short-term urban decisions.** Cities can show leadership through foresight approaches that demonstrate to the national government their individual and collective capacity to promote urban development.
2. **Creating city foresight platforms.** Cities can set up platforms for co-operation between local, urban and regional and national partners to explore the future. The establishment of such networks can provide timely access to valuable knowledge and lead to greater ownership of policy issues.
3. **Sharing experience gained in city foresight practices and impacts.** Cities can learn from each other different approaches to the long-term future. Sharing foresight would provide evidence of the added value of different approaches in different contexts.
4. **Being creative and experimenting with foresight methods.** Cities are encouraged to experiment with different foresight approaches for their needs and circumstances. Foresight activities should be continuous and constantly evolving, and it is recommended to avoid resource-intensive distractions such as merely form-oriented 'glossy' one-off reports.

The UK Government is urged to take the following actions:

- 1) to promote evidence-based research on the long-term future of cities;
- 2) to grant cities the right to experiment on a strategic level;
- 3) to enable cities to reflect on their future position in the national urban system;
- 4) to take into consideration the information provided by local authorities when adopting national policy decisions (UK GOS 2016).

In developing LFE and in order to generate foresight at all levels of government and in all institutions, it is useful to take into account the practice of the UK. It is the prerogative of national authorities to empower self-government to act, experiment and share experience. Only then will the foresight ecosystem have a solid foundation starting from the lowest level of governance (RU OSRL 24/22).

## 4. Institutional prerequisites for Lithuania's futures ecosystem: structure and functions

The infrastructure of the futures ecosystem includes the following actors: analytical, expert, information provision, data analysis and foresight centres, their divisions, institutions and NGOs which, within their remit, have the will, qualification and opportunities to form future analysis and decision-making structures. The capacity of the infrastructure to operate and its 'backbone' consists of the culture, functions, qualification requirements and ability of institutions to make evidence-based decisions within their remit and areas of activity. Each institution of the futures ecosystem, as an integral part of it, must see its role and develop its activities in line with it, in order to provide maximum benefit to the State.

The levels of structuring and decentralisation may vary depending on the political culture of institutional governance in the country, but in any case, the basis of foresight and the success factor is the involvement of stakeholders in state governance processes. In all case studies, the emphasis was placed on networking and support, as well as co-creation, as a catalyst for trust in government and for helping gather comprehensive analytical information on weak signals. The process of generating foresight must be continuous, regular, consistent and inclusive, and there must be programmes rather than single or one-off projects, since only then are links established, competences built and learning process empowered. Foresight must not be pushed aside because of more urgent work, but must be guaranteed time and resources. It is important to consider not only the capacities to generate foresight, but also about the **overall capacity for policy analysis**, so that foresight becomes not only an intellectual or consensus building tool and product, but also **evidence-based and solution-based recommendations for policy-makers**. It is also important to have a certain degree of political discipline to take these recommendations into account.

**The introduction of the future dimension** must be seen as a **global horizontal activity** in all spheres of life at all levels, i.e. a **compass** that adjusts the direction of the country's movement in response to new trends in

global development and major changes. This requires a mobile multi-level system organised on a networked basis, capable of responding to changes, perceiving them, proposing ideas, evaluating them and taking them to the political and executive level in terms of the state, region or problem area. Achieving these goals requires **demand, capacities, institutions, integration and feedback** in line with the needs, opportunities, traditions and values of the country. Their development can be based on several types of models, ranging from traditional hierarchical with all formal attributes to holistic decentralised, connecting multi-level projections and different levels, calibrating, sifting and filtering all ideas, from individual insights to evaluating and integrating a community, collective or regional approach into strategic projections.

#### 4.1. Structure of Lithuania's futures ecosystem

LFE is a four-level structure, at the top of which are institutions of the national political and strategic level, as well as their divisions or separate institutions, providing main foresight to the ecosystem. The second level is national cross-sectoral. The third is the national level of individual sectors, while the fourth is the municipal and regional level.

There are seven different functions assigned to the participants of LFE:

- building capacities;
- ‘orchestrating’, providing feedback and support;
- providing qualitative data and/or ideas, representing interests;
- providing official quantitative data;
- formulating orders;
- developing foresight;
- maintaining the futures ecosystem and guiding it towards a common goal.

Since LFE relies on the main ‘brakes and balances’ institutions of the Lithuanian political system, it is important that all of them play a certain **defined role**. The legislative body, the Seimas, would shape the agenda of the future and exercise parliamentary control over future issues through the Cff. The Seimas must be the main engine of LFE, as it is given the mandate of the nation to act. In addition to the SRL and the Cff, this activity would be carried out by the Research (Future) Department of the OSRL, which would ensure independent generation of foresight and assessment of issues under consideration

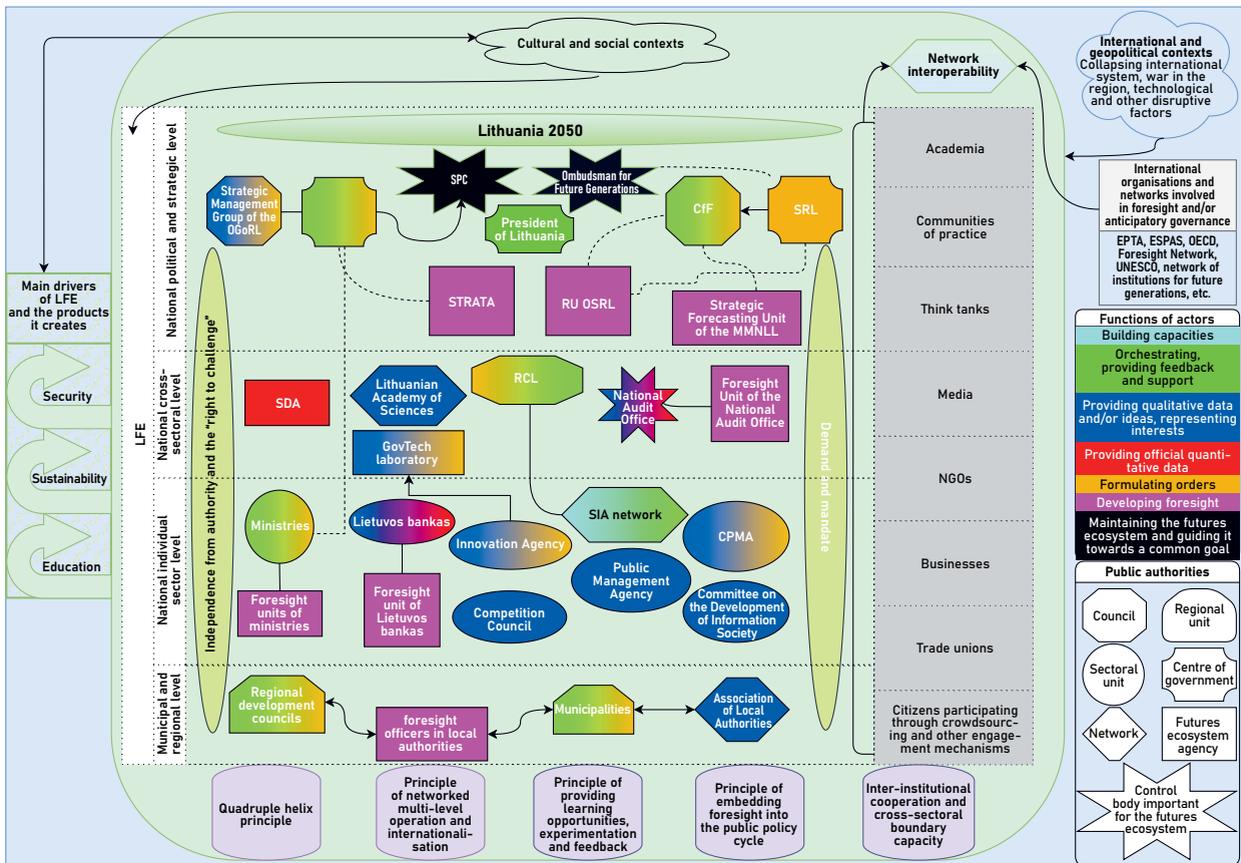
from a future perspective. The Research (Future) Department would be a unit at the level of strategic foresight.

The executive body, the Government, would implement futures policy guidelines provided for by the Seimas, form orders for foresight, which would be implemented by STRATA or other institutions directly subordinate to the Government or ministries. These institutions would be responsible for carrying out tasks at tactical level. The function of oversight of the system could be performed by the SPC or the ombudsman for future generations, however, it is important to determine the role of the strategic arbiter of the Lithuanian political system, namely the President of the Republic, in LFE. This would ensure the involvement of all major actors of the State in the consideration of future issues and would substantially increase the degree of legitimacy of the system. The emerging problems could be analysed and assessed by examining alternatives to both strategic (long-term) and tactical (short-term) levels of application and the relationship with future prospects (RU OSRL 24/39).

**The modelling, organisation and legal justification of future political decisions** necessitate the formation and legitimisation of the formal structure of political decision-making mechanisms, which would allow for hierarchical and flexible adaptation of LFE to increase the efficiency of the country's strategic governance. The complexity of the task is the identification and allocation of specific functions, roles (for example, the SPC as a 'bridge' or STRATA as a national foresight centre and coordinator, or the SDA as a data analyst, or public NGOs, the RCL, Lietuvos bankas, etc.), failing which it will not be possible to maximise the use of foresight capabilities and their potential in the work of public authorities in making future-oriented decisions. Therefore, it is necessary to create well-thought-out organisational, networking and communication schemes, assessment, filtering and expert sieves, which would purify the best ways of potential 'converting' into formal political or legal decisions, suitable for substantiating the decisions of individual public authorities, and at the highest level, to substantiate the strategic decisions and measures of the Government and the Seimas with a view to their effective implementation and improvement at all levels of state governance. This would reduce the gap between strategic governance and real life needs, bring EU policies closer to the specificity of national interests, validate and substantiate alternatives, avoiding the politicisation of random or populist ideas, and significantly reduce the level of abstraction, uncertainty and declarativeness. Modelling of

LFE's political decision-making and optimisation of its legal base can be understood as the **legal basis for LFE's activities and internal operational rules**, which should be continuously improved.

Identifying and describing the institutions, participants and principles of LFE is important, but practically ineffective without the conceptual framework for modelling, organising and legally justifying future political decisions. The implementation of LFE and its interaction with deployment of the principles of anticipatory governance cannot work without planning and organisation at the level of the Government and the Seimas, through the use or creation of groups of top-level experts and in coordination with the SPC. A possible infrastructure model of LFE is presented in Figure 6.



**Figure 6.** Infrastructure model of LFE (prepared by the authors of the study of the RU OSRL, based on selected sources (RU OSRL 24/39))

It is important to note that the state institutions of LFE at different levels are directly related to all the remaining participants of the quadruple helix. At all levels of LFE, representatives of academia, communities of practice, think tanks, media, NGOs, businesses, trade unions, as well as citizens participating through crowdsourcing and other engagement mechanisms are involved or involve themselves in the processes. The involvement of actors at different levels in the process of foresight creates an invaluable collective intelligence-driven knowledge-generating platform that combines a broad range of views and approaches to enable an integrated assessment of the challenges and problems that the futures ecosystem must respond to. Figure 6 illustrates the maximum development potential of LFE, i.e. everything that is currently hypothetically possible. However, from a practical point of view, it is expedient to provide for the stages of the development of LFE and realistic timeframes that are consistent with the real opportunities and the degree of maturity of LFE participants.

Cooperation in line with the quadruple helix principle would allow the ecosystem to be agile and flexible, naturally evolving, while involvement in it would be based on a value base and understanding of the need for change. The government needs special skills to effectively manage the futures ecosystem and to make proper use of bottom-up foresight. The OECD experts analysing Latvia's ecosystem of anticipatory innovation governance noted that the ecosystem's proper functioning requires processes that integrate public policy (meso-level) and ecosystem (micro-level) governance, so that the processes and decisions taken in the ecosystem can be effectively applied in policy-making and that the development of the ecosystem can be carried out strategically (RU OSRL 24/39).

## 4.2. Systems of parliamentary assessment of technological development in Lithuania

It is necessary to discuss the prospects for the emergence of a system of parliamentary assessment of technologies in Lithuania. As we stand at the crossroads of rapidly developing high technologies and realise their impact on society, governance and policy-making, we understand the importance of having a solid basis for assessing these technologies and integrating them into national discourse.

The prospect of the system of parliamentary assessment of technological development in Lithuania can be based on continuous monitoring and assessment of technological development, as well as parliamentary oversight in assessing the need for legal regulation in line with the latest technological trends. Working groups of the Seimas committees and a new government institution could be created to constantly assess and analyse state-of-the-art technologies and their impact on society, the State and the national economy. In addition, it would be important to foster dialogue between parliamentarians, educational and scientific institutions, business and society to better understand the potential challenges, benefits and prospects of technology, while adopting policy decisions based on scientific knowledge and practice. The basis for this prospect should be open cooperation, transparency and continuous learning in order to ensure that the Seimas is able to effectively respond to rapid technological changes and support the country's technological development under the conditions of global competition.

The growth of technological opportunities, covering AI, biotechnology, big data, digital technologies and other high technologies, is unprecedented. These achievements not only promise huge progress and prosperity for humanity, but also pose complex challenges and ethical dilemmas, therefore, their impact must be carefully assessed.

For example, AI technologies have already penetrated all areas of life, from health care to education or even the management of national policy processes. However, in addition to promoting technological progress, it is crucial to ensure that new technologies benefit society, meet ethical standards and are developed, introduced and used responsibly. Continuous dialogue between society, business, science and public authorities is needed to develop appropriate regulation and state policies that foster innovation while protecting human rights and well-being.

The increasing pace of scientific and technical progress has a significant impact on all areas of social and economic life, including political processes. Political leaders must anticipate and control these developments by assessing scientific and technological innovations. This is a vital process when it comes to choices that can determine the future of our society and societies around the world.

Although major challenges facing humanity are almost daily, rapid advances in new technologies pose a problem that requires risk management

strategies. The accelerated pace of technological development has created significant and worrying discrepancies between the widespread introduction and application of advanced technologies and our ability to manage the results of this process for the global benefit. It is therefore essential to shape, promote and strengthen a multidisciplinary approach to addressing key global challenges and to develop the capacity to manage complex risks across systems. Such an approach would help ensure that the benefits of high technologies outweigh the harm to every citizen of our country and the world.

The first link in the futures ecosystem should be the establishment of a national **parliamentary technology assessment system** or a system of strategic governance of Lithuanian technologies (national equivalent of EPTA). So far, neither a collaborative platform nor a governance centre has been set up, and the principles of action have not been established. However, it is clear that without effective solutions in this area, the country will not only be lagging behind in terms of technological development, but also in terms of social well-being and quality of life (including education, health services, welfare technologies and modernisation of public services). Lithuania's PTAS should be the focal point of all parliamentary decisions and strategies, as the strongest impact of technology is on the development of the state and all areas of human life. It should be stressed that technology assessment systems have a tremendous impact and are funded in most developed countries. Currently, the implementation of this function is being initiated by the Seimas CcF and the Artificial Intelligence Working Group formed by the Committee on 12 December 2023; however, it is only the initial stage of this activity, which should be legitimised and further developed in terms of assessing the prospects of AI for the development of the country.

Equal attention must also be paid to **improving the efficiency of scientific planning and research coordination in the futures ecosystem**. The role of government institutions and academic organisations should be highlighted at this point, namely their involvement in the futures ecosystem's collaborative platforms, specialised expert organisations and strategic funds, as well as the involvement of analytical NGOs, the creation of a network of regional hubs, business organisations, science and technology parks and science and business clusters, and many other potential participants in the futures ecosystem. Once again, the **question of a unifying platform** arises – who will

take the lead, what support will the Government provide, how modern and what values will the professionals who could do this have?

The list of problematic factors and issues related to the development of the futures ecosystem is not exhaustive. It shows what work needs to be done to bring the country closer to the situation that the old EU Member States and most OECD Member States have already achieved. One thing is certain: the tasks of managing future prospects are a catalyst for fundamental change, progress, and competitiveness in the country. It is only by institutionalising a future dimension and incorporating it into the everyday culture of public thinking that the prospect of welfare and prosperity of the state can be maintained.

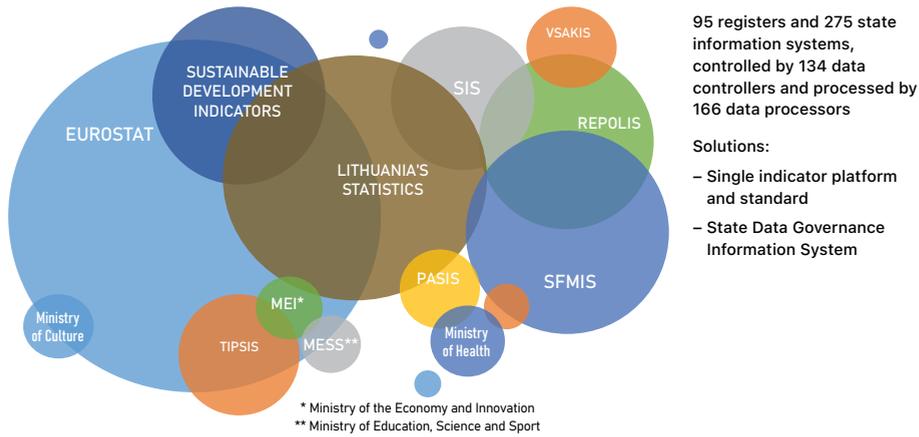
### 4.3. Modernisation of monitoring and assessment of futures policies

In the current system of Lithuania's strategic governance, monitoring and assessment are given great attention. This area covers the system of indicators of state strategies and strategic planning documents at the highest level, the provisions for updating these documents provided for in the Law on Strategic Governance and the Strategic Governance Methodology, the control of state data required to determine the values of indicators, the Monitoring Information System (to be replaced by the Strategic Management Information System in 2025), the preliminary assessment of high-impact legislative initiatives, the annual National Progress Report provided for in the provisions for the implementation of the Strategy 'Lithuania 2050', and other elements.

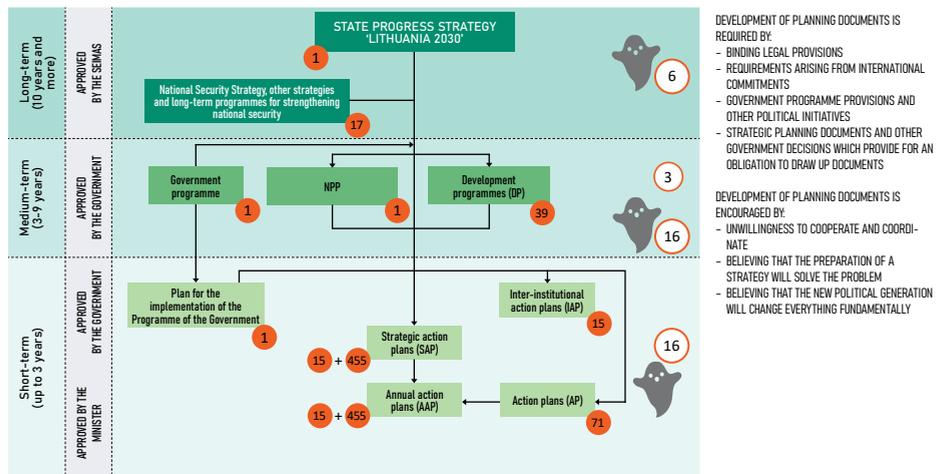
However, shortcomings in this system are also evident. For example, 277 indicators (MI NPP) are envisaged for the monitoring of the NPP alone, a significant part of which are manually entered into the Official Statistics Portal, while some data (from the list of the NPP indicators) are not yet available at this stage, halfway through the implementation of the NPP. Along with other strategic and programming-level documents, there are thousands of such indicators, their reporting creates a significant administrative burden and their impact on public governance decisions is difficult to measure. There is a lack of an effective system for ex-ante and ex-post impact assessment of high-impact legislative initiatives (essentially strategic decisions), there is too little analysis of alternatives to progress measures, and development programmes detailing

state progress are not in line with the financial possibilities (OECD 2021b; SGBF NAO 2024). The findings of the expert assessment show that Lithuania’s strategic governance system remains excessively complicated and lacks horizontal cooperation, administrative and analytical capacities (OECD 2021b; JRC 2024). The position of the data and indicators is illustrated in Figures 6 to 7.

### Is it possible to digitise chaos? Data and indicators until 2020

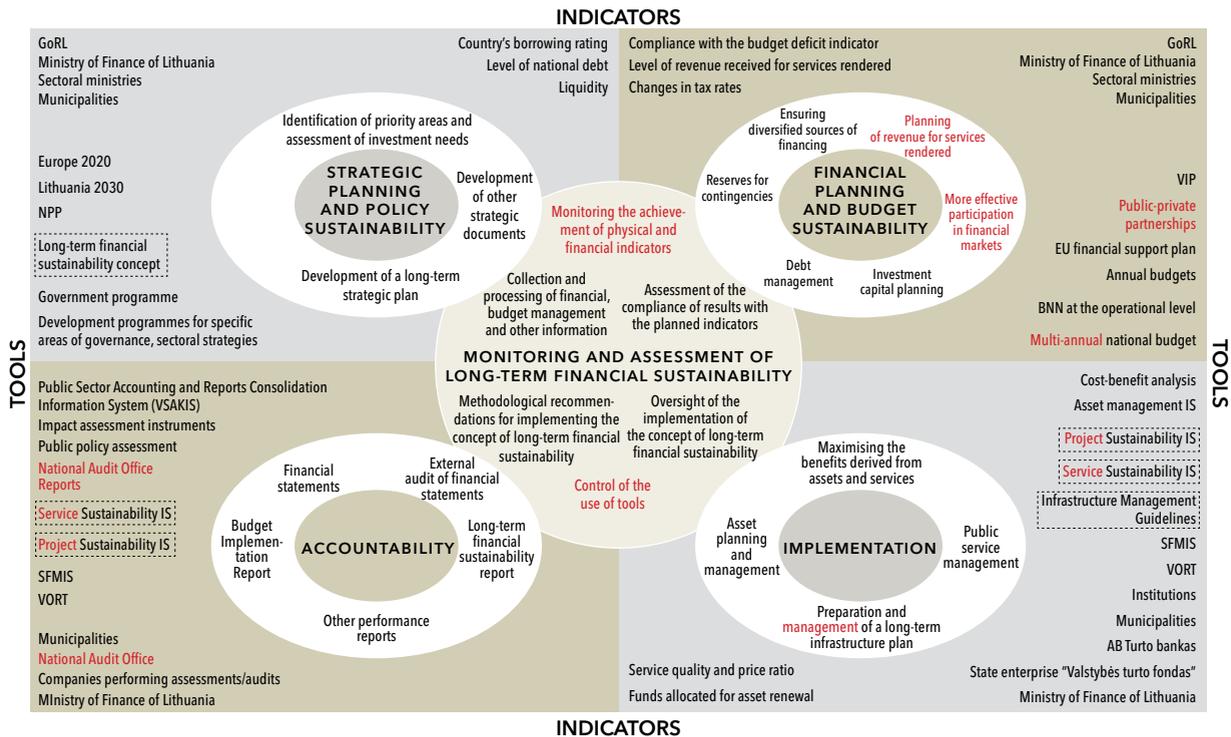


### Is it possible to digitise chaos? Planning documents until 2020



Figures 7 to 8. Status of monitoring and assessment of data and indicators (Šarmavičienė)

Assessment based on indicators points to a certain stagnation or routine of thought and action, when qualitative assessment is not sought and little consideration is given to the dynamic context of global change and breakthrough or disruption tendencies which fundamentally change modes of action. Progress should be made by seeking new forms of organisation of work, modern methodological and technological solutions, increasing efforts to improve the qualifications and motivation of employees (Figure 9).



**Figure 9.** Monitoring and assessment of long-term financial sustainability (Šarmavičienė)

As shown in other parts of this book, the biggest challenges for Lithuania's futures policy are flexibility, the ability to respond effectively to complex, multidimensional changes, the capacity to anticipate the future using a variety of methods and sources of data and knowledge. These challenges require changes in the overall strategic governance framework, both in the conceptual model and in its implementation processes and institutional set-up.

The implementing provisions of the Strategy 'Lithuania 2050' provide for an ambitious programme of changes in Lithuania's futures governance. Its implementation will be supervised by the Government with the assistance of the SPC, and it is proposed to establish a position at the level of the Deputy Secretary General of the Government or an equivalent competence to coordinate its implementation. The permanent Secretariat of the SPC will continue to bring together the community of co-creators of the Strategy 'Lithuania 2050' and will hold regular public debates on the future of Lithuania. Progress in the implementation of the Vision will be monitored through the monitoring and assessment of the NPP, on the basis of which the SPC or other stakeholders will be able to initiate an update of this document. Information on the implementation of the Strategy 'Lithuania 2050' will be presented annually in the National Progress Report, which will be considered by the SPC, the Government, the Seimas and the public.

The Strategy 'Lithuania 2050' identifies several innovations which, if implemented, will have a significant impact on Lithuania's futures governance. First of all, the Strategy anticipates a strategic governance centre, led by a high-level state official with expert support and powers to coordinate key strategic governance processes. Secondly, these innovations are geared towards change, the continuous updating of top-level strategies and their implementation programmes, without necessarily meeting pre-defined deadlines. Thirdly, the implementation is based on the principle of openness and inclusiveness; it is anticipated that both the legislative and executive authorities, as well as the expert community and civil society will be permanently involved in Lithuania's futures governance process. This provision allows for a broader approach and greater consensus necessary for the adoption of strategic decisions.

In order to achieve the vision of the renewal of Lithuania's strategic governance, it is important not to lose the momentum gained during the drafting of the Strategy 'Lithuania 2050', to detail the guidelines for the renewal of futures governance set out therein and to start implementing them. The first months of implementation of this Strategy raise some concerns: the Government is delaying the envisaged steps to strengthen the strategic governance centre, the SPC is not active, and the first National Progress Report received criticism from the supreme audit authority, the National Audit Office, regarding uncertainties and gaps in the information provided (NPR NAO

2023). There is evidently a need to review the indicator framework of the main implementing document, the NPP, in line with the impact indicators of the Strategy 'Lithuania 2050', to launch a review of the NPP and other programming documents at strategic level, as well as to discuss the need for national agendas for the implementation of individual progress axes.

The provisions implementing the Strategy 'Lithuania 2050' do not detail the content and drafting process of the main implementation report, namely the National Progress Report. This report could serve as an important catalyst for discussions on key issues of the state progress. In modelling its role and links with other assessments of the progress of the State, it is useful to refer to the example of an analogous report, namely the Finnish Government Report on the Future.

The Report on the Future is prepared by the Finnish Government once per term of office, in coordination with the Officer of the Government Foresight Group, and is submitted to the Finnish Parliament, Eduskunta, for consideration. It is essential that all ministries are involved in the preparation of this report and provide insights into future challenges and opportunities in their field of responsibility. The report is prepared in several stages, starting with a civil service-independent approach, then incorporating the position of the political leadership and considering the final report in the Cabinet of Ministers. The preparation of the report is commenced halfway through the term of office of the Government. One year before the end of the term of office, it is examined by the Committee for the Future in the Eduskunta. It prepares a draft official parliamentary response to the Government report. After the exchange of views between the authorities, the Government Report on the Future becomes a solid basis for the programme of the new Government.<sup>6</sup>

For Lithuania's strategic governance, this example is important in line with the political cycle and inclusiveness. It is essential that the state of national progress be analysed and assessed more thoroughly before the start of the term of office of a new Government, creating preconditions for the inclusion in its programme of necessary reforms and amendments to long-term strategies. To this end, the entire state apparatus is capable of achieving not only a better

<sup>6</sup> Finland's Government Report on the Future was discussed in the framework of the EC-supported project 'LIMinal: Strengthening anticipatory innovation governance in Lithuania, Italy and Malta' on the basis of the information received during the study visit to Finland organised on 8-11 April 2024.

quality of foresight, but also a common view of challenges and opportunities and consolidating support for the necessary changes. It should be considered whether the national progress report of Lithuania could play a similar role at least once during the term of office of the Government.

Finland's example is also important for Lithuania in terms of interaction between public authorities. Following the example of Eduskunta, the Seimas has established the Committee for the Future, which also has an active role to play in the implementation of the Strategy 'Lithuania 2050'. It would be important for the Seimas to clarify this role of the Cff also in its internal processes. It would be useful for the Seimas of the new term of office to implement the provision of Article 58<sup>1</sup> of the Statute of the Seimas that chairs or deputy chairs of other committees and chairs or deputy chairs of political groups are to be delegated to the Cff. Such a composition would enable the Cff to become a truly strategic committee of the Seimas and to have an authoritative discussion on the key issues of state progress. It would also be useful to better distinguish between the primary responsibilities of the Cff and to improve the interaction with other committees and commissions of the Seimas (GFFU Cff 2022, p. 22). In addition to responsibility for general strategic governance issues, national strategies and strategic agendas approved by the Seimas, the Cff could curate multidisciplinary international strategies such as the Sustainable Development Agenda, the European Green Deal and the digital transition.

The Republic of Lithuania also has other institutions responsible for overseeing and balancing the key areas of state policy. They should also contribute to monitoring, evaluating and, in some cases, shaping the futures policies of the State.

The supreme audit institution of Lithuania, the National Audit Office, is already involved in the governance of the future(s): it regularly assesses the set of accounts of the State, carries out a systematic assessment of the areas of state activities. Perhaps in the future, the National Audit Office could also assess the state of implementation of the progress pathways and leveraged initiatives of the Strategy 'Lithuania 2050', and include the assessment of the future and strategic foresight into its set of regular methods. Currently, the National Audit Office does not envisage for itself a more significant strategic role as an institution within LFE, neither as an arbiter of strategic assessment nor as a strategic audit officer. It is no coincidence that, from a strategic point of view, the assessment carried out by the National Audit Office often fails to

meet the expectations of the public authorities and does not have the expected impact on their activities, especially on structural changes. Improvement of qualifications and strengthening of the value-based motivation as well as active involvement of the National Audit Office in LFE would mean creating a strong pillar of the futures ecosystem.

It is worth noting that in some countries public or parliamentary audit systems have institutes for future generations or the commissioner for sustainable development (ombudsman) (Dirth, Kormann da Silva 2022). In Lithuania, such a function could be performed by the Seimas Ombudspersons' Office, which is tasked with monitoring human rights in Lithuania. As the principles of intergenerational solidarity, the rights of future generations, responsibility for the preservation of the planet's ecosystem increasingly become a part of the system of international governance, the institute of the Commissioner for Future Generations (Ombudsman) would significantly strengthen the self-reflection capacity of LFE.

In order to make the monitoring and assessment of Lithuania's futures governance more effective, it is important to reduce the administrative burden they create, to direct them towards key areas of state progress, and to make the monitoring and assessment system understandable to every citizen, flexible and adaptable. The revision of the NPP indicator set on the basis of the impact indicators of 'Lithuania 2050' could follow the model of the Scottish and Welsh National Well-being Framework Indicators, where the global sustainable development goals and easily understandable and compelling national progress targets are well aligned.

Finally, adequate administrative and analytical capacity is a prerequisite for effective monitoring and assessment. These include the competences of the employees of state and municipal institutions, the assignment of monitoring and assessment functions to the units of those institutions, as well as specialised analytical units, bodies and their employees. Future assessment competences should be included in the model of competences for civil servants. Future monitoring and assessment functions in state and municipal bodies should become at least equivalent to planning functions and should be given sufficient time.

As experience shows, a major challenge for Lithuania's strategic governance system is the strengthening of specialised analytical capabilities. Without such capabilities, concentrated in institutional centres or units, LFE would

not be able to maintain methodological expertise, take over and adapt knowledge generated by international anticipatory governance networks, carry out independent horizon scanning, monitor megatrends and carry out other necessary activities.

A powerful centre of analysts is indispensable at the coordination core of the futures ecosystem, namely the Strategic Management Group of the OGoRL, where a permanent Secretariat of the SPC should be established in accordance with the provisions of the implementation of the Strategy 'Lithuania 2050'. The foresight capabilities should be strengthened in STRATA, which has become less active in the field of foresight since the development of the Strategy 'Lithuania 2050'. The lack of assignments for STRATA and the lack of awareness of such a need, at least until this political period, indicate the passivity of government institutions and the lack of innovative ideas. This fact testifies to the need for human potential, both professional and ethical. In accordance with their respective roles, the capacity for anticipation of the future should be strengthened both within the remit of the RU OSRL, the National Audit Office and the portfolio manager of national development programmes, namely, the Ministry of Finance.

Dynamic futures studies and their application for the assessment and planning of public policy are also impossible without the involvement of academic experts. In order to develop the academic competences of anticipating the future in higher education and research institutions of Lithuania, it would be appropriate to make use of the existing RCL funding instruments, such as the dedicated programmes, or to create special funding instruments for the development of foresight.

#### 4.4. International dimension of Lithuania's futures ecosystem

Most of Lithuania's issues are related to the wider international context. Therefore, LFE cannot function without maintaining regular links with the international ecosystem of anticipatory governance. Such links are necessary for all chains of LFE. Only the most important ways of participating in the international futures ecosystem, the main levels and chains of this ecosystem are highlighted here. Each participant in LFE should establish a comprehensive international profile.

There are two main ways of engaging in the international futures ecosystem, namely *non-formal cooperation* focused on the exchange of information, good practices and development of competences, and *formal contacts* through networks of related institutions, representation of Lithuania in international organisations and joint activities. In both cases, it is important to have a good understanding of both Lithuania's interests, the architecture of the international ecosystem and informal centres of excellence.

For Lithuania, the two most relevant levels of the international futures ecosystem are the EU and the global one. It makes sense to speak also about cooperation between the futures ecosystems of smaller European regions, such as the Nordic countries and the Baltic States, Central and Eastern Europe, as well as about bilateral relations, especially with the candidate countries for accession to the EU, in particular with Ukraine. A number of thematic or institutional links between international ecosystems are also viable, such as foresight practitioners or parliamentary committees for the future.

### **European Union's futures ecosystem**

**European Commission.** The EU's futures ecosystem took its present form in 2019, when EC President Ursula von der Leyen established the position of Commissioner for Strategic Foresight and assigned it to EC Vice-President Maroš Šefčovič. The core of this ecosystem is the Competence Centre on Foresight, hosted by the EC's JRC, ESPAS, which links the anticipatory governance capacities of nine main EU institutions, and the EU-wide Foresight Network, which brings together ministers or vice-ministers responsible for strategic foresight from all EU Member States. It is significant that the policy areas curated by EC Vice-President Maroš Šefčovič include, in addition to strategic foresight, the European Green Deal, EC inter-institutional cooperation and better regulation.

In the period from 2020 to 2024, the EU Competence Centre on Foresight published annual EU Strategic Foresight reports, monitored megatrends, carried out horizon scanning and scenario building activities, and carried out various projects to improve the EU's anticipatory governance. Together with ESPAS partners, every few years the Centre publishes **reports on global trends** relevant to Europe. ESPAS annual conferences play a role in mobilising the EU's futures ecosystem.

The EU Competence Centre on Foresight uses the JRC's robust capacities to provide evidence to EU policy-makers. The **JRC's** activities, grouped into

33 areas, include scientific support for the EU Green Deal, digital policy, territorial development, health, energy, transport, security, etc., as well as general tools for anticipatory governance. This EU's science and knowledge service, which has the status of the EC's Directorate-General, employs more than 1 600 researchers and liaises with hundreds of analytical and scientific organisations in Europe and around the world.

The DG RTD **coordinates EU research policy, linking it to the EU's main needs and challenges**. Its main instrument is Horizon Europe, the research and innovation programme that strengthens the EU's knowledge base in key problematic areas of sustainable development, health, food security, energy, defence, with a budget of almost EUR 100 billion. One of the three areas of activity of the programme Horizon Europe is dedicated to fostering innovation through the programmes of the European Innovation Council, European Innovation Ecosystems and the European Institute of Innovation and Technology. Approximately one quarter of the programme's Horizon Europe budget is dedicated to free research not linked to a political request.

The EU's futures ecosystem is significantly complemented by the Technical Support Instrument of the DG REFORM, a programme that finances the EU Member States' preparations for structural reforms. The programme has already financed over 1 800 reform projects in the areas of the Green Deal, digital transition, health care, better governance, competitiveness, finance, labour market, social security, migration, etc. The DG REFORM also coordinates the RRF, which is important for the progress of the EU Member States.

Another link in the EU's strategic governance ecosystem is SAM, which provides independent scientific evidence and recommendations to the EU institutions at the request of the College of Commissioners. This mechanism consists of a group of seven Chief Scientific Advisors, a Secretariat within DG RTD and SAPEA supported by Horizon Europe. SAM provides scientific evidence and advice on all key EU policy themes, such as climate, energy, crisis management, health, security, sustainable development, agriculture, etc.

EU agencies also play an important role in the implementation of the EU's futures policies. The **EU Agency Network** unites 51 organisations. They also have their analytical capabilities and contribute to modelling the future of the EU in their field.

As mentioned above, the previous EC took a number of steps to integrate the futures governance of the Member States: the EU-wide Foresight Network

has been set up linking **ministers of all EU Member States responsible for futures policies** and career civil servants in charge of their fields of activity. However, for the time being, the impact of this network on the EU's general and Member States' futures ecosystems is not significant.

**European Parliament.** One of the main political foresight centres of the EP is STOA and its enabling analytical basis is the Strategic Foresight and Capabilities Unit and the Scientific Foresight Unit of the EPRS.

STOA is composed of representatives of all standing EP committees and is headed by the EP Vice-President. STOA's mission is to provide EP committees with objective information on the scientific and technological aspects of the decisions under consideration; to organise fora for politicians, scientists and other stakeholders on the most relevant issues of scientific and technological progress; to coordinate and support the parliamentary technology assessment activities of the EU Member States. STOA also organises technology assessment, development of scientific foresight and various events. The implementation of the third part of the mission is supported by the EPTA Network.

The purpose of the EPRS is to provide the EP with comprehensive research and analytical information. The Directorate for Impact Assessment and Foresight of the EPRS has the Strategic Foresight and Capabilities Unit and the Scientific Foresight Unit. The Strategic Foresight and Capabilities Unit prepares strategic foresight for broader policy areas, monitors signals of potential future crises, and prepares overviews of trends relevant for policy-making. The Scientific Foresight Unit focuses on STOA-relevant technologies.

**Council of the European Union.** The Council of the European Union does not have a dedicated foresight capability, but some analytical activities of the anticipatory governance are carried out by the Analysis and Research Team, which was set up in 2020 as part of its General Secretariat.

The EU's ecosystem of foresight and knowledge is part of the broader ecosystem of the **EU strategy and policy formulation and implementation**. The latter ecosystem includes long-term EU strategic policies, EC priorities, long-term financial programming, monitoring, reporting and assessment tools that combine innovative foresight approaches with traditional paradigms of strategic planning and foresight. These interactions are not always smooth, so it is important to closely follow the evolution of the entire EU strategic governance ecosystem and seek to represent Lithuania's views and interests in a balanced way.

## Global futures ecosystem

The global futures ecosystem is underpinned by the structures of the UN and other international organisations, with a significant role played by various foundations, independent think tanks, and projects initiated by various actors.

**United Nations.** The UN's framework for anticipatory governance is based on the resolution adopted by the UN General Assembly on 25 September 2015 entitled '**Transforming our World: the 2030 Agenda for Sustainable Development**'. This resolution identifies the most important social, technological, economic, environmental and policy dimensions of global development and sets out 17 Sustainable Development Goals (SDGs). The implementation of these goals, which are at the core of key EU progress programmes, integrated into the EU's futures policies, is monitored, with countries submitting voluntary progress reports.

While the countries of the world that supported the resolution 'Transforming our World: the 2030 Agenda for Sustainable Development' are committed to the goals set out therein, progress towards achieving many of these goals is known to be slow and insufficient. This is why the UN is making efforts to renew the commitments of the Member States and to encourage the stalling reforms. To this end, the Summit of the Future was held in 2024, based on the 2021 report entitled 'Our Common Agenda', published by UN Secretary-General António Guterres, and related initiatives. This meeting renewed global commitments to implement the SDGs and adopted strategic documents of global importance: the Pact for the Future, the Declaration on Future Generations and the Global Digital Compact.

The goals set out in the resolution 'Transforming our World: the 2030 Agenda for Sustainable Development' and activities that are important for the future of the world are implemented by many UN funds, programmes and agencies, such as UNDP, UNEP, UNESCO, WHO, the World Bank, etc. It is worth noting that in 2007, the UNEP established the **International Resource Panel**, which analyses the world's most depleted natural resources and looks for ways to stop excessive consumption, pollution, and environmental damage.

Many UN organisations use strategic foresight in anticipatory governance. The UN also has joint strategic foresight capabilities, such as the **UN Futures Lab Network** the informal **Foresight Network** of the High-Level

Programmes Committee (UN System Chief Executives Board for Coordination), which operated from 2020 to 2023, and the strategic foresight project 'United Nations Global Pulse'. Anticipatory governance is also highlighted by António Guterres in the UN's transformation initiative '**The Quintet of Change**'.

**Other global organisations.** Other global organisations also pay great attention to the prospects of global development. There is the **Strategic Foresight Unit** operating at the Office of the Secretary-General of the OECD. In analysing and modelling public governance reforms, the organisation places a strong emphasis on anticipatory governance. **The World Economic Forum** has a **strategic intelligence platform** to monitor and analyse the climate crisis, cyber security, education, the future of work and other key trends in global development.

Networks of professionals working in this field play a particularly important role in the global ecosystem of foresight governance. Mention should also be made of the **Millennium Project** founded in 1996 under the American Council for the United Nations University, which currently links 72 Nodes worldwide, bringing together professional futurists. The **Club of Rome**, founded in 1968, brings together 100 world-class intellectuals to discuss the challenges of growing civilization, the planetary emergency economic and financial reform, and intergenerational dialogue. More recent organisations include the **Dubai Future Foundation**, which has been mobilising the innovation ecosystem of the United Arab Emirates since 2016 and hosting global futurist fora.

**Other elements of the global futures ecosystem.** It is worth noting that the global futures ecosystem involves more than just governments and experts. Some parliaments around the world have established committees, commissions or informal groups of parliamentarians for the Future, Sustainable Development or similar, which bring together legislators in their efforts to make future-oriented legal decisions. The first **Committee for the Future** was established in the Finnish Parliament back in 1993, and in recent years similar committees or groups have been established in Lithuania, Iceland, Australia and some countries of South America. The first **World Summit of the Committees of the Future** took place in Helsinki in 2022. The development of parliamentary committees for the future is supported by the IPU, PACE and is of interest to the EP and other co-legislators.

Both the EU and the global futures ecosystem are interlinked with other knowledge ecosystems. Examples include the INGSA and the GSF backed by the OECD.

**Futures ecosystems of states.** Finland has one of the most developed futures ecosystems. Its axis consists of the **Committee for the Future of the Finnish Parliament, Eduskunta**, and the National Foresight Network, coordinated by the Prime Minister's Office. Foresight capabilities exist in every Finnish ministry and in many agencies, as well as in the independent Finnish Innovation Fund Sitra, research institutes, non-state research centres, and private companies. Finland has strong academic research capacities for foresight research, namely **Finland Futures Research Centre**, based at the University of Turku, **Finland Futures Academy**, bringing together 9 universities, as well as **the Finnish Society for Futures Studies**. The functioning of this country's futures ecosystem is carefully coordinated: at the end of each term of office, the Eduskunta is presented with a Report on the Future drawn up jointly by the Government and its administrative units, which, together with the assessment prepared by the Eduskunta, sets out the guidelines for the futures policy of the new Government, continuously monitors the global environment and developments in technologies relevant to Finland, organises national dialogues with the public on key issues for the future, etc. A well-developed futures ecosystem has helped Finland to overcome several major economic shocks and develop a culture of trust that is at the heart of the resilience and dynamism of Finnish society.

Strategic foresight is deeply embedded in the **operational framework** of the UK government and is used to address a range of technological, social or environmental challenges.

The self-governing parts of the UK, Wales and Scotland, have their own futures ecosystems. The Welsh Parliament adopted the **Well-being of Future Generations Act** back in 2015 and established an institution of the **Future Generations Commissioner** to oversee the implementation of this Act. Innovations in this policy have helped to bring together all policy areas of the country that are important for the country's future, provided a common value-based framework and helped to move from declaratory statements to real changes in the country's economy and social life. The Welsh example was noticed at the UN level, and following it, the idea of the position of UN Envoy for Future Generations emerged among António Guterres' initiatives.

Scotland has developed a model framework for the implementation of its national vision of progress focused on the well-being of society and each of its members, encompassing goals, values, tasks, indicators and based on the UN Sustainable Development Goals.

There are valuable institutional innovations in the futures ecosystem in Gibraltar, Canada, Hungary, Denmark, Singapore, Japan and other countries. A collection of references to them can be found on the website of the **Network of Institutions and Leaders for Future Generations** (NiFG).

### **Lithuania's links with the EU's and international futures ecosystems**

Lithuania has quite extensive, yet fragmented and underexploited links with the EU and some of the global futures ecosystems.

The highest level of contact with the EU ecosystem is maintained by the Lithuanian 'Minister of the Future', namely the Vice-Minister of Foreign Affairs responsible for relations with the EU and an employee of the European Union Department of the Ministry of Foreign Affairs acting as the 'sherpa' (guide). These officials take part in regular meetings of the EC's EU-wide Foresight Network. They are so far only partially involved in the development of Lithuania's internal futures ecosystem.

Lithuania also has its representatives at the cornerstone institution of the EU's future knowledge and competences, the JRC. A representative of Lithuania is also in the supervisory body of this EC's science and knowledge service, namely the Board of Governors. The representative facilitates the exchange of information on the futures ecosystem activities in the EU and Lithuania and mediates in relations between members of LFE and the JRC. Technical contacts with the JRC are also maintained by the NCP within the network of NCPs of Horizon Europe. However, the JRC NCP in Lithuania is responsible for communication on all JRC activities and therefore does not pay much attention to strategic foresight.

STRATA has been the most active centre of communication with international futures ecosystems in recent years, with the Strategic Foresight Group in place since its establishment. In preparation for the development of the Strategy 'Lithuania 2050', this unit established contacts with **the EU Policy Lab**, the EC Competence Centre on Foresight, the OECD **Strategic Foresight Unit** and the Government Foresight Community under its coordination, and participated in their events and trainings.

STRATA, together with the OGoRL, was directly involved in the international technical support project '**LIMinal: Strengthening anticipatory innovation governance in Lithuania, Italy and Malta**' for the development of the futures ecosystem, implemented by experts from OECD and JRC.

The Seimas CFF and RU OSRL maintain working relations with the Strategic Foresight and Capabilities Unit of the EPRS.

In terms of knowledge required for anticipatory governance, the group of Lithuanian representatives in the Horizon Europe Programme Committees and the **national contact points** assisting them have a significant but currently untapped potential. Dozens of Lithuania's principal and alternate representatives and about two dozen NCPs work in the the Horizon Europe Programme Committees. These representatives and NCPs receive updates on EU research news, Horizon Europe results and participate in the preparation of calls for this programme. The activities of the representatives and the NCP network are administered by the RCL. Representatives are obliged to submit written reports after committee meetings, but these reports are not further used in any way and there is no coordination of the group's activities.

Lithuania's relations with the UN political structures are maintained through the Ministry of Foreign Affairs and the Permanent Representative of the Republic of Lithuania to the United Nations and the Ambassador Extraordinary and Plenipotentiary of the Republic of Lithuania to the United Nations Office and other international organisations in Geneva. They also cover general policy issues of the future, such as the expression of Lithuania's position in the run-up to the Summit of the Future 2024. Lithuanian ministries, other state institutions and organisations cooperate with UN agencies within their area of responsibility, and the **Lithuanian National Commission for UNESCO** is also active. It should be noted that the coordination of the implementation of the UN General Assembly resolution 'Transforming our World: the 2030 Agenda for Sustainable Development' and the representation of Lithuania in this area has been entrusted to the Ministry of the Environment. Lithuania is not directly represented in the structural units of the futures ecosystem of the UN.

Lithuania does not maintain regular contacts with the other aforementioned links of the global futures ecosystem.

## **Directions for improving connections with international futures ecosystems**

The EU opens up the most obvious possibilities for improving connections with international futures ecosystems. Lithuania should develop permanent links that would help to gain knowledge generated by EU institutions of the future, use them in shaping Lithuania's futures policy and provide qualified feedback to EU fora and institutions.

The potential of the institute of minister for the future is not being exploited at the highest political level. If this institution remains in place after the change of the EC, its links with the national futures ecosystem should be expanded, it should be equipped with analytical capacities, and the information discussed within its framework at EU level should be smoothly transferred.

At the level of EU institutions, the greatest benefits would come from the systematic use of the network of Lithuanian representatives at Horizon Europe and the wider use of possible links with the JRC. Lithuanian representatives and NCPs should exchange information on EU policy innovations and thus contribute to shaping Lithuania's futures policy. This network should be joined by the SIA network of Lithuanian ministries, which is currently being developed and whose one of the most important functions should include gathering and utilising information that is relevant to the ministries. The SIA network should cooperate with the JRC, SAM and other EU future and scientific advisory bodies.

Lithuania should also be consistently involved in the global futures ecosystem. Lately, it is felt that when participating in the UN discussions, Lithuania relies too much on a common EU position and does not invest enough in independent analysis of global challenges, and is not an active participant in the discussions on overcoming them. At both EU and global level, Lithuania should not be perceived as a single-issue country, only heard in debates on stopping the threat posed by Russia and the EU's Eastern Neighbourhood policy.

At the governance level, consideration should be given to whether the coordination of the UN resolution 'Transforming our World: the 2030 Agenda for Sustainable Development' and other relevant UN initiatives within the Government should be adjusted. Within the Ministry of Environment, this agenda falls within the field of environmental protection,

which significantly narrows its actual scope. Perhaps this agenda should be coordinated by the OGoRL and supported by analytical and administrative resources under its authority. This coordination could be linked to the establishment and engagement of a network of Lithuanian representatives in UN structures.

At the expert level, Lithuania needs to become more involved in the European and global networks of scientists and practitioners of the future, and to strengthen Lithuania's intelligence of the future with their existing knowledge. The ESPAS Annual Conferences, the Millennium Project, the Dubai Future Forum are examples of such opportunities.

In general, more active involvement in the EU and in the global futures ecosystems is not so much a question of expanding international relations as of strengthening Lithuania's internal futures ecosystem. In the absence of sufficient expertise and functional organisational structures, international relations cannot be effective. There is no doubt that both STRATA and RU OSRL should have more and permanent resources to develop the already established links with the EU and global focal points for anticipatory governance. However, they are insufficient: there is also a need for the involvement of other state institutions and academic institutions, and in particular, a holistic approach to the development of LFE. International networking is an inevitable and natural part of this development.

#### 4.5. Analysis of the human resource needs of Lithuania's futures ecosystem, an assessment of the status and needs of the qualification potential and measures to strengthen the human potential

**The importance and international resources for developing future-oriented and forward-thinking skills and competencies.** In the Cff report "Governing futures in the face of uncertainty" of December 2022, it is stated that Lithuania 'lacks monitoring and national reflection on developments in the global sphere of future forecasting and foresight. [...] we lack professionals and enabling institutions, such as advanced research institutes or coordinated expert networks, dedicated to shaping and continuously updating contemporary foresights' (GFFU Cff, 2022). One of the greatest challenges for the futures ecosystem is identified as the lack of professional competence in this

field. In Decision No 122-S-6 of the Cff of 16 September 2022 on the Development of Lithuania's Futures Ecosystem, it is noted that 'state institutions lack professionals and competencies to prepare strategic foresights and to apply them for innovative and future-oriented alternative solutions' (LFED Cff, 2022).

The only attempt to train foresight professionals was the internationally accredited master's programme in public administration titled Foresight and Strategic Governance at Kazimieras Simonavičius University, which, however, has not been conducted for several years due to lack of demand. Lithuania has a considerable potential market for training foresight professionals and upgrading qualifications across various specialisations. It encompasses no fewer than 250-300 civil servants currently employed in strategic planning units and services. This is only the initial contingent for potential professional training, and there are also professionals in the areas of local self-government, regional development, business strategy creation, institutional resilience and crisis management, as well as other areas, who currently require foresight knowledge, new analytical technology skills, methodologies of S3, and competencies in the application of smart governance technologies. This would also facilitate integration into European strategic planning processes for foresight assessment and social inclusion, as well as the improvement of progress evaluation procedures.

In Report No V-2021-5515 of the Cff of 18 June 2021 on Challenges to Foresight in Lithuania, a currently relevant recommendation was presented: 'to establish a national foresight initiative or create strategic project pathways in collaboration with the RCL and the emerging Innovation Agency, thus incorporating scientific resources and promoting the integration of these competencies into studies and the state's knowledge infrastructure (GFFU Cff, 2021, p 18). It is considered that a study programme dedicated to developing foresight and related skills and competencies (starting with a master's programme, and later considering a bachelor's programme), possibly combining with AI and the so-called deep tech cognitive competencies and maintaining the vitality of the entire ecosystem. It is advisable to contemplate the accreditation of collaborative study programmes with pioneering universities in Europe and globally, where cutting-edge research is conducted and innovative methodologies are formulated.

In the planning of futures study programmes, Lithuania could benefit from engaging in the activities of the World Futures Studies Federation. This Federation is a UNESCO and UN consultative partner and global NGO with members in over 60 countries. The World Futures Studies Federation brings together academics, researchers, practitioners, students, and future-oriented institutions. It offers a forum for stimulation, exploration, and exchange of ideas, visions, and plans for alternative futures, through long-term, big-picture thinking and radical change. As the futures ecosystem evolves, encompassing futures study programmes and professional futurists, there will likely be a necessity for individuals and organisations to affiliate with associations that align closely with their interests and activities. One such organisation is the Association of Professional Futurists, founded in 2002, which currently includes more than 400 members from 40 countries. Lithuania is also leveraging the opportunities provided by the futures4europe platform, initiated by the EC. The primary goal of this platform is to gather, store, and disseminate information regarding foresights within, and about, Europe.

**Research indicates that the LFE is adequate for fostering capacity partnerships and networking, given the ecosystem participants that have been integrated into international collaborations to substantiate scientific policy.** It is thus advisable to persist in networking and forming partnerships with independent research institutions and other ‘science for policy’ ecosystem participants, as well as international research centres. These entities may particularly benefit from the Knowledge4Policy (K4P) platform built by the EC, which provides substantial opportunities for collaboration in futures research endeavours. The SIA network of the ministries of the Republic of Lithuania constitutes a particularly effective instrument for the exchange of information among the futures ecosystem participants, both within and across public policy sectors.

Jekaterina Šarmavičienė has compiled a structured overview of the qualification and analytical competence requirements (see Figure 10).

## Example of ensuring supply and demand of analytical competence

ANALYTICAL COMPETENCE SYSTEM ELEMENT	
Definition of necessary competences and mechanism for ensuring needs	Definition of competence assurance requirements (level of knowledge, number of specialists) in institutions of strategic governance system, preparation of the necessary legal regulations
	Identification of analytical units in the structure of institutions, formation of functions
	Assessment of existing and required competence differences, determination of the need to attract specialists and form competence
	Definition of the mechanism for ensuring/supporting/financing analytical competence
Strengthening supply	
Adaptation of the content of higher education programmes	Cooperation with universities in assessing the possibilities of developing/adapting programmes necessary to train specialists possessing required competences
	Preparation of legal regulations necessary for the expansion/adaptation/preparation of study programmes
	Creation of a motivational scholarship system (including studies abroad)
	Formulation of study programme content, preparation and recruitment of lecturers
Involvement of research institutions in the strategic planning process	Drawing up of legal regulations necessary to ensure sustainable, long-term and mutually beneficial cooperation between state governance institutions and science and study institutions
	Involvement of students and doctoral students in strategic governance processes, coordination of coursework, bachelor's and master's thesis topics
	Competitions for universities to perform analytical work when planning investments or evaluating the results of their implementation
	Dissemination of cooperation results, communication
	Consolidation of the network of competence and knowledge centres
Strengthening demand	
Creation of attractive employment conditions	Preparation of legal regulations for graduate employment and retention programmes in the analytical departments of institutions of the strategic governance system, organisation of employment programmes
	Preparation and implementation of short-term capacity-building programmes for employees to ensure the minimum required capacity level for employees
Education of politicians and shaping of a culture of decision-making	Independent assessment of the validity and effectiveness of proposed political programmes (by expert and research institutions)
	Strengthening of cooperation and trust between politicians and civil servants
	Refraining from unjustified rejection of initiatives on grounds of them having been adopted by the 'previous Government' without assessing their quality, importance, and compatibility with new proposals, evaluating how new political initiatives will ensure the continuity of reforms or changes that have already been initiated and guarantee the achievement of results
	Enabling new Members of the Seimas to familiarise themselves with the environment of long-term strategic plans, planning processes, and their connection with EU financial framework planning processes

**Figure 10.** Requirements for ensuring analytical competence (Šarmavičienė, 2024)

International cooperation and the exchange of best practices play a critical role in developing preparedness for the future. This applies equally to pre-primary and general education, as well as to higher education. To strengthen future literacy among the population of Lithuania, it is recommended to draw upon the resources and expertise of the non-profit movement Teach the Future. This organisation provides a wide range of valuable materials designed to promote future-oriented thinking among both children and adults. The Teach the Future initiative, in cooperation with researches at the Finland Futures Research Centre (the University of Turku) and the University of Geneva, has developed a Futures Consciousness Scale for use by young people, ages 12 to 17. A corresponding scale has also been developed for adults. Futures consciousness is the human capacity to understand, anticipate, prepare for, and embrace the future. Another valuable resource is the Future Forward, a 20-lesson programme to support young people in their understanding and exploration of the future. The programme was developed by the Competence Centre on Foresight of the JRC. The Future Forward programme revolves around these five topics: perception of time, futures mindset, multiple futures, investing in imagination, and taking action (RU OSRL 24/17).

The formulation of strategic foresight comprises such stages as horizon scanning, the development and exploration of possible future scenarios, and the assessment of the potential impact on strategies currently being developed and on emerging policy directions. Future scenarios serve as a tool for exploring possible events, their consequences, and the interaction between various actors within a possible or probable future. Future scenarios are created through research, utilising collective intelligence and collective imagination, crafting narratives of different future possibilities. Their long-term objective is to outline the framework of a strategy or an action plan.

The purpose of horizon scanning, which provides input for scenario development, is to detect weak signals of potential change. This requires transcending disciplinary, methodological, and institutional boundaries. The process of evaluating perspectives begins with gathering relevant information, analysing and interpreting it, and constructing a mental perspective. Various qualitative, quantitative, and mixed data collection and analysis methods as well as their combinations are used, such as expert interviews, source and document analysis, focus group discussions, backcasting, discourse analysis, big data analysis, Delphi method, bibliometrics, patent analysis, and similar techniques.

Dozens and even hundreds of methods used in the horizon scanning stage are calculated, which are categorised not only according to the qualitative-quantitative methods scale but also according to other scales: from evidence-based to creativity-based methods; from exploratory to normative methods; from those involving the widest range of participants to expert-based; from short-term to longitudinal methodologies.

Over time, the discipline of strategic foresight has evolved from anticipation and construction of various models towards a more systematic, critical, and participatory process. The results of this process can be both tangible (taking a textual form) and intangible, creating a changed understanding of participants' strategic future alternatives. Strategic foresight is generally focused on a long-term perspective, covering a period of at least 10-20 years, and in this way, they differ from traditional strategic planning, which typically covers a 1-3 or 5-year perspective.

***Potential and limitations of foresight.*** The foresight methodology can reduce but not eliminate uncertainty due to complexity and chaos theory. Forecasts, scenarios and foresight outputs within the boundaries of a predicted system can have self-fulfilling or self-negating effects. Some knowledge already exists outside an organisation and may be integrated into it (unknown knowns), other knowledge must be created from scratch (unknown unknowns). Complex and uncertain risks require the involvement of science and affected stakeholders, whereas civil society can primarily contribute to normative questions. We can reduce the level of uncertainty about the future by analysing new information, updating existing scenarios, assigning probabilities to them, or collapsing them into one clear enough future, the robustness of which to perturbations can be tested (Kohler 2021).

***Applying foresight in public policy*** The foresight method can be a strong foundation for shaping future-oriented public policy and helping ensure that current policy is future-proof especially in an environment where the context is complex and uncertain, where there is 'a change in the conditions of change' (UNESCO 2018; Buehring, Bishop 2020), and where what was considered long-term has significantly shortened (RU OSRL 24/18).

## CONCLUSION.

### Steps for implementing LFE

#### Vision of Lithuania's futures ecosystem: *quo vadis?*

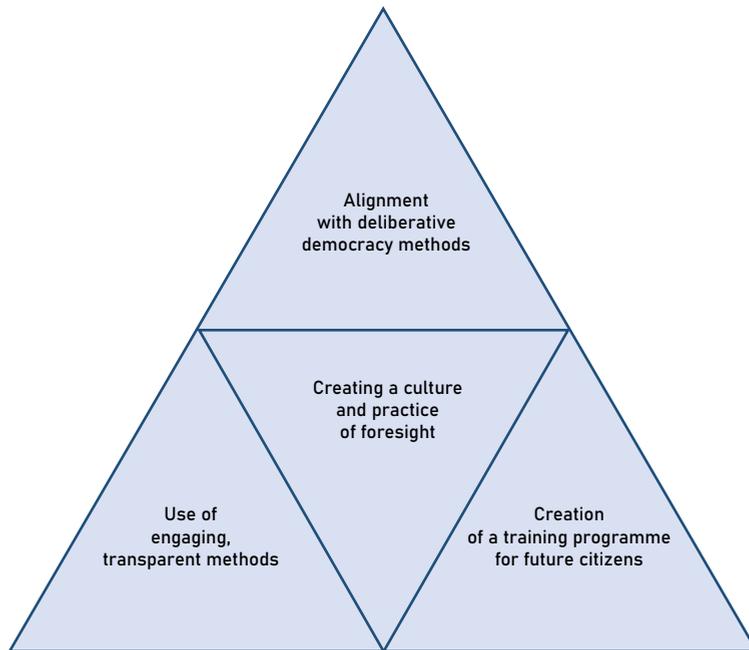
According to a study conducted by the SOIF and based on the experience of other countries, in order to develop a futures ecosystem, a state must establish at least one capable foresight unit that would become the axis and engine of the ecosystem. There may be several options in this case: to establish a foresight unit under the Government (based on STRATA), under the Parliament (based on the RU of the OSRL), or to establish a separate, independent institution with its own budget. Certainly, choosing one option does not preclude the existence of other institutions. Foresight units are more commonly located in or directly under the government. However, having a separate foresight unit in the OSRL would strengthen the parliament's role in overseeing and auditing future issues. For instance, the RU of the OSRL could easily be transformed into a foresight centre, like the one operating in the Estonian parliament, whose tasks are to analyse long-term societal changes, identify new trends and development directions, and prepare development scenarios.

It can also be noted that, for an inclusive futures ecosystem operating in line with the quadruple helix principle, it is necessary to encourage knowledge sharing not only among the ecosystem's actors but also to aim for citizen involvement in foresight processes. It is also important to strengthen the work of the agency that collects, systematises, and analyses data. The SDA, in collaboration with government agencies, should employ modern technologies and tools to enable the creation of knowledge necessary for anticipation and foresight, identify weak signals, as well as collect and process other necessary data.

In order to create a futures ecosystem, one must understand specific methods and have the ability to apply them. In the case of Lithuania, it is necessary to start not only from the application of foresight but from education, which would introduce public sector employees to this field, demonstrate the advantages of using possible methods, and encourage them to apply the methods.

In terms of relationships and connections between actors, it is possible to afford heightened attention to higher education institutions, as this is where the methodological and practical capabilities for foresight are concentrated. These capabilities have already been utilised in developing the Strategy ‘Lithuania 2050’. The networks of the futures ecosystem, openness to new actors and promotion of collaboration through formal and informal meetings of ecosystem participants, during which experience and knowledge are shared, are all factors that contribute to Finland’s success.

In summary, it may be affirmed that a comprehensive approach to highlighting the importance and benefits of foresight as well as to explaining this importance is required not only for policy-makers, but also for the general public. Figure 11 provides recommendations on how to achieve this.



**Figure 11.** Recommendations for creating an effective futures ecosystem (Shallowe et al. 2020, p. 16).

In its decision regarding the development of LFE, the Seimas Cff has submitted the following proposals to the Board of the Seimas:

1. To improve the planning of the Cff's activities by developing the Committee as a strategic, horizontal Seimas committee composed of the chairs or their deputies of other committees and the chairs or their deputies of political groups.
2. To re-establish the Parliamentary Research Department at the OSRL, creating within it a foresight division dedicated to examining long-term challenges in state development.
3. To provide for the funding in the budget of the Seimas for hiring external experts and supporting the dissemination of analytical reports aimed at improving public policy (LFED Cff, 2022).

The implementation of these recommendations will likely provide LFE with a much more stable foundation for development and operation, ensuring its long-term sustainability. It would also be worthwhile taking into consideration the OECD experts' recommendations on the next steps for creating the futures ecosystem (OECD 2024):

1. To identify which actors can play a specific role in the anticipated ecosystem.
2. To focus efforts and necessary resources where investments are urgent.
3. To include a more diverse range of participants to hear different opinions and thus fill the gaps.
4. To identify systemic constraints and limitations, such as legal, governance and civil service structures, and established cultural norms, which may hinder the development of future-oriented thinking and anticipation capacities.
5. To invest in areas with high impact potential and take advantage of available grants.
6. To align the actions with ongoing institutional reforms and other reforms (RU OSRL 24/22).

The SOIF case study on features of effective systemic foresight in governments around the world has considered the practices of eight countries, namely the UAE, the USA, Canada, Malaysia, New Zealand, the Netherlands and Finland, and identified a number of features that have contributed to the development of future-oriented, resilient and adaptive futures ecosystems. These features are culture and behaviour, processes, structures and people.

Mutually reinforcing and interdependent, they combine to form continuous, long-term thinking, which is necessary for a vibrant futures ecosystem that nurtures itself and creates demand for, and ensures a quality supply of, foresight (SOIF 2021).

However, the authors of the study argue that there is no specific definitive recipe for any country to build an effective futures ecosystem. Each one operates within the socio-cultural, political and economic environment of a particular country (RU OSRL 23/06).

In Lithuania's case, when examining the contextual factors that determine a futures ecosystem's success and effectiveness, it is important to consider not only their content but also their longevity – from deep-rooted mental models (which remain stable over time, shaped by a long interplay of historical, geographical, and religious circumstances), through a slowly evolving value-based cultural foundation (which, compared to mental models, is somewhat more malleable), to a rather inert institutional culture and, over the past three decades, the most dramatically transformed economic and political structures that provide the context for the futures ecosystem's vision and either enable its effective development or, conversely, potentially block its viability.

The futures ecosystem not only for Lithuania, but also for the broader Central Eastern European region is framed by the concept of extended post-communist transformation, encompassing comprehensive political, economic, social and cultural change, as well as the formation of new structures after 1990. Political and economic factors are more susceptible to external influences and social engineering, with purposeful efforts to reform structures in order to avoid dependency on institutional complementarity. However, the sociocultural foundation changes more slowly, particularly with regard to mental models, values and institutional culture. It always directly affects the functioning of reformed structures and institutions. One of the most significant obstacles to completing post-communist transformation is the discrepancy between institutional form and cultural content. "The fundamental problem of transition (and transitology) is the discrepancy between Western concepts and Eastern realities; the gap between form and content; practice and consciousness; and the absence of connections between cultural representations and real-life experience" (Baločkaitė, 2007). This concerns mental states, identity values and cultural shifts, determining the extent to which our society and public

administration can formally and in terms of values pursue Western-oriented EU goals and how society perceives itself in the global context. At the same time, it is also a question of education and qualifications.

In other words, the socio-cultural and socio-economic contextual factors that are crucial for constructing the futures ecosystem are related to values, social trust, institutional culture, the potential of the education system and current socio-economic and external factors, such as the impact of megatrends on Lithuania. All of these aspects will be presented in more detail below.

**Values.** Lithuania is characterised by a blend of secular and survival values, as defined by the scale developed by Ronald Inglehart and Christian Welzel, which has been applied in the World Values Survey and other international longitudinal studies of values. Diligence, the pursuit of stable economic security and other material priorities remain dominant in society, while post-materialist values such as individual self-expression are gaining ground only gradually. A secular-rational worldview has also remained strong since Lithuania's independence was restored. Therefore, when shaping a culturally resonant futures ecosystem and ensuring effective public communication, it is crucial to emphasise its relevance to the fundamental survival needs of the State and its citizens, particularly in discussions about strategic national defence and improving economic well-being.

**Trust.** It is also important to note that indicators of social trust in Lithuania, according to the results of the longitudinal ESS, remain relatively low. They only slightly exceed the average across 19 countries that participated in the 2020-2022 survey and stand just above 5 points out of 10 (though it should also be noted that these indicators have shown a very modest upward trend compared to Lithuania's ESS results from 2009-2019). By contrast, Finland, being the European frontrunner in developing its futures ecosystem, consistently records some of the highest levels of social trust among all countries included in the survey.

Trust indicators are unequivocally critical for the effective functioning of a futures ecosystem: low levels of generalised social trust and a weak sense of community are closely associated with limited confidence in the political system and with a diminished perception of citizens' own engagement

within the State and its governance. Political efficacy, considered one of the key indicators of the 'health' of a democratic system, was rated in the latest ESS survey by Lithuanian respondents below the average score. Particularly low levels of trust are directed towards core state institutions, alongside notable sympathy for the idea of a strong political leader ('a firm hand'). This suggests that the current sociocultural environment is rather unfavourable to sustainable, trust-based, democratic forms of civic engagement in public policy processes (Šarkutė 2023).

**Nature of institutional culture.** A lack of public trust permeates and obstructs the effective functioning of state institutions as cohesive, goal-oriented communities. Experts observe that Lithuania's governance culture is fairly legalistic, following the Rechtsstaat tradition in which the State is perceived as a strong actor that integrates society and in which legislation is the main instrument of public policy-making. The Lithuanian civil service is classified as belonging to the procedural type of administration, and the State is characterised by a high degree of regulation (Nakrošis et al. 2018). For the most part, public policy-making is understood as the drafting and implementation of legislation. Furthermore, in an effort to preserve their political power, politicians are sometimes reluctant to share responsibility with civil servants (Law of the Republic of Lithuania on the Civil Service).

Within this tradition, civil servants are viewed as executors of government policy and providers of public services, with adherence to rules and precedent serving as the guiding principle of their conduct. Consequently, institutional culture is characterised by risk aversion, intolerance of errors and a punitive approach, creating an environment that stifles creativity (STRATA 2022a; STRATA 2022b). This culture stifles initiative and innovation, and fails to meet the needs of the futures ecosystem, which will require creativity and unconventional solutions (Nakrošis et al. 2018). 2018).

Therefore, given the current lack of social trust and political efficacy, as well as the prevailing institutional culture, developing an effective futures ecosystem in Lithuania requires not only the dissemination of foresight methodologies, strengthening capacities and enabling environments, and expanding both the supply and demand for foresight, but also transforming entrenched institutional culture, namely, prevailing modes of thinking and acting. For this to happen, leadership is essential, as are institutional incentives, greater

involvement of external actors, investment in people and knowledge, and the promotion of new organisational structures, partnerships, rules and processes that encourage innovation (OECD 2017).

**Socioeconomic factors.** Lithuania has some of the highest levels of social exclusion in the EU, particularly among older adults, as well as across geographic, educational and other dimensions (RU OSRL 23/112). Special attention should be paid to the **Gini coefficient**. According to data from 2023, it stood at 35.7, ranking as the second-highest level of income inequality among all EU member states (Gini, 2023). **This outcome points to the fact that Lithuania continues to face higher levels of social exclusion and marked income inequality than the Nordic and Western European countries, as well as most post-communist Central and Eastern European states.**

In 2023, Lithuania's SPI score was 81.51, placing the country 31st globally. Among the strongest dimensions were housing affordability (21st) and access to basic education (12th), while the weakest were population health (59th) and nutrition and basic medical care (53rd) (SPI 2023).

Looking ahead, this socio-economic backdrop may become a barrier to the development of the futures ecosystem. Social tensions and economic alienation make it harder to bring society together, and forward-looking policy goals risk being perceived by many as serving only the interests of the elite. To unlock progress, Lithuania needs to explore alternative models of socio-economic development, strengthening collaboration between the centre and the regions, piloting universal basic income, expanding high-quality social services, and ensuring that education and healthcare are equally accessible in all regions. This is a long-term strategy for strengthening the country's socio-economic position. It requires patience and resources, but will eventually pay off in terms of GDP growth, innovation and competitiveness across all areas of the economy (Fathi et al. 2021). The White Paper poses a hypothetical question, or even frames a potential challenge: is anticipatory governance capable of being implemented effectively only in the Nordic countries?

**Education.** From a broader perspective, long-term educational reform that includes competencies for preparing for the future and futures literacy is one of the most important tools for improving the conditions for the development of the futures ecosystem, addressing the aforementioned issues of social trust

and trust in state institutions, and ultimately achieving institutional cultural transformation (UNESCO, 2022). These competencies are directly related to knowledge of and experience with the latest technologies, innovative teaching and learning methods, creativity education and awareness of megatrends and world-changing challenges, such as climate change, global migration and resilience issues. From a more specific perspective, disseminating basic insights, concepts, methods and practical skills about the future is important for the viability of futures ecosystems, not only in institutional environments and higher education, but also in schools.

**Impact of megatrends.** External factors associated with globalisation and megatrends are driving the development of LFE. The important structural global trends that will affect the EU's capacity and freedom to act: climate change, digital hyperconnectivity, pressure on democracy and values, shifts in the global order and demography (EC 2021).

However, there is another megatrend particularly relevant for Lithuania, namely, the evolving global security paradigm (STRATA 2022c). This trend, especially since the onset of Russia's war in Ukraine in 2022, has heightened the challenges associated with Lithuania's geopolitical position. Drawing on examples from Finland and other countries (Michalski et al. 2024), similar external geopolitical uncertainty can stimulate foresight initiatives and the development of a futures ecosystem, particularly in matters of national defence and security, as well as in the advancement of science and technology and mission-oriented innovations (RU OSRL 23/06).

Given Lithuania's socio-cultural and socio-economic profile, highlighting physical security issues and geopolitical threats may be particularly important and acceptable to society. This would promote trust and justify the development of the futures ecosystem.

Other megatrends, such as climate change, also reveal important aspects of Lithuania's socio-cultural context. Research based on the ESS data indicates that Lithuanians' concern for climate change is moderate, with attention to climate-related issues substantially lower than concern for meeting daily energy needs and ensuring energy affordability (prices). Sensitivity to climate issues is more pronounced among women and younger age groups, and is not a dominant, widespread value orientation across the population (Balžekienė, Budžytė 2021).

Another important external factor in the development of the futures ecosystem is the recent systematic intensification of efforts by the EU and other international organisations to strengthen the application of research outcomes in policy-making and to actively promote knowledge- and evidence-based policy. Given Lithuania's cultural profile, which is favourable to adopting Western structures through imitation (e.g. Baločkaitė 2007), such initiatives can strongly contribute to raising awareness of the need for a futures ecosystem, disseminating foresight methodologies, strengthening competences, and more broadly, accelerating the creation of the futures ecosystem.

Lithuania's proactive response to other megatrends, such as global demographic, economic, technological, and related shifts, likewise requires forward-looking, innovative strategic decisions and a well-functioning futures ecosystem.

More broadly, the internal social, cultural, and economic factors that may influence the development of the futures ecosystem in Lithuania are rooted in long-standing experience of change and adaptation, as well as in the society's considerable potential for transformation. On the other hand, these factors are also linked to social distrust, social exclusion, and a culture of poverty that encourages an orientation towards short-term survival rather than the development of future-oriented solutions. This dynamic is compounded by the present institutional culture, characterised by conservatism, rigidity, and a persistent fatigue from long-term transformation at both the micro- and macro-social levels (RU OSRL 24/16).

The greatest attention must therefore be given to **civic and social inclusion**. This is both a continuation of **democratic tradition and a catalyst for change**. The history of the EU's development and prosperity is clearly the result of democratic processes. The expansion and refinement of democracy has given the EU Member States and their citizens a powerful creative impetus in all areas of life. It has also strengthened public trust, values and the integrity of the relationship between government and citizens. This social potential made it possible to achieve the standards of European well-being. However, paradoxically, debates on the deficit of democracy continue in all EU Member States, even the most democratic ones. The reason is simple: there can never be 'too much' of the rocket fuel of democracy. Countries where the advancement of democracy slows down or stagnates face a wide range

of difficulties and crises, from unrest in Catalonia to recent political developments in Hungary. Therefore, when considering the future of governance, democracy must be understood not only as a value-based construct, but also as a set of democratic technologies which are constantly evolving and improving in every aspect (structural, communicative, technological and many others), much like the technologies of the information industry, automotive industry or construction industry.

Moreover, democratic technologies are becoming increasingly innovative. In this context, a new paradigm of governance is emerging that is generally referred to as 'anticipatory governance'. This is a form of governance in which innovative solutions are applied directly in the context of shaping the future. The 'creative bureaucrat' is no longer an oxymoron, but an approaching reality. Such paradigmatic shifts in governance are becoming increasingly common in today's world. This is an evolutionary outcome of informational life and universal digitisation. Retrospectively, one can trace how the interoperability of governance structures and the interconnections among all tiers of governance (technological, social, communicative and many others) have increased and how their domains of operation have become progressively more tightly coupled. When we consider this alongside the solutions offered by *GovTech*, smart governance and other public-sector innovations, it becomes clear that anticipatory governance is a natural consequence of contemporary governance development, in line with the trajectory of global change. Methodologically, this constitutes an increasingly complete and holistic public governance architecture, in which the importance of the human factor is growing, often described as increasing social or civic inclusion.

These governance change trends are reflected in shifts and paradigms within supranational governance structures. The fractal nature of the information world – from its smallest to its largest forms – discussion of multi-level governance, whereby all tiers of authority become accessible to, and equivalent for, all citizens, according to a 'matryoshka' principle. These issues have been widely discussed in Europe for several decades without giving rise to decisive action. The main reason for this is straightforward: the scale of the legal reforms required, and the uncertainty surrounding their operation. At the same time, a global 'power of the internet' is emerging, which is changing the technological conditions and logic of governance, and to some extent shaping relations between states.

Thus, futures analytics for state and public governance are still in the initial phase of expert assessment and policy design. In the near term, much larger-scale research and preparation for future decisions lie ahead. Even now, however, it is clear that we face a national, and potentially pan-European, challenge, namely, the need to upgrade the qualifications of civil servants and politicians, and to meet the professional requirements of a new-generation civil service. In these circumstances, the Seimas Cff could revive the earlier discussion on establishing a **public governance academy**.

The development of EIPM and embedding its functions within anticipatory governance structures is particularly important in this regard.

## Recommendations

The preferred trajectory for LFE is to adopt the Finnish best-practice model. Consequently, the infrastructure framework presented in Figure 1 of the White Paper should be viewed as an idealised blueprint that integrates leading institutional practices from Lithuania and other countries which will be implemented on a more modest scale in reality. Implementation guidelines should be anchored in Finnish experience and supplemented, where appropriate, by elements drawn from the ecosystem models of Singapore, Wales, and Hungary.

The necessary condition for the demand for thinking about the future of Lithuania is the continuity of the work of the Cff. This condition corresponds both to Finland's long-term experience and to Lithuania's experience in 2020-2024.

The necessary institutional condition for the supply of thinking about the future of Lithuania is the preservation and strengthening of the capacities of the Office of the Cff and the RU OSRL, the OGoRL, STRATA, and the Strategic Forecasting Unit of the MMNLL. To maximise the effectiveness of this ecosystem core, it is also essential to deepen its integration with the national strategic governance system, led by the Ministry of Finance.

Activities of the Seimas Cff should be strategically positioned and planned so that initiatives to anticipate Lithuania's future continue to advance throughout the 2024-2028 parliamentary term. A logical starting point for these initiatives is the implementation framework of the Strategy 'Lithuania 2050' and the ideas and recommendations set out in the White Paper.

Within the executive branch, the most significant measure for strengthening long-term strategic governance is to appoint a senior official, at least at the level of Deputy Chancellor of the Government, responsible for overseeing the implementation of strategic visions, and to bolster the team of the OGoRL supporting that role, as outlined in the implementation provisions of the Strategy 'Lithuania 2050'.

The combined efforts of these five institutions and a senior government official would be channelled through an emerging institutional and expert network dedicated to evidence-based governance and the development of future visions. Looking more narrowly at the institutionalisation of foresight within ministries, the success and continuation beyond 2026 of the pilot scheme of the RCL on SIA will be essential.

With regard to the immediate agenda of future-oriented reflection and the implementation of the Strategy 'Lithuania 2050':

The implementation strand of the Strategy 'Lithuania 2050' envisages a systematic extension of foresight into selected public policy domains. Climate change mitigation, the pursuit of a climate-neutral economy, and the National Agenda 'National Energy Independence Strategy', while not fully aligned with foresight methodology, have been among the areas of public policy in which the Seimas and the Government, in 2024, set long-term goals reaching to 2050, together with implementation measures. Building on the groundwork already achieved, further long-term visions and sectoral strategies could be developed in the fields of comprehensive national defence and transport. Agriculture and rural development equally merit a long-term vision; these fields could have received more attention during the preparation of the Strategy 'Lithuania 2050'. Decisions on the final list of tasks, at least for the first half of the new political cycle, rest with the Seimas Cff during the 2024-2028 term, in the light of the new Programme of the Government.

The review of the 2021-2030 NPP was launched in spring 2024 with introductory discussions in the Cff. The modality of the NPP review was further considered at a meeting of the OGoRL and the Ministry of Finance in October 2024. It was agreed that the review should continue in accordance with the specified principles.

The NPP is first and foremost a strategy for the implementation of Lithuania's progress, and not merely a plan for the full absorption of EU funds (as prescribed by the relevant EU source requirements). Not everything financed

by the EU should be treated as a measure of progress. Where the two objectives diverge, it is likely that a separate plan for the receipt of EU support will be drawn up for the non-convergent part. Two factors complicate the implementation of this decision, namely, the provisions of EU regulations stipulating that all EU support to a Member State is channelled through the national strategy or sectoral public policy strategies. From the point of view of the Ministry of Finance, this approach erodes the coherence of the existing NPP. Although its comprehensive single-plan structure can feel cumbersome, its very unity provides practical convenience for the Ministry.

There is a need to concentrate progress objectives, and the associated funding, into a smaller set of priorities (currently 10) accompanied by far fewer tasks (at present 70). Two concentration approaches are under consideration: one mapped to the five strategic ambitions, the two cross-cutting principles and the foundational culture pillar of the Strategy 'Lithuania 2050', while the other organised around the ten-year roadmap of essential initiatives, namely, public administration reform, demographic resilience, climate neutrality, security and resilience across four domains (energy, social, economic and cyber), universal defence and the interplay of culture and education.

The OGoRL and the Ministry of Finance have agreed that, during the review, the NPP's planning horizon should be extended to 2035 and that all endorsed measures must be brought to fruition.

The optimal timing for this review is between early 2025 and mid-2026, ahead of the negotiations on the 2028-2034 EU budget, in which Lithuania must engage with a position firmly grounded in national interest.

Once the review's guidelines and principles are agreed, the OGoRL, together with the Ministry of Finance, will draw up a detailed 2025 programme. This will be guided by the co-creation principle embedded within the Strategy 'Lithuania 2050'.

The Lithuanian Fertility and Family Study and the Lithuanian Longitudinal Social Survey – two RIs funded by the RCL and launched at the end of 2024 – will be indispensable for analysing societal well-being, enhancing institutional communication, strengthening public governance and refining indicators across various programmes and measures. The immediate objective is to develop and launch a continuous, systematic assessment of Lithuania's true future, which is the well-being of its children. To evaluate the condition of older cohorts, Lithuania joined the SHARE-ERIC international RI in 2024.

Three key questions must be addressed in preparing the National Progress Report: accountability, content and format. Under existing regulations, the OGoRL is responsible for drafting the said Report, which naturally centres on disclosing progress under the Government Programme. Moreover, producing an annual National Progress Report of consistent depth and high calibre – one that delivers a rigorous, critical reflection on current public policy implementation in light of long-term national objectives (i.e. policy impact assessment) while also capturing year-on-year progress (ideally through outcomes, though often limited to outputs) – proves challenging. Several options are available. Drawing on the Finnish model, a truly comprehensive National Progress Report could be prepared once per parliamentary term. In Finland, foresight is refreshed at the start of each term, and a progress report – complete with recommendations for the incoming government – is produced at the end of the term, typically one year before an election. The Foresight Report and the National Progress Report constitute formal civil service submissions to the government and parliament, distinct from the political report of the government. Politics and policy remain separated. Following this example, responsibility for the in-depth National Progress Report could be entrusted to STRATA. A fitting milestone would be 2027, when the Government is due to update its foresight evidence, conduct a systematic evaluation of Lithuania’s progress, and advise the Seimas on the need (or lack thereof) to revise the Strategy ‘Lithuania 2050’. In the interim period up to 2027 (i.e. throughout 2025 and 2026), reporting could focus, as has been customary, on interpreting changes in indicator metrics for the National Progress Report, with the option (as agreed between the Government and the Seimas Cff) to include a more detailed analysis of specific policy areas (for example, one or two sectors per year). Issues related to the format of the Report should be resolved concurrently, with the analysis presented in accordance with the constituent elements of the Strategy ‘Lithuania 2050’ (its strategic ambitions) and the structure of the NPP.

An intervention-level evaluation programme which has been approved by the Ministry of Finance as the NPP administrator but only formally is of critical importance for the purposes of the ongoing review of the NPP and the assessment of its implementation measures, projects and activities. However, the evaluation programme in its present form cannot reasonably be expected to yield substantive insights into which measures are effective, the nature and extent of their impacts, or the degree to which they contribute to the goals of the NPP and the realisation of Lithuania’s future vision.

## Appendices

### Appendix 1: Composition of the Working Group for the Development of a Draft Concept of Lithuania's Futures Ecosystem (White Paper)

1. Raimundas Lopata – Chair of the Committee for the Future, the Seimas of the Republic of Lithuania (Chair of the Working Group);
2. Darius Žėruolis – Adviser to the Prime Minister of the Republic of Lithuania on Strategic Planning, Public Administration, Reform and Change Management (Co-Chair of the Working Group);
3. Lukas Savickas – Deputy Chair of the Committee for the Future, the Seimas of the Republic of Lithuania Deputy (Deputy Chair of the Working Group);
4. Arūnas Augustinaitis – Adviser to the Committee for the Future, the Office of the Seimas of the Republic of Lithuania (Coordinator of the Working Group);
5. Agnė Grigienė – Adviser to the Committee for the Future, the Office of the Seimas of the Republic of Lithuania (Secretary of the Working Group);
6. Ieva Lavišienė – Adviser to the Committee for the Future, the Office of the Seimas of the Republic of Lithuania (Secretary of the Working Group);
7. Miglė Paulauskė – Adviser to the Committee for the Future, the Office of the Seimas of the Republic of Lithuania (Secretary of the Working Group);
8. Giedrius Viliūnas – Adviser to the Committee for the Future, the Office of the Seimas of the Republic of Lithuania (Secretary of the Working Group) (since 1 March 2023);

- 9. Ričardas Ališauskas – Head of the Strategic Planning Division of the Ministry of Education, Science and Sport of the Republic of Lithuania (since 20 March 2024);
- 10. Giedrė Beleckienė – Senior Analyst of the Strategic Foresight Forming Group of the Government Strategic Analysis Center;
- 11. Simonas Černiauskas – Chief Executive Officer of the INFOBALT Association (alternate member – Egidijus Skrodenis, Head of the Intelligent Transport Solutions Group of the INFOBALT Association);
- 12. Arūnas Gelūnas – Director General of the Lithuanian National Museum of Art (since 15 November 2023);
- 13. Mantas Gudas – Vice-President of the Lithuanian Confederation of Industrialists (alternate member – Tomas Garuolis, Director of the Department of Business Environment and Economy of the Lithuanian Confederation of Industrialists);
- 14. Renaldas Gudauskas – Director General of the Martynas Mažvydas National Library of Lithuania (since 1 March 2024);
- 15. Vita Juknevičienė – Science and Innovation Advisor to the Ministry of the Interior of the Republic of Lithuania;
- 16. Giedrius Kanapka – Adviser to the Research Unit of the Information and Communication Department of the Office of the Seimas;
- 17. Audrius Kasinskas – Head of the Civil Service Policy Group of the Ministry of the Interior of the Republic of Lithuania;
- 18. Raimondas Kuodis – economist; expert in macroeconomic policy and public economics; Doctor of Social Sciences; Professor;
- 19. Gita Leterskė – Deputy Director General of the State Data Agency;
- 20. Justas Nugaras – Vice-Minister of the Ministry of Education, Science and Sport of the Republic of Lithuania (alternate member – Rasa Kulvietienė, Education

- Policy Adviser to the Minister of Education, Science and Sport of the Republic of Lithuania);
21. Artūras Palekas – Director of the Public Management Agency;
  22. Paulius Petrauskas – Director of the Innovation Development Department of the Innovation Agency (alternate member – Martynas Survilas, Head of the ICT Lab of the Innovation Development Department of the Innovation Agency);
  23. Darius Sadeckas – Vice-Minister of the Ministry of Finance of the Republic of Lithuania;
  24. Eugenijus Stumbrys – Head of the Science Policy and Analysis Division of the Research Council of Lithuania;
  25. Dovilė Sujetaitė – Adviser on Economic, Transport and Communications to the Association of Local Authorities in Lithuania;
  26. Ligita Šarkutė – Adviser to the Research Unit of the Information and Communication Department of the Office of the Seimas (since 15 November 2023);
  27. Jekaterina Šarmavičienė – Head of the Public and Private Partnership Unit of the Central Project Management Agency;
  28. Linas Tarasonis – principal economist of the Centre for Excellence in Finance and Economic Research of Lietuvos bankas;
  29. Sigita Trainauskienė – Adviser to the Research Unit of the Information and Communication Department of the Office of the Seimas (since 15 November 2023);
  30. Ramūnas Vilpišauskas – Professor of the Institute of International Relations and Political Sciences of Vilnius University (since 15 November 2023);
  31. Daiva Žaromskytė-Rastenė – Head of the Strategic Management Group of the Office of the Government of the Republic of Lithuania.

Source: SRL WG LFEC 2023.

## Appendix 2: Models and experiences of effective foresight ecosystems

### **Singapore: the centralised model**

In terms of successful strategic foresight institutionalisation at the centre of government, Singapore is one of the most referenced examples. This South-east Asian country has a long-standing history of building a foresight culture across society and within their public service. Whereas Lithuania's governance tradition is similarly characterised by a high degree of centralisation and by the constraints inherent to a small State, now, therefore, it is proposed that Singapore's foresight ecosystem serve as a model for the design of Lithuania's own strategic-foresight framework.

The following are five crucial factors that supported the adoption and institutionalisation of foresight practices in Singapore (Monteiro & Dal Borgo 2023):

- Institutional entrepreneurs: the existence of committed public servants and managers who acted to embed foresight approaches in the government environment, first within the Singaporean military, subsequently in the Public Service division and, finally, at the Prime Minister's Office.
- Elite networks: the networks in which the institutional entrepreneurs sought leadership support and agency.
- Professional background: the expertise of institutional entrepreneurs surrounding military strategy, economic proficiency and policy-making experience.
- Construct of vulnerability: the way through which institutional entrepreneurs drew upon Singapore's geopolitical vulnerability to 'legitimise the use of foresight' across government.
- Resonance of anticipation processes: the institutionalisation of foresight should be tailored to regional needs and to the needs of those that will engage in foresight interventions. Scenario planning alone was not seen as sufficient to address and 'foresee disruptive shocks', particularly to issues of geopolitical security surrounding the region. The alignment of foresight with military strategy and information technologies was useful for Singapore to 'understand the impact of uncertainties' and be 'able to prepare for the occurrence of catastrophic events'.

Singapore's highly successful foresight system is characterised by a high degree of centralisation, which ensures that the development and application of foresight will be successful as it is not remote from key decision-makers. The Centre for Strategic Futures under the Office of the Prime Minister plays a key role in the field of anticipatory governance and foresight. It is also responsible for capacity building for civil servants through *FutureCraft* workshops. All individual sectoral units of the Government have foresight divisions. One of the most striking examples is the Strategic Foresight Unit of the Ministry of Finance, which has the authority to ensure that the consideration and resolution of futures issues in the Government are linked to the budgetary processes of the ministries. Singapore's public sector foresight experts belong to the Strategic Foresight Network Sandbox, whose members have been meeting regularly since 2011. The country regularly carries out scenario planning work, organises training courses for civil servants, holds conferences, etc. Singapore's ecosystem of foresight is more focused on policy-makers and decision-makers and is characterised by a top-down approach (RU OSRL 23/06, RU OSRL 24/22).

In order to establish a futures ecosystem in Lithuania, it is important to recognise that each country has its own unique context. Therefore, it is not feasible to simply adopt the ecosystem structure of Finland or Singapore and implement it in Lithuania.

### ***Academic literature highlights key examples and forms of success***

Academic sources on this topic enable us to examine the best practices of certain countries and to draw lessons that illuminate the potential outcomes of the paths we may choose to follow.

Examining, for instance, the case of Canada, eight factors are identified as critical for governments in implementing foresight programmes:

- focusing attention on a clearly defined objective;
- establishing a clear link between foresight and the current policy agenda;
- maintaining direct connections with higher-level policy-makers;
- building strong public-private sector partnerships;
- developing and applying methodologies and skills not commonly used in other institutions;

- ensuring a clear communication strategy;
- engaging stakeholders in foresight initiatives;
- leveraging existing or developing new national and regional foresight training capacities (Calof, Smith, 2010).

When analysing the experiences of the UK, the Netherlands, Finland, and South Korea in implementing anticipatory governance, certain lessons emerge for newcomers to foresight, offering guidance on which paths to pursue. Four systems and their functioning are examined: foresight, networking, feedback, and continuity (Kyungmoo, Yongseok 2021).

### **Finland**

In Finland's case, four key actors within the futures ecosystem are identified. These actors operate independently but are closely interconnected through foresight networks: the Government, Parliament, research centres, and society, including academic institutions. The main strength of Finland's anticipatory governance lies in the active engagement of these networked participants. In a country of approximately 5.5 million inhabitants, around 700 members from both public and private sectors engage in future-oriented interest groups. These informal, non-commercial associations and research institutions seek to influence the national decision-making process. Although they may occasionally compete with each other, they are united by their shared goal of fostering dialogue about Finland's future, competitiveness and resilience.

Key elements of Finland's foresight system include the Prime Minister's Report on the Future and public sector foresight activities. This networked system is enabled by the National Foresight Network, coordination across ministries and regions, and open forums hosted by non-commercial associations or research centres. Feedback is provided by the parliamentary CfF, independent ecosystem actors and evaluations of the foresight process conducted by the private sector (Kyungmoo, Yongseok, 2021). System continuity is maintained through an implicit consensus on implementing foresight, fostering a future-oriented culture, applying ongoing practices and involving academic institutions in foresight education (RU OSRL 24/17).

Following several years of institutional collaboration, numerous workshops, expert consultations, and thorough data analysis, the OECD provided

the following recommendations to Finland for building its anticipatory governance capacities:

1. To systematise the process of government transition and reform to improve the continuity of long-term reforms and preserve institutional memory. An example of a knowledge repository that collects information on long-term reforms and anticipatory governance issues, alongside a more structured transition process that includes opportunities for trust-building and collective future-seeking is introduced.
2. To develop new governance methods to more effectively plan responses to future challenges and emerging issues. To consider establishing an intergovernmental committee to better coordinate anticipatory governance efforts.
3. To create institutional structures dedicated to the regular exploration of alternatives and the development of future visions and involving diverse stakeholders, including civil servants and politicians, and emphasise the importance of such institutionalised practices.
4. To pilot new funding practices for anticipatory governance to ensure sufficient resources for methodological experimentation and systematic future exploration aimed at reducing uncertainty.
5. To continue promoting regulatory experimentation with anticipatory governance practices.
6. To design targeted programmes for civil servants, forecasting/foresight experts, and innovation professionals to strengthen anticipatory governance capacities across different levels of the public sector.
7. To institutionalise dialogue and deliberation between citizens, civil servants, and politicians to build trust in public institutions and facilitate citizen engagement in future preparedness processes.
8. To monitor and evaluate the use of anticipatory governance methodologies (OECD 2020b).

### **The Netherlands**

As early as 1980, the Netherlands established the Advisory Committee of Sector Councils to connect government, academia, and society in identifying and articulating strategic knowledge relevant to policy-making. In 2007, the said Committee was dissolved, and the horizon scanning function was transferred to the newly created Knowledge Directorate within the Ministry of

Education, Culture and Science. Today, horizon scanning in the Netherlands is primarily conducted as part of broader horizon scanning initiatives of the EU. Similar to the UK, Dutch horizon scanning institutions play a facilitative role in coordinating cross-sectoral scanning activities and research that span multiple domains of public life. The overarching goal is to enhance the sustainability of the Netherlands and make its policy-making more resilient to future challenges. Horizon scanning has contributed to more future-oriented policy development by enabling assessments across diverse dimensions of societal life, such as environment, energy, health, longevity, well-being, human rights, social integration, legal democratic governance, foreign affairs, etc. However, current policy-making in the Netherlands tends to rely more heavily on model-based forecasting rather than horizon scanning data.

The Dutch foresight system includes two planning bureaus responsible for horizon scanning, though their outputs are often short-sighted and do not sufficiently address emerging or unexpected issues. The foresight network is composed of internal expert working groups, and citizens are engaged through seminars and open-access online platforms. Feedback is embedded in project implementation, and to ensure continuity, two major horizon scanning reports have been published.

### **South Korea**

South Korea has one of the longest-standing traditions of applying foresight, dating back to 1968, when the country's primary national objective was Western-style modernisation. Early foresight efforts were closely tied to the political agenda of economic and technological development, and foresight itself was not widely or systematically applied. It was only in the past decade that foresight was formally integrated into national policy-making. Various institutions related to anticipatory governance have since been established, but all operate under government authority and contribute to centralised national planning. Inspired by Finland's SITRA model, South Korea founded in 2018 the National Assembly Futures Institute, a distinctive, competitive, permanent, comprehensive, and politically neutral institute dedicated to anticipatory governance and foresight research. The institute conducts regular national forecasts/foresight and subsequently oversees and manages the country's research outputs within an anticipatory governance framework. Research institutions in South Korea also contribute to the foresight system by

producing future-oriented reports. However, the country lacks a networked foresight system; activities are highly centralised and government-controlled. Feedback is maintained through parliamentary oversight, expert supervision, and evaluations of foresight reports. Continuity remains a challenge: although South Korea began using foresight early, progress stagnated for decades and only resumed in recent years.

To strengthen futures literacy and skills, the Government is encouraged to educate both the public and civil servants. It should also promote public engagement—for example, by establishing a national network that enables citizens to influence the development of future visions and the interpretation of foresight outcomes (Kyungmoo, Yongseok 2021)

### **Commissioners and ombudspersons of future generations**

***Embedding future-oriented thinking in legislation.*** Another institutional model that could serve a monitoring and oversight function, following the examples of Wales, Canada, Gibraltar and Hungary, is the establishment of a Future Generations Ombudsperson or Commissioner. This could align public and political thinking with a future-oriented mindset, ensuring accountability in this regard.

However, Lithuania is not among the countries whose constitutions explicitly mention the representation of future generations' interests or host institutions dedicated to protecting those interests. As of 2021, such provisions existed in 41% of countries worldwide (81 out of 196). For example, Tunisia's 2014 Constitution references future generations three times, including a provision for the establishment of a Commission for Sustainable Development and the Rights of Future Generations. It affirms the “need [...] to leave a safe life for future generations” and states that “the state protects cultural heritage and guarantees it for future generations”.

Germany's Constitution, Article 20a, emphasises “responsibility towards future generations”, a principle that the Federal Constitutional Court recognised as legally binding in 2021. The court expanded the right to life and health, imposing obligations on the German government to address climate change (GC; Koessler, Araújo 2021). Brazil's Supreme Court has recognised the right of future generations to a healthy environment and way of life (Hale et al. 2023). Meanwhile, the constitutions of Niger and South Sudan include provisions for dedicated funds to benefit future generations.

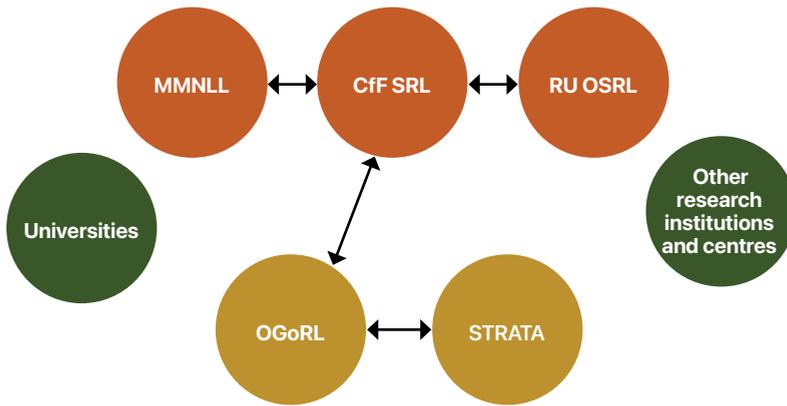
Creating a legal framework that requires decision-makers to consider future generations would provide an additional formal mechanism to emphasise the importance of these issues and encourage international dialogue and cooperation.

The Welsh example is particularly instructive. The Well-being of Future Generations (Wales) Act has been enacted in Wales, assigning specific responsibilities to public bodies to promote the well-being of Welsh citizens. The Act establishes a legal duty to implement sustainable development principles, outlining five key principles that public institutions must uphold. These legal provisions require public bodies to collaborate with each other and with communities, approaching problem-solving from a long-term perspective. They are also required to publicly declare well-being goals and take all necessary steps to achieve them, with indicators and benchmarks in place to monitor implementation. The Future Generations Commissioner for Wales and the Auditor General for Wales provide oversight. The Commissioner's office provides public institutions and service boards with guidance, training and methodological support to help them pursue well-being objectives. The office can also review how institutions consider the long-term impact of their decisions and issue recommendations based on its findings. Both institutions engage with the public to help shape future priorities and programmes of work (WFGW 2015).

Another pertinent example is the establishment in 2008 of the office of Future Generations Commissioner (Ombudsperson) in **Hungary**. The Commissioner brings together stakeholders for joint consultations on issues affecting future generations and, among other activities, collaborates with the Constitutional Court. This cooperation produced the legal principles that safeguard the rights of future generations (OCFFRH).

A comparable law defining these functions could be adopted in Lithuania, and the future generations commissioner's role could mirror Wales's Future Generations Commissioner or be set up as a new service or separate division within the National Audit Office. Lithuania is also advised to consider joining the Network of Institutions and Leaders of Future Generations.

The institutional framework for foresight in Lithuania builds on the Seimas Cff, divisions of the OSRL and the OGoRL, STRATA, the MMNLL, universities and other research institutions and centres' (Strategy 'Lithuania 2050', p. 50). The interrelationships among these actors are not fully detailed, however the existing network can be illustrated as in Figure 12.

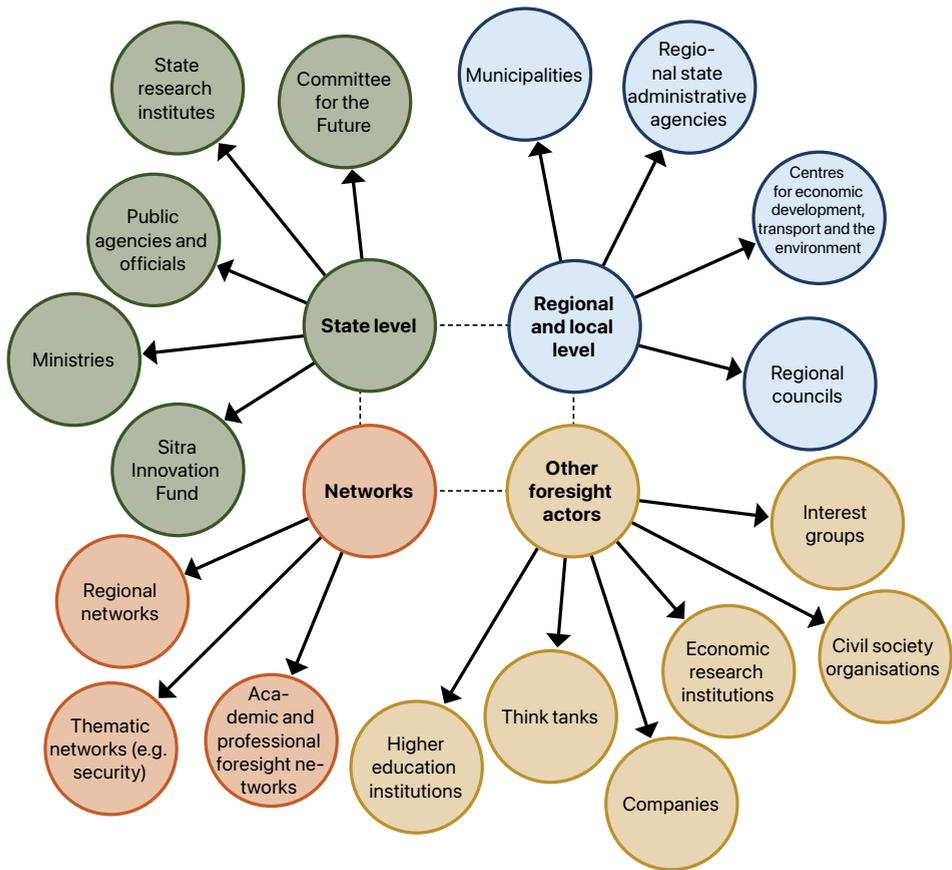


**Figure 12.** Current foresight system in Lithuania (scheme based on the Strategy ‘Lithuania 2050’)

Notably, ministries and other state bodies are absent from this depiction. STRATA’s analysis of strategic foresight in the ministries has found that, despite future-oriented planning at various levels, strategic foresight methods are barely applied (STRATA 2021). The only exception is a unit within the Ministry of Transport and Communications that actively employs foresight techniques. Capacities of universities and other research institutions and centres remain unspecified, as they currently operate in a fragmented manner.

The Strategy ‘Lithuania 2050’ does not prescribe a precise development path for the foresight institutional system but highlights the need “to shift from episodic to systemic reflection on the future, and to make anticipatory governance and the continuous reflection on the future that underpins it an integral part of Lithuanian public governance at all levels” (Strategy ‘Lithuania 2050’, p. 50).

Drawing on Finland’s example, the envisaged futures ecosystem should take the form shown in Figure 13. Thus, the futures ecosystem should bring together various stakeholders, including national and regional actors, as well as different foresight networks and other futures ecosystem actors. In other words, the futures ecosystem should, in line with the principle of a quadruple helix, rally policy-makers (public authorities), academia, business representatives, and civil society.



**Figure 13.** Finland’s foresight system actors (Pouru-Mikkola et al. 2023, p. 2)

Foresight in Finland is designed to serve national, regional, and local decision-making and to be used in pursuing objectives at the appropriate level of governance. Finnish local administration at the level of municipalities and cities operates independently from central government and is extensive and well resourced for foresight activity. At the regional level, regional councils are consortiums of municipalities while centres for economic development, transport, and environment and regional state administrative agencies represent central government at the regional level. Finland’s regional level has a long tradition of a legal obligation to conduct foresight related to competence and educational needs and formulate long-term land-use plans. The Finnish foresight system comprises several institutional actors and respective

foresight processes at the national, regional, and local levels (see Figure 8). These actors and institutions are tied together with a loosely operating national foresight network coordinated by the Prime Minister's Office. Other key foresight actors can be identified not directly connected to administration and policy-making (e.g. interest groups and higher education institutions). Furthermore, the foresight system includes smaller networks or clusters, such as the governmental foresight group, thematic foresight groups, and regional foresight groups (Pouuru-Mikkola et al. 2023).

### **Possible principles for organising and developing LFE**

Traveling instantly from point A to point B is impossible. First, we must decide the direction in which we will develop the futures ecosystem. The SOIF study emphasises that there is no single path to success. Ongoing political leadership engagement in foresight ecosystems is a driving force in governments operating centrally.

For example, in the United Arab Emirates, the Ministry of Cabinet Affairs centrally develops foresight studies and relays them to the Council of Ministers and other ministries. That Ministry is responsible for integrating future-related themes into all government strategies and visions, as well as offering recommendations to the Prime Minister and the Cabinet.

More decentralised systems also work well, where governance and leadership are distributed among multiple actors or networks. A notable example is the Netherlands, where foresight is primarily conducted by individual ministries or sectoral bodies, while inter-ministerial coordination is handled by the Council of Ministers (SOIF 2021).

In the United States, foresight capabilities are also decentralised across the federal government, including institutions such as the Central Intelligence Agency, the Air Force, the Coast Guard, the Forest Service, the Office of Personnel Management, and NASA, etc.

Finland exemplifies a broad and decentralised ecosystem. The Eduskunta's Committee for the Future approves the Report on the Future, recommending strategic priorities for the next government term. The independent analytical centre Sitra provides research, innovation, and long-term insights in a politically and financially independent manner. The Government's Foresight Group fosters foresight both at the national level and across the broader foresight network, linking foresight and decision-making. The National Foresight

Network connects the Government's Foresight Group with the private sector, academia, regional councils, broader forecasting and foresight centres, and research and innovation institutions. Foresight initiatives also run at regional levels (municipalities, regional councils, etc.) (Ibid.).

A hybrid approach is also possible, in which a single primary foresight centre performs centralised functions, while foresight capabilities are simultaneously developed across other institutions. An example is the Government of Canada's Policy Horizons Canada, which reports to the Minister of Employment, Workforce Development and Disability Inclusion, carries out strategic forecasting functions, and helps the government design future-oriented policies. At the same time, foresight functions are being developed at the Canada Revenue Agency, Health Canada, the Public Health Agency of Canada, Global Affairs Canada, and the Department of National Defence.

OECD experts stress that foresight ecosystems need not be strictly centralised or decentralised. Instead, they can combine both because different structures institutionalise anticipatory governance and strategic foresight. OECD experts distinguish six structural types of futures ecosystems: a council, a regional unit, a sectoral unit, a centre of government, a network, and a government agency. Some institutions or their divisions operating in Lithuania may be assigned to one or another of these structures; however, the fragmentation and episodic character of their functions prevent these actors from being integrated into a coherent ecosystem (OECD 2024).

From a theoretical perspective, three interrelated components of a foresight system may be identified: knowledge, capabilities, and relations. This classification reflects foresight dimensions linked to cognition, competence, and social interaction, and each of these components may be supplemented with additional concepts (Dufva, Ahlqvist 2015).

The researchers studying Finland's ecosystem have identified factors across five categories—information usage, method sophistication, individuals and networks, organisation, and culture. The first two categories of factors relate to knowledge, specifically the information usage and the method sophistication. In the case of Finland, foresight is used over the medium or long term, namely, typically within a 4- to 10-year horizon or even beyond 10 years. Based on the frequency of the use of foresight and forecasting methodologies, the following are distinguished: internal organisational analysis of change drivers, statistical analysis, and scenario development. It is observed

that sources of knowledge most often originate from within organisations, through conversations with colleagues and expert reports, while the least common source of knowledge is citizen input. Survey data unanimously confirm that the strength of Finland's foresight system lies in its high quality and the large volume of information produced for foresight. In Finland, statistical information is disseminated by various organisations and is spread across numerous databases (Pouru-Mikkola et al. 2023).

Survey results from researchers examining capacity aspects of Finland's foresight ecosystem indicate that most respondents primarily use foresight to advance their organisation's goals, with the main motivation for engaging in foresight being an integral part of the organisation's internal strategy. The main result of foresight work is internal documents, followed by reports for policy-makers.

In exploring the relationships and interactions among actors in Finland's foresight ecosystem, particular attention was given to how individuals identify their roles within the system – as producers, users, or intermediaries of foresight – and to the mapping of key partners. Frequently cited partners included municipal councils, higher education institutions, Centres for Economic Development, Transport and the Environment, schools, the Ministry of Economic Affairs and Employment, the national foresight network, and SITRA. However, collaboration among these actors was typically limited to regular meetings and information exchange.

Researchers describing the strengthening of innovation ecosystems and futures thinking emphasise a deliberative approach to foresight, as well as the horizontal and vertical dimensions of foresight processes (Myllyoja et al. 2022). Emerging from the developing country context, deliberative foresight consists of three components: innovation ecosystems thinking, transformative potential and sustainability. Deliberative foresight aims to foster long-term, sustainable societal change that can yield broader benefit sharing, heightened innovativeness and transformability, ownership potential, and improved value creation and maintenance. From a deliberative foresight perspective, two core features emerge, namely, the participatory nature of foresight and the building of transformability. Ideally, the foresight process is characterised by a high degree of interactivity, engaging stakeholders in continuous futures dialogue from the very outset. The participatory nature of foresight can also support decision-making processes, coordinate factors and policies,

or catalyse collective action toward a shared vision. Systematic application of interactive and participatory methods plays a crucial role in promoting interdisciplinary knowledge exchange and learning. When addressing the transformative potential of foresight, its capacity to spark discussions about more radical or broader future scenarios and to assess their relevance for diverse stakeholder groups is highlighted.

Evaluating the horizontal and vertical dimensions of foresight, the horizontal dimension is understood as support for operations across different disciplines and research domains, enabling collaboration and the alignment of shared priorities. The vertical dimension concerns the impact of foresight, which is amplified when foresight activities and outcomes are better coordinated across local, regional, national, and international levels (Myllyoja et al. 2022; RU OSRL 24/17).

### Appendix 3. Futures ecosystem for anticipatory governance (OECD methodology)

**OECD Strategic Foresight Ecosystem Model.** For effective, sustainable long-term strategic foresight systems to emerge in government, the following systemic elements are required (Monteiro and Dal Borgo 2023):

- 1) demand and mandate;
- 2) capabilities and skills;
- 3) institutional arrangements;
- 4) embeddedness in policy-making;
- 5) feedback and learning loops (see Table 2).

Moreover, ensuring the systematic application of this approach requires support not only from high-level decision-makers but also from domain leaders (RU OSRL 23/06).

**Table 2.** Systemic elements of foresight (according to OECD 2023a)

Systematic element		Facilitating factors
	<i>Demand and mandate</i>	leadership Public interest Reputation and legitimacy Innovation culture
	<i>Capabilities and skills</i>	Pool of expertise Quality of provision Futures literacy Resource allocation Methods and tools
	<i>Institutional arrangements</i>	Administrative architecture in government Safe spaces Ownership and institutional encasing Networks and mediation roles
	<i>Embeddedness in policy-making</i>	Touchpoints User-centric orientation Openness and participation
	<i>Feedback and learning loops</i>	Knowledge management Monitoring activities and impact assessment Feedback channels Targeted communication and active dissemination

Strategic foresight is necessary for making targeted and well-founded decisions:

- 1) self-reflection;
- 2) insight generation;
- 3) stewardship and servicing;
- 4) civic participation;
- 5) empathy;
- 6) experimentation;
- 7) upskilling;
- 8) science fiction (OECD 2023a; RU OSRL 24/22).

## Appendix 4. Conditions for the emergence of an effective foresight ecosystem and its key features and operating principles

In one of the latest OECD publications on how strategic foresight can support more effective public policy decisions, the following systemic elements are identified as essential for the establishment of robust, long-term foresight systems within government: demand and mandate; capabilities and skills; institutional arrangements; embeddedness in policy-making; and feedback and learning loops. It is also pointed out that the systemic application of the foresight methodology requires not only backing from high-level decision-makers but also leadership from sectoral champions (Monteiro and Dal Borgo 2023).

So what are the principal conditions for an effective foresight ecosystem to emerge and operate successfully? The OECD's recommendations for creating and sustaining Ireland's foresight system are applicable to Lithuania as well. Experts agree that, over time, a series of coordinated actions will be necessary, and it is impossible to know in advance which measures and practices will prove most effective – experimentation will almost certainly be required. Furthermore, to determine which interventions work best and to enhance the system's capacity to generate and apply foresight, it is recommended to pilot several alternative initiatives. Only after confirming the effectiveness of specific measures, tools, or institutional arrangements it is possible to steer corresponding capacities and resources in a clearly defined direction. The main areas considered when building a foresight ecosystem are:

- **Demand and purpose:** to make the case, a specific, existing, strategic process would serve as a first demonstration for this highly applied approach. In Lithuania's case, this could be the Strategy 'Lithuania 2050'.
- **Skills and capacity:** the distinction should be made between different groups and their needs (for example specialists, policy makers and senior leadership), and futures and strategic foresight curricula developed accordingly.
- **Processes and structures:** this will take the longest time to develop, and some areas for improvement will only become apparent during the process.
- **Communication:** to overcome misconceptions, the benefits, intended

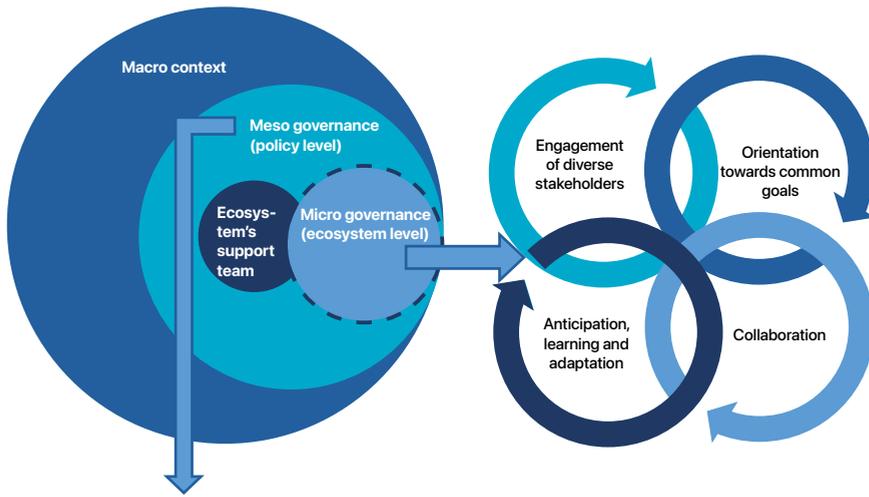
outcomes, and practice of strategic foresight need to be clearly understood before, during, and after the process.

- **Evaluation and feedback:** in addition to allowing for improvement in subsequent iterations, planning feedback in advance promotes expectation management and prevents projects being judged by standards they never intended to meet (OECD 2021c).

**Anticipatory innovation governance model.** Effective application of anticipatory governance methods depends on an enabling environment and on the initiative of specific individuals, groups or institutions to select and deploy the right tools for generating knowledge about possible future scenarios. The anticipatory innovation governance model is illustrated in Figure 14. Under this model, the macro level concerns, trends and shifts that lie beyond direct control but which the foresight ecosystem and government seek to anticipate, shape and respond to. Seamless governance at the micro and meso levels, by contrast, rests on a variety of contextual factors, including existing stakeholder relationships, the technologies in use within the ecosystem and prevailing power structures.

The model distinguishes four core micro-level processes for anticipatory innovation (see Figure 14):

- 1) engagement of diverse stakeholders;
- 2) orientation around innovation goals;
- 3) collaboration and anticipation;
- 4) learning and adaptation.



Function	Description
<b>Orchestrating</b>	Connecting people and organisations and facilitating coordination.
<b>Framing</b>	Clearly articulating policy decisions and priorities; promoting anticipatory approaches.
<b>Championing</b>	Promoting ecosystem activities and products to funders and customers.
<b>Market building</b>	Becoming a customer or incentivising uptake.
<b>Providing</b>	Providing non-financial resources and infrastructure to support ecosystem activities.
<b>Funding</b>	Providing funding and monetary incentives to ecosystem partners.
<b>Regulating</b>	Experimenting with regulation approaches that are favourable to innovation.

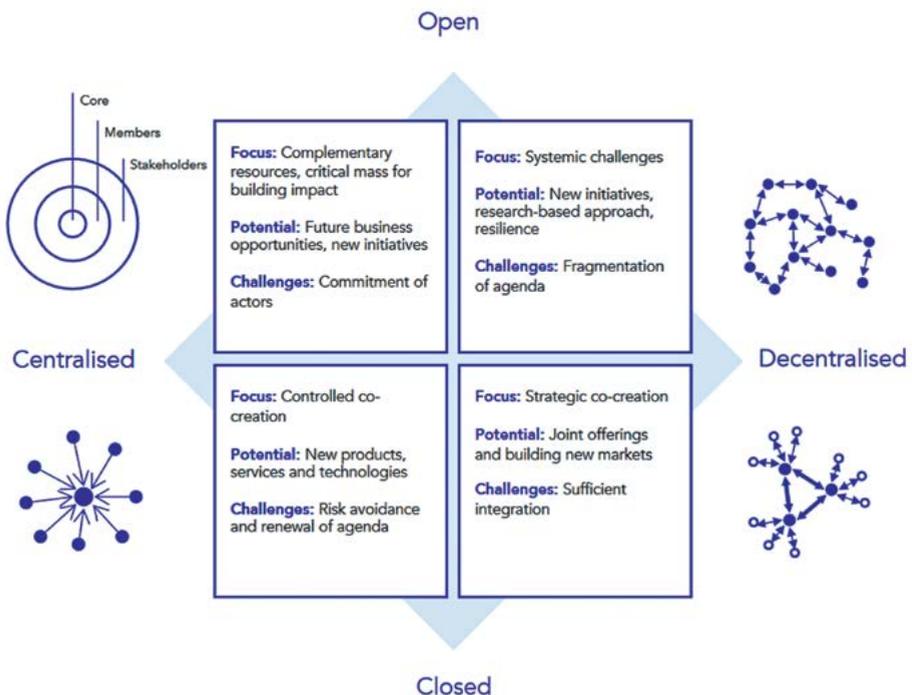


No	Questions to be answered
1.	What are the favourable conditions and what are the support?
2.	What are the proposed actions?
3.	What are the main government actors/institutions?

**Figure 14.** Anticipatory innovation governance model (OECD 2023b)

In a dynamic environment shaped both by the evolving relationships among ecosystem partners and by the changing external context, the governance processes in question are never perfect, yet they may be subject to regular review in order to sustain productive relationships. According to the anticipatory innovation governance model, the ecosystem is understood as the micro-governance level, encompassing the practices and structures necessary to facilitate the application of foresight within the ecosystem. The meso-governance level refers to the ways in which public authorities co-ordinate their actions so as to create and maintain the conditions for the development of a foresight ecosystem. Government – or, more broadly, the public authority – plays the central role in creating an enabling environment for the ecosystem, in particular by mitigating risks and fostering the legitimacy of the ecosystem.

The envisaged foresight ecosystem should be assessed along the axes of decision-making centralisation and openness. An ecosystem may be centralised or decentralised, open or closed. The characteristics of possible futures ecosystems are presented in Figure 15.



**Figure 15.** Matrix of Possible Ecosystem Structures (OECD, 2023b)

As discussed in Section 3.3, networked multi-level foresight ecosystems typically operate on the basis of the **quadruple helix** principle. Partnerships organised according to this principle – between government, research organisations, the business sector and civil society – can support the adoption of effective, future-oriented collective decisions before windows of opportunity close or crises materialise. In shaping effective policy, government requires specific capacities to govern foresight ecosystems appropriately and to make use of insights emerging from the bottom up. OECD experts analysing Latvia’s anticipatory innovation ecosystem observed that, in order for the processes and decisions within the ecosystem to be effectively drawn upon in policy-making, and for the ecosystem’s development to be pursued strategically, it is essential to establish processes that integrate public policy governance (meso level) with ecosystem governance (micro level). Such integration would foster an environment conducive to anticipatory innovation, building on local assets and the strengths of existing networks, while remaining adaptive to possible future change. Within the quadruple helix, the civil society dimension may encompass a very broad range of actors — from NGOs and lobbying groups, to the media, and to society and the cultural environment in which they operate (OECD 2023b).

The quadruple helix is also closely linked to the **participatory** dimension of the foresight ecosystem. According to researchers, the development of an effective foresight ecosystem is closely linked to the participatory and transformative dimensions of foresight. When examining three facets of foresight, namely, knowledge, relations and capacities, it can be concluded that foresight can support innovation ecosystem development through the following mechanisms or activities in particular: creating a shared understanding of potential future developments (knowledge); participating with stakeholders in joint visioning (knowledge, relations); and increasing the tangibility of required future resources and skills set to achieve mutual goals (knowledge, capabilities) (Myllyoja et al. 2022).

In summary, the characteristics of a foresight ecosystem are presented in Table 3.

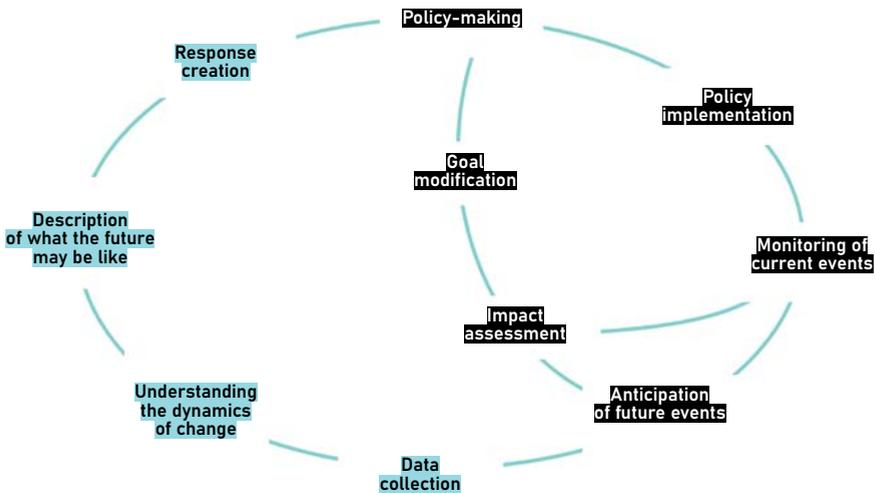
**Table 3.** Characteristics of foresight ecosystems  
(based on Han, Jin et al. 2022, p. 118)

<b>Dimension</b>	<b>Key feature</b>	<b>Definition</b>
<b>Roles</b>	Self-organisation	The ecosystem is not characterised by hierarchical or formal control.
	Non-linearity	Non-linearity indicates that communications and interactions happen without certainties among actors.
	Shared vision	A shared vision describes what a possible future of the ecosystem looks like.
	Complementarity	Potential synergies — generating higher value benefits and reducing co-ordination costs — arise from the participation of diverse ecosystem actors who are co-specialised in unique assets.
	Modularity	Modularity refers the extent to which actors' unique inputs can be separated and recombined into independent yet connected units.
	Coupling	This refers to the intensity of actors' linkages when they co-create new value.
<b>Processes</b>	Emergence	This property describes the overall trends of ecosystems from one state to another.
	Co-opetition (collaborative competition)	The involvement of various ecosystem actors' engagement in collaborative and competitive actions aiming to materialise ecosystem value propositions.
	Co-evolution	Overall conditions of innovation ecosystem which evolves all actors into a new landscape by avoiding the system inertia.

For future-oriented thinking to be effectively **embedded in public policy-making**, it must be integrated into all stages of the policy cycle. This gives rise to what is referred to as **embedded foresight**. This process would also be participatory and would need to be complemented by **a dedicated platform** for an open debate on future-oriented challenges and solutions, involving the widest possible range of participants and the general public. Embedded insights into the future should help to uncover and deconstruct prevailing

paradigms, critically evaluate today’s and tomorrow’s stakeholders and relative changes in power dynamics in the respective roles of actors, which in turn could effectively destroy *the status quo* (De Vito et al. 2023).

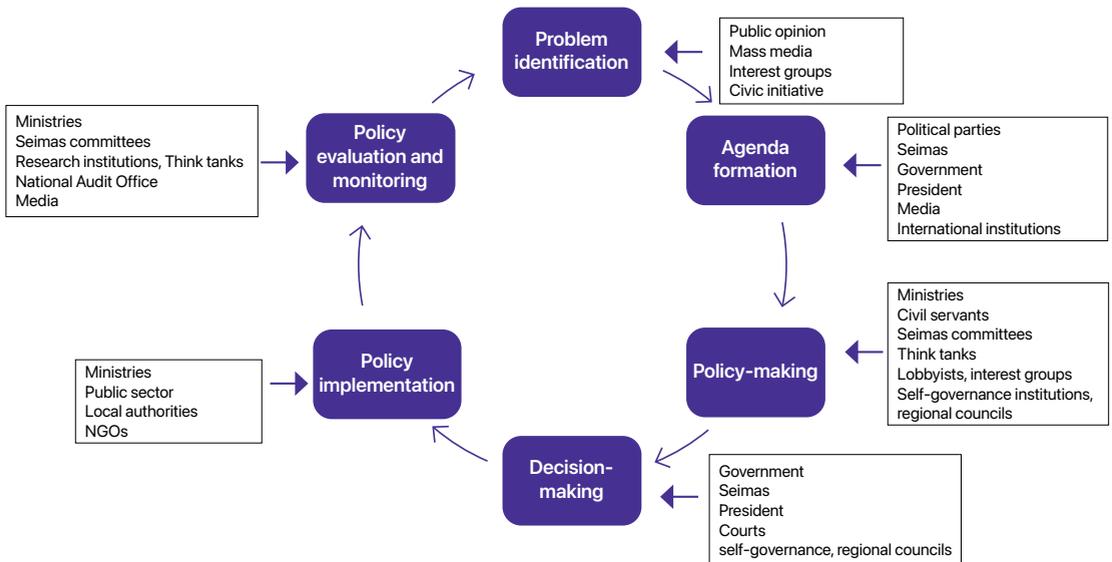
As a rule, organisations set up foresight units at the highest level of governance, as this is the only way to ensure clear ownership, accountability and the initiative to apply foresight units, as well as appropriate coordination. The activities of a foresight unit must be coordinated with the functions of strategic planning and risk management, thus allowing them to develop and implement foresight skills and methods, and to coordinate foresight integration within the organisation. Regular and consistent foresight activities enhance the effectiveness and understanding of their adaptation within the organisation. Such foresight integration usually implies political commitments or the need to apply them as embedded in legislation. In general, the more foresight tools and methodologies are part of the public policy or strategy cycle, the more stable, coherent and sustainable the process is. The model for integrating foresight into the public policy cycle is referred to as a ‘**futures bridge**’ (see Figure 16). It is noted that ideas and decisions arising from foresight have the greatest impact on the policy cycle at the policy formulation stage (Shallowe et al. 2020).



**Figure 16.** ‘Futures bridge’ model (Shallowe, et al. 2020, p. 36)

Favourable opportunities for inserting foresight into the political process may also emerge in the process of policy review when institutions are prepared for strategic renewal, which would coincide with the electoral cycle when it comes to state power. In Finland, for example, each new government assuming office defines its vision and action plan for the future in the programme and proposes the topic of a foresight report by the government. The date of publication of this report is set in such a way as to inform the findings of the report of the activities and assessments of the government at that time. It is important to emphasise that foresight is not simply a tick-box exercise. When foresight is woven into core public policy processes it acquires legitimacy — manifested in the way it helps us question the status quo, build organisational resilience, stress-test existing policy directions under adverse scenarios and carve out room for genuinely innovative responses (Shallowe et al. 2020).

Lithuania’s foresight governance ecosystem should be adapted in line with the ecosystem model of public governance presented in Figure 17 (Lithuania’s public governance ecosystem), adding or eliminating specific actors and identifying their role in a specific stage of the public policy process and linking it to the model of a ‘futures bridge’ (see Figure 16).



**Figure 17.** Lithuania’s public administration ecosystem (STRATA 2023, p. 46)

## Appendix 5. OECD recommendations on the development of Lithuania's foresight ecosystem

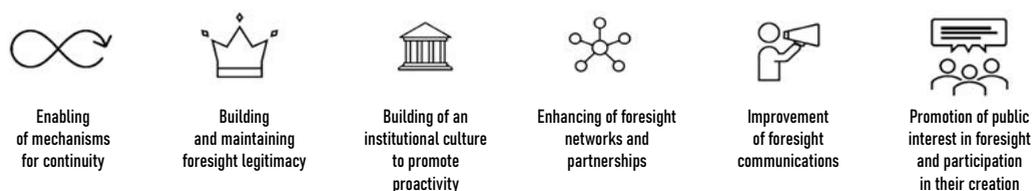
In spring 2024, the OECD developed an Action Plan for Lithuania and a common programme for further improvement for all countries. Six preliminary proposals were envisaged on how to develop the foresight system in Lithuania.

The OECD experts, who collected information from the target groups and studied the documents and legal regulation, presented the following summaries and recommendations on the possibilities of application of foresight in Lithuania:

- 1) The continuity mechanisms for ministerial-level strategies across the stages of the political cycle could help Lithuania promote forward-looking thinking and organisational learning.** However, the conditions for creating an enabling environment—one that allows ministerial plans and strategies to be aligned and mutually coordinated—are not yet sufficiently in place.
- 2) Lithuania's strategic foresight ecosystem is taking shape but remains underdeveloped, so further discussion is needed to secure its legitimacy.** It is still unclear whether the core foresight capacities will be anchored in the Government or in the Seimas, where the Cff operates.
- 3) Shifting Lithuania's institutional culture toward greater initiative and adaptive flexibility is essential.** At present, a punitive culture—one that seeks to assign blame whenever new ideas fall short of expectations or vested interests—constrains the innovative potential of public institutions.
- 4) Strengthening networks and partnerships could help break down siloed approaches, disseminate foresight knowledge, and build the necessary capacities and skills within government bodies.** Lithuania should establish a community of strategic-foresight practitioners to drive capacity development and stimulate demand for foresight.
- 5) Demonstrating the value of foresight tools and methodologies will require improved communication with senior decision-makers.** When the Strategy 'Lithuania 2050' was adopted, it encountered political skepticism and reluctance to trust foresight-derived evidence. Largely because of misconceptions about what strategic foresight is and the benefits it can bring to national policy and visioning.

**6) Continuous, rather than one-off, efforts are necessary to ensure truly collaborative, foresight-informed policy-making.** Although civil-society engagement featured in the development of both the ‘Lithuania 2030 Progress Strategy’ and ‘Lithuania 2050’, citizen participation in the foresight process remains limited and often disconnected from government action (OECD 2023a).

A summary of the OECD’s recommendations on the development of Lithuania’s strategic foresight ecosystem is presented in Figure 18.



**Figure 18.** OECD recommendations on the development of Lithuania’s foresight ecosystem (OECD 2024)

The OECD highlights the following possible structures for strategic foresight institutionalisation: the council, the centre of government, government agencies, the sectoral structure, the regional structure, the network.

The foresight ecosystem may be organised along a more **centralised** or **decentralised** model. Different institutions may assume specialised ecosystem functions, such as:

- capacity development and strengthening,
- stewardship and evaluation,
- advice and guidance,
- methodological support,
- provision of intelligence and data,
- facilitation of experimentation and pilot-testing,
- network orchestration and public engagement (OECD 2024).

OECD undertook a study on how the Lithuanian public sector could build the capabilities to identify, operationalise and act upon futures knowledge. This work formed part of the LIMinal project, alongside Italy and Malta. Information was gathered through:

- 1) peer learning among participating countries,
- 2) country-specific data collection,
- 3) pilot studies and learning-by-doing.

The research methods employed included:

- 1) analysis of the legal framework and existing regulations;
- 2) focus groups, workshops and stakeholder meetings;
- 3) a survey of civil servants (OECD 2024).

When designing possible future-oriented thinking structures and functions as well as the principles and modalities for their operationalisation in Lithuania, it is essential:

- to ensure a shared understanding of enablers and barriers;
- to develop a clear roadmap for the next steps in identifying and institutionalising the required functions;
- to define the role(s) that prospective foresight-ecosystem actors could assume.

Strategic foresight can be deployed in the following areas:

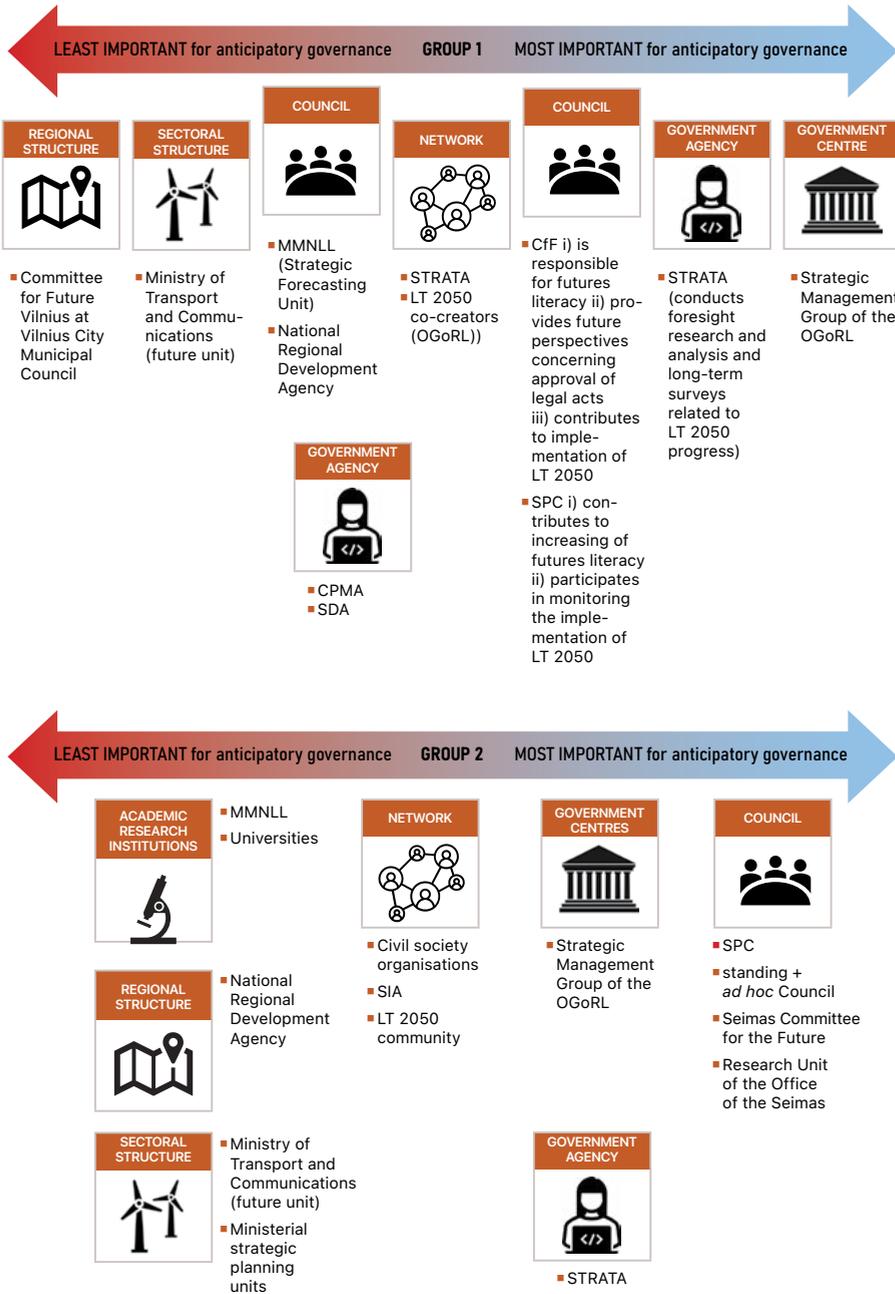
- co-creating shared objectives by engaging stakeholders in futures dialogues and mapping subsequent actions. Good-practice example: Gipuzkoa Provincial Council's 'Creating the Future' programme (OECD 2016);
- reframing problem definitions to prompt decision-makers to account for critical, often overlooked factors and to surface potential blind spots or biases. Good-practice example: the French Ministry of Defence's 'Red Team';
- early-warning signals to identify emerging risks and opportunities. Good-practice example: Flanders' resilience-monitoring dashboard;
- stress-testing public-policy decisions and instruments under adverse conditions, and evaluating policy programmes, measures, decisions and service innovations by analysing alternative future scenarios (RUOSRL24/21).

## Appendix 6. Themes and outcomes of the White Paper drafting sessions moderated by OECD experts

On 2 February 2023, an OECD expert-moderated session on the advancement of the application of strategic foresight in Lithuania's public sector was held with the aim of ensuring the highest possible standard of the preparation of the White Paper. During this session, the Working Group for the Development of a Draft Concept of Lithuania's Futures Ecosystem (White Paper) organised a discussion to identify the necessary structures, functions, and capacities required both to establish an effective foresight ecosystem and to embed foresight into the public policy cycle. Participants were split into two groups and tasked with addressing six key questions (OECD 2024):

- 1) who currently constitutes the actors within Lithuania's foresight ecosystem, and what characterises them? Which of these actors (institutions/structures) are least, and most, engaged with futures thinking?
- 2) What functions do these actors perform?
- 3) What capabilities, experiences, and knowledge are typical of actors of Lithuania's foresight ecosystem? Which functions do they most frequently and consistently perform?
- 4) What impact do these functions have, or could have, on Lithuania's public governance?

**Current foresight ecosystem structures.** In the ensuing discussion, the significance of both standing and ad hoc councils was emphasised, along with the critical role of strategic and research capacities concentrated within government entities, such as STRATA. Academic and research institutions were also acknowledged for their contribution to generating foresight, though they were perceived as less central compared to bodies like STRATA. It was agreed that divisions, councils, and government agencies at the core of governance play a pivotal role. The configuration of the current foresight ecosystem's structures is presented in Figure 19.



**Figure 19.** Configuration of Lithuania’s current foresight ecosystem structures (OECD 2024)

Participants of the session on the development of strategic foresight application in Lithuania's public sector discussed the significance of the structures presented in Figure 19 for the current foresight ecosystem, assessed their effectiveness, and identified the principal actors. This prompted reflection on both formal and flexible approaches to governance, highlighting the need for adaptability and innovation in the face of emerging challenges and trends. Participants of the discussion on the present structure of the foresight ecosystem raised the following key points:

- The importance of various agencies and structures for the foresight ecosystem as a whole, while noting, for example, the comparatively lesser significance of regional development agencies and sectoral units.
- Structures of the foresight ecosystem, viewed through both vertical and horizontal dimensions, indicating the hierarchy and relevance of these structures in the context of foresight.
- Distinction between formal and flexible approaches to anticipatory governance, emphasising the need for innovation and adaptation to new governance trends.
- Recognition of the limitations of overly formal and hierarchical structures, which may constrain flexibility, creativity, and the ability of government to respond rapidly to change.

The observation that the organisations listed in Group 1 in Figure 19 are already engaged in foresight activities and form the foundation of the emerging foresight ecosystem of Lithuania.

**Functions of Lithuania's current foresight ecosystem.** During the session, current capacities were revealed, particularly in the facilitation of foresight conditions and applications, as well as in experimentation, and the adequacy of legally mandated powers to operationalise strategic foresight was examined. It was noted that certain institutions already perform, or should perform, functions that contribute to the generation and application of foresight, indicating a foundation on which to build the foresight ecosystem. However, the primary gap identified was the absence of an explicit linkage between institutional functions and future-oriented activities. A discrepancy also emerged between the legally embedded mandate to carry out anticipatory governance functions and its practical implementation: some functions exist more as theoretical constructs (only on paper) than in practice. Specific actors, such as the Seimas Cff and STRATA, fulfil roles in participation and stakeholder engagement,

methodological support, and network orchestration, however ensuring these roles are legitimate and institutionalised within the public administration system remains a challenge. It is noteworthy that several anticipatory governance functions have yet to be incorporated into the spectrum of functions implemented in Lithuania. While the facilitation of experimentation and pilot-testing is recognised as essential for effective anticipatory governance – especially for bodies like GovTech Lab and STRATA, celebrated for their expertise and capacity to drive initiatives in this field – these functions are either not performed or are engaged only on an ad hoc basis. Conversely, stewardship and evaluation, along with the provision of intelligence and data, were identified as functions characteristic of virtually all ministries. Key points emerging from the discussion on the functions of Lithuania’s foresight ecosystem:

- **Implementation.** A gap in the implementation of functions was noted, where functions exist only nominally and do not perform substantive foresight-related activities (‘phantom functions’).
- **Ambiguity.** It was emphasised that the function assigned to the Public Policy Innovation Laboratory Policy LAB – facilitating experimentation and testing of alternatives – is in practice not being implemented. Although there is a legal mandate to act, no measures have been taken. STRATA, in its 2022 study, found that experimentation and innovation are not a widespread practice in the formation of public policy in Lithuania, as the public sector is characterised by a risk-averse culture, which should be changed. For innovation, a pilot regulatory environment, or so-called ‘regulatory sandboxes’, is of particular importance. In Lithuania, such sandboxes are being created in the fields of financial services and energy. It was therefore suggested that the Law on Legislative Framework (RU OSRL 23/06) could be supplemented with provisions on pilot regulatory environments.
- **Stewardship and evaluation.** Although the GovTech laboratory was mentioned as carrying out this function to some extent, it currently does not meet expectations. According to the OECD, oversight and evaluation in anticipatory governance are of high importance, especially in conducting ex-ante assessments of long-term planning documents, in particular the assessment of the sustainability of the desired impacts.
- **Roles and responsibilities.** The discussions underlined the need to clearly define and distinguish the functions and responsibilities of each institution, especially those related to foresight practice and the necessary capacities and competencies.

The distribution of functions in Lithuania's current foresight ecosystem is presented in Figure 20.

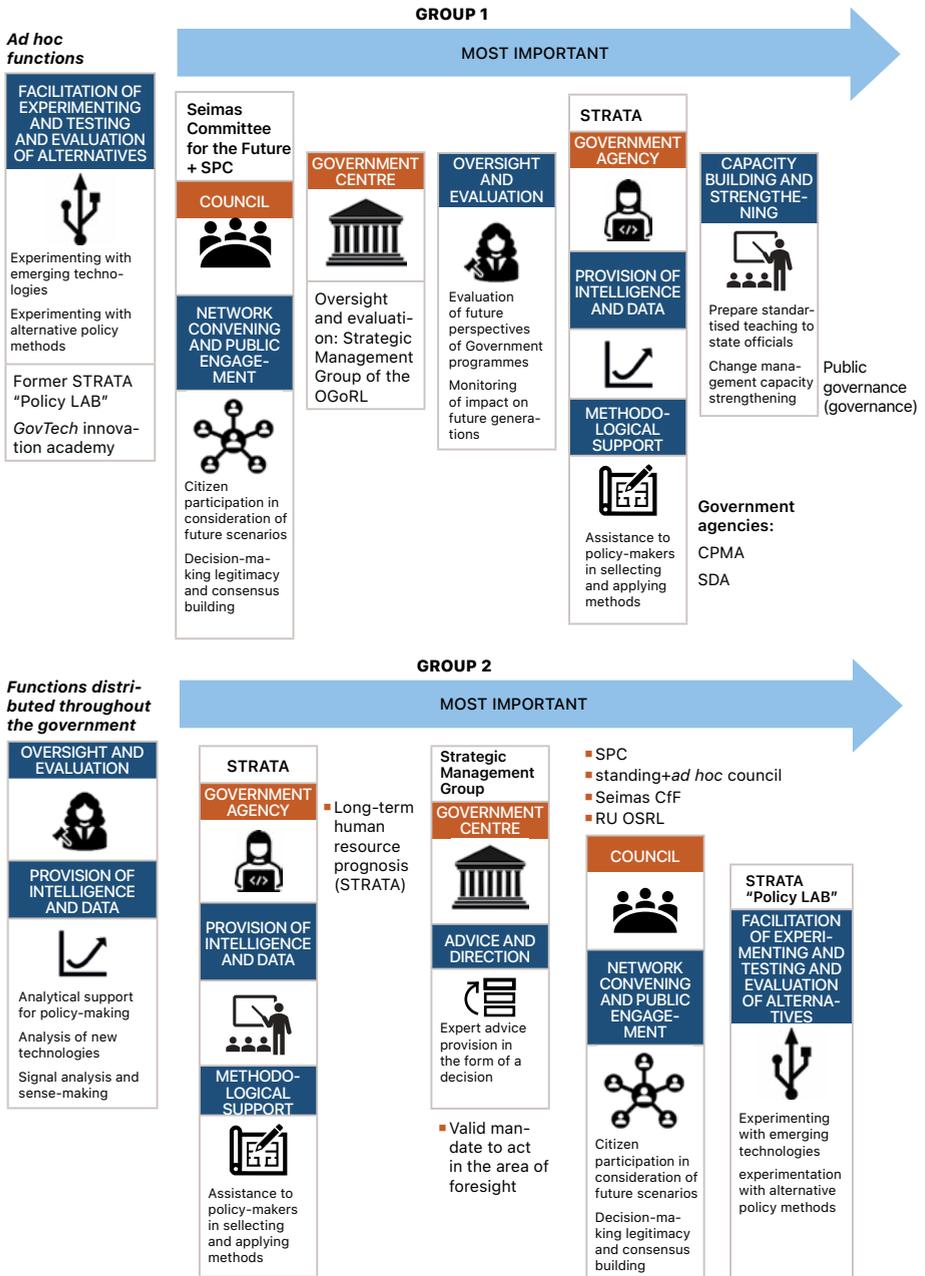


Figure 20. Distribution of functions in Lithuania's foresight ecosystem (OECD 2024)

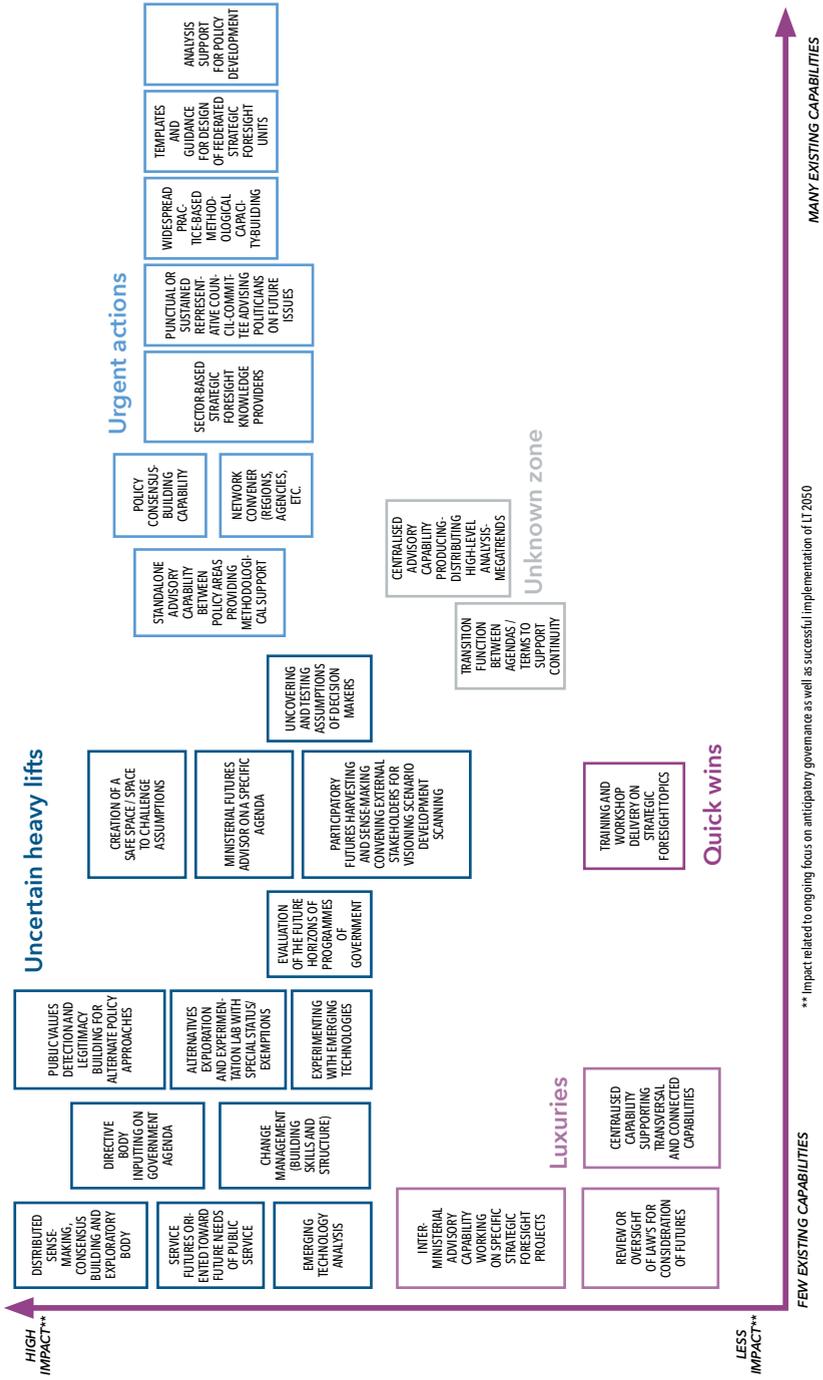


Figure 21. Map of Lithuania's foresight ecosystem (OECD 2024)

## **Existing capabilities and the impact of functions being implemented.**

The discussion considered:

- 1) How to introduce and develop the key functions of anticipatory innovation governance that would have a strong impact on the development of the foresight ecosystem but are currently not implemented.
- 2) How to improve the functions already being implemented that have a significant impact on the foresight ecosystem. In this context, 'impact' is understood as sustained attention to anticipatory governance and the successful implementation of the Strategy 'Lithuania 2050'. Figure 21 presents the distribution of foresight functions along the axes of impact magnitude and existing capacities.

It was observed during the session that strengthening and building governmental foresight capacities, enhancing ministerial integration and coordination, and making use of existing organisational capacities should assign a key role to STRATA, the GovTech laboratory, and the CPMA. Furthermore, a consensus was identified on the importance of foresight and the creation of safe spaces for testing alternative scenarios in developing an effective foresight system.

Key aspects highlighted in the OECD session on leveraging the application of strategic foresight in the Lithuanian public sector:

- **Impactful but not being done.** Several functions identified with high potential on Lithuania's foresight capabilities are not currently being undertaken. Notably, the functions 'Distributed sense-making, consensus building, and exploratory body' and 'Alternatives exploration' (the latter with potential to be undertaken by STRATA and Policy Lab). These functions are regarded as essential for fostering broad and inclusive future-oriented thinking and planning. Their implementation could significantly improve Lithuania's capacity for anticipatory governance.
- **Taking stock of existing capacities.** It was noted that functions such as 'Widespread practice based methodological capacity building' and 'Network convener' are executed to some extent and already have a considerable impact. The first of these is undertaken by the CPMA, while the third is assigned to STRATA.
- **Integration and coordination.** There are challenges related to knowledge silos, integration, and coordination across different institutions and sectors.

This issue came up particularly in discussions of the function ‘inter-ministerial advisory capacities in working on specific foresight projects.’ The importance of ‘breaking down’ silos through leadership, dedicated bodies, and culture suggest that enhancing cross-functional collaboration and creating conditions conducive to intersectoral dialogue and cooperation are critical for maximising the impact of foresight activities. The Cff OSRL likewise raised the question of “how to break out of sectoral silos, how to start addressing complex, horizontal problems in an integrated way – not through hierarchical imposition <...>, but directly, by relying on relationships of cooperation and trust and guided by shared values” (GFFU Cff 2022, p. 27). To address this issue, flexible and personalised structures for managing complex challenges were proposed (for example, the creation of so-called ‘Mr or Ms Digitalisation’ posts, or ministers without portfolio). It was also suggested that the futures ecosystem should include cross-sectoral and inter-institutional platforms dedicated to coordinating responses to complex and long-term challenges (for instance, the National Human Resources Monitoring Commission) (GFFU Cff 2022, p. 30).

- **By-products of an established foresight ecosystem** The need for ‘Training and workshop delivery on strategic foresight topics’ and the role of ‘Network conveners’ are functions for capacity building and community engagement in fostering a culture of future-oriented thinking and action. These functions are essential for equipping civil servants and organisations with the skills and knowledge needed to effectively participate in and contribute to Lithuania’s foresight ecosystem. Yet, these as well as the functions ‘Review or oversight of laws for consideration of futures generations’ can be perceived as by-products or conditionalities of an established foresight ecosystem and not a current priority for a nascent ecosystem.

**Next steps.** In the OECD expert-moderated session on drafting the White Paper on Lithuania’s Futures Ecosystem, participants proposed the following portfolio of next steps:

- 1) Test the resulting portfolio map (see Figure 21) with a wider group of stakeholders to confirm the correct placement of each function option.
- 2) Address each function option based on the suggested options for action in each zone based on what makes sense for Lithuania, arrangement of existing capabilities in the ecosystem, and assessment of interest and ability to act.

- 3) Further discuss function options in the unknown zone, possibly with a wider group, to gather more information for a deeper assessment.

Key closing discussion points:

- 1) LFE remains emergent, making a comparative analysis with other countries advisable.
- 2) The discussion initiated during the session should continue by diagnosing root causes of the current situation and identifying systemic barriers.
- 3) OECD's proposed portfolio of measures warrants further development (RU OSRL 24/21).

## Bibliography and sources

1. Araújo, Renan; Koessler, Leonie, 2021: "The Rise of the Constitutional Protection of Future Generations", *LPP Working Paper*, No. 7, available online: <http://dx.doi.org/10.2139/ssrn.3933683>.
2. Cff 2022-2023: *Report on the work of the Committee for the Future of the Seimas of the Republic of Lithuania during the 5th (autumn) session and between the sessions*, 10 September 2022 – 9 March 2023, available online: <https://www.lrs.lt/sip/getFile?guid=afb34be3-a2e5-4ac1-8b67-829a81bc2043>.
3. GFFU Cff 2021: Report of the Committee for the Future of the Seimas of the Republic of Lithuania on the major issues of state and public life "Report on Challenges to Foresight in Lithuania", June 2021, No 1, available online: [https://www.lrs.lt/sip/getFile3?p\\_fid=61279](https://www.lrs.lt/sip/getFile3?p_fid=61279).
4. GFFU Cff 2022: Report of the Committee for the Future of the Seimas of the Republic of Lithuania "Governing futures in the face of uncertainty", December 2022, No 4, available online: [https://www.lrs.lt/sip/getFile3?p\\_fid=61282](https://www.lrs.lt/sip/getFile3?p_fid=61282).
5. DLFE Cff 2022: Decision No 122-S-6 of the Committee for the Future of the Seimas of the Republic of Lithuania of 16 September 2022 on the Development of Lithuania's Futures Ecosystem, available online: <https://www.lrs.lt/sip/getfile?guid=509bbba8-7d9b-41e8-a54f-cdd7f230992e>.
6. Augustinaitis, Arūnas, 2003: „Valdymo komunikacija: žinių visuomenės įtaka viešajam administravimui“, *Informacijos mokslai*, 27, p. 9–17.
7. Augustinaitis, Arūnas, 2005: „Valdymo kaitos kryptys žinių visuomenėje“, *Informacijos mokslai*, 33, p. 9–17.
8. Augustinaitis, Arūnas (ed.), 2017: „Naujasis regionalizmas ir integruota regionų plėtra; metodologiniai aspektai“, *Naujos regionų tapatybės konstravimas. Integralumas, sumanumas, konkurencingumas*, Vilnius: KSU, LKI, p. 12–38.
9. Augustinaitis, Arūnas, 2022: "Challenges of uncertainty and futures ecosystem prospects", *Report of the Committee for the Future of the Seimas of the Republic of Lithuania "Governing futures in the face of uncertainty"*, December 2022, No 4 (5th session), p. 23-29, available online: [https://www.lrs.lt/sip/getFile3?p\\_fid=61282](https://www.lrs.lt/sip/getFile3?p_fid=61282).

10. Augustinaitis, Arūnas, *et al.*, 2022: "Evaluation of the implementation of smart specialisation strategy in Lithuanian industry", *Journal of Business Economics and Management*, 23 (6), p. 1299-1314, available online: <https://doi.org/10.3846/jbem.2022.18295>.
11. Augustinaitis, Arūnas; Petrauskas, Rimantas, 2010: „Piliieinių technologijų vaidmuo šiuolaikinėje visuomenėje“, *Socialinės technologijos'10: iššūkiai, galimybės, sprendimai: konferencijos medžiaga*, Vilnius: Mykolas Romeris University publishing centre, p. 205–212.
12. Augustinaitis, Arūnas; Reimeris, Ramojus, 2012: "Management of Creative Knowledge Centers in the Context of Triple Helix Model", *7th International Scientific Conference "Business and Management 2012"*, Vilnius: Gediminas Technical University Press „Technika“, p. 801–807, available online: <https://doi.org/10.3846/bm.2012.103>.
13. Baločkaitė, Rasa, 2007: "Lithuania into Europe: Masquerading Europeaness", *Acta humanitarica universitatis Saulensis*, 2, p. 11–26.
14. Balžekienė, Aistė; Budžytė, Agnė, 2021: "The Role of Environmental Attitudes in Explaining Public Perceptions of Climate Change and Renewable Energy Technologies in Lithuania", *Sustainability*, 13 (8), p. 43–76, available online: <https://doi.org/10.3390/su13084376>.
15. Baubinaite, Kristina, 2011: „Didžiosios strategijos prielaidos ir perspektyvos XX–XXI amžių sandūroje“, *Politologija*, 61 (1), p. 133–169, available online: <https://doi.org/10.15388/Polit.2011.1.8285>.
16. Bortkevičiūtė, Rasa, 2023: „Piliietinė visuomenė Lietuvoje: kodėl nesijaučiame galintys paveikti valstybės gyvenimą?“, available online: <https://www.lrt.lt/naujienos/nuomones/3/1886040/rasa-bortkeviciute-pilietine-visuomene-lietuvoje-kodel-nesijauciame-galintys-paveikti-valstybes-gyvenima>.
17. Buehring, Joern; Bishop, Peter C., 2020: "Foresight and Design: New Support for Strategic Decision Making", *She Ji: The Journal of Design, Economics, and Innovation*, 6 (3), p. 408–432, available online: <https://doi.org/10.1016/j.sheji.2020.07.002>.
18. Calof, Jonathan; Smith, Jack E., 2010: "Critical success factors for government-led foresight", *Science and Public Policy*, 37 (1), p. 31–40, available online: [doi.org/10.3152/030234210X484784](https://doi.org/10.3152/030234210X484784).
19. Carayannis, Elias; Grigoroudis, Evangelos, 2016: "Quadruple Innovation Helix and Smart Specialization: Knowledge Production and National Competitiveness", *Foresight and STI Governance*, 10 (1), p. 31–42, available online: <https://foresight-journal.hse.ru/article/view/19312/16922>.

20. De Vito, Laura; Radaelli, Claudio M., 2023: "Another brick in the wall? The case for embedded foresight", *STG Policy Papers. Policy Brief*, No. 18, Firenze: School of Transnational Governance, European University Institute, available online: [https://cadmus.eui.eu/bitstream/handle/1814/75703/STG\\_PB\\_2023\\_18.pdf?sequence=1&isAllowed=y](https://cadmus.eui.eu/bitstream/handle/1814/75703/STG_PB_2023_18.pdf?sequence=1&isAllowed=y).
21. Dirth, Elisabeth; Kormann da Silva, Nicole, 2022: *Building Our Common Future: The role of the Network of Institutions for Future Generations in safeguarding the future*, Cologne: ZOE Institute for Future-fit Economies, available online: [https://ourfuturegenerations.com/wp-content/uploads/2023/05/NIFG-Publication\\_VFINAL-3.pdf](https://ourfuturegenerations.com/wp-content/uploads/2023/05/NIFG-Publication_VFINAL-3.pdf).
22. Dufva, Mikko; Ahlqvist, Toni, 2015: "Elements in the construction of future-orientation: A systems view of foresight", *Futures*, 73, p. 112–125, available online: <https://doi.org/10.1016/j.futures.2015.08.006>.
23. OECD 2016: *Etorkizuna Eraikiz (Building the Future)*, available online: <https://oecd-opsi.org/innovations/etorkizuna-eraikiz-building-the-future/>.
24. OECD 2017: *Fostering Innovation in the Public Sector*, available online: <https://oecd-opsi.org/wp-content/uploads/2018/07/Fostering-Innovation-in-the-Public-Sector-254-pages.pdf>.
25. OECD 2020a: *Anticipatory Innovation Governance*, OECD Working Papers on Public Governance, No. 44, available online: <https://doi.org/10.1787/cce14d80-en>.
26. OECD 2020b: *Anticipatory innovation governance: towards a new way of governing in Finland. A summary report*, available online: <https://oecd-opsi.org/wp-content/uploads/2022/06/OECD-Finland-Anticipatory-Report-FINAL.pdf>.
27. OECD 2021a: *Foresight and Anticipatory Governance. Lessons in effective foresight institutionalisation*, available online: [https://www.oecd.org/strategic-foresight/ourwork/Foresight\\_and\\_Anticipatory\\_Governance.pdf](https://www.oecd.org/strategic-foresight/ourwork/Foresight_and_Anticipatory_Governance.pdf).
28. OECD 2021b: *Mobilising Evidence at the Centre of Government in Lithuania: Strengthening Decision Making and Policy Evaluation for Long-term Development*, OECD Public Governance Reviews, Paris: OECD Publishing, available online: <https://doi.org/10.1787/323e3500-en>.
29. OECD 2021c: *Towards a strategic foresight system in Ireland*, available online: <https://oecd-opsi.org/wp-content/uploads/2021/05/Strategic-Foresight-in-Ireland.pdf>.

30. OECD 2023a: Material from the workshop organised by the OECD ‘Strategic Foresight Applying Futures Methods in Decision-Making’ (25 October 2023).
31. OECD 2023b: *The Public Governance of Anticipatory Innovation Ecosystems in Latvia. Exploring Applications in Key Sectors*, available online: [https://www.oecd.org/en/publications/the-public-governance-of-anticipatory-innovation-ecosystems-in-latvia\\_83170d2e-en/full-report.html](https://www.oecd.org/en/publications/the-public-governance-of-anticipatory-innovation-ecosystems-in-latvia_83170d2e-en/full-report.html).
32. OECD 2024: Material from the workshop organised by the OECD in Vilnius ‘Shaping Futures Ecosystems: An Explanatory Workshop on Government Anticipatory Innovation and Foresight’ (2 February 2024).
33. EC 2021: *2021 Strategic Foresight Report. The EU’s Capacity and Freedom to Act*, Brussels: Secretariat General, European Commission, available online: [https://commission.europa.eu/system/files/2021-09/strategic\\_foresight\\_report\\_2021\\_en.pdf](https://commission.europa.eu/system/files/2021-09/strategic_foresight_report_2021_en.pdf).
34. EC 2023: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 11 July 2023 ‘An EU initiative on Web 4.0 and virtual worlds: a head start in the next technological transition’ (COM(2023) 442 final) (SWD(2023) 250), available online: <https://eur-lex.europa.eu/legal-content/LT/TXT/HTML/?uri=CELEX:52023DC0442>.
35. Eriksen, Thomas Hylland, 2016: *Overheating: An Anthropology of Accelerated Change*, London: Pluto Press.
36. CoE 2019: *Code of Good Practice for Civil Participation in the Decision-making Process*, Council of Europe, available online: <https://rm.coe.int/code-of-good-practice-civil-participation-revised-301019-en/168098b0e2>.
37. Fathi, Mahdieh, *et al.*, 2021: “The Effect of Organizational Resilience and Strategic Foresight on Firm Performance: Competitive Advantage as Mediating Variable”, *IJ Pharmaceutical Research*, 20 (4), p. 497–510, available online: <https://brieflands.com/articles/ijpr-124270>.
38. Gini 2023: *Gini coefficient of equivalised disposable income by age*, Eurostat, available online: [https://ec.europa.eu/eurostat/databrowser/view/ilc\\_di12/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ilc_di12/default/table?lang=en).
39. Hale, Thomas, *et al.*, 2023: *Toward a declaration on future generations. Policy brief*, Blavatnik School of Government, Oxford University, available online: [https://doi.org/10.35489/BSG-PB\\_2023/001](https://doi.org/10.35489/BSG-PB_2023/001).

40. Han, Jin, *et al.*, 2022: "Enhancing the understanding of ecosystems under innovation management context: Aggregating conceptual boundaries of ecosystems. *Industrial Marketing Management*, 106, p. 112-138, available online: <https://doi.org/10.1016/j.indmarman.2022.08.008>
41. ICSC 2022: *Anticipating futures for civil society operating space*, International Civil Society Centre, available online: <https://icscentre.org/our-work/anticipating-futures-for-civil-society-operating-space/>.
42. JRC 2020: *Science for Policy Handbook* (ed. Šucha, Vladimír; Sienkiewicz, Marta), Brussels: Joint Research Centre (JRC), European Commission, available online: <https://doi.org/10.1016/C2018-0-03963-8>. JRC 2024: *Building capacity for evidence-informed policymaking in governance and public administration in a post-pandemic Europe – expert analysis of Lithuania and the Netherlands*, available online: <https://ppmi.lt/building-capacity-evidence-informed-policymaking-governance-and-public-administration-post-pandemic-europe-expert-analysis-lithuania-and-netherlands>.
43. Karjalainen, Jonni; Heinonen, Sirkka, 2018: "Using deliberative foresight to envision a neo-carbon energy innovation ecosystem – a case study of Kenya", *African Journal of Science, Technology, Innovation and Development*, 10, p. 625–641, available online: <https://doi.org/10.1080/20421338.2017.1366133>.
44. Kiurienė, Violeta, 2019: *Savivaldybių administracinės priežiūros instituto tobulinimas viešojo valdymas pokyčių kontekste: Mokslo daktaro disertacija*. Socialiniai mokslai, vadyba (S 003), Šiauliai: Šiauliai University, available online: <https://epublications.vu.lt/object/elaba:46455708/46455708.pdf>.
45. Kyungmoo, Heo; Yongseok, Seo, 2021: "Anticipatory governance for newcomers: lessons learned from the UK, the Netherlands, Finland, and Korea", *European Journal of Future Research*, 9 (9), available online: <https://doi.org/10.1186/s40309-021-00179-y>.
46. Koessler, Leonie; Araújo, Renan, 2021: *A Novel German Precedent for Protecting Future Generations*, available online: <https://ukconstitutionallaw.org/2021/05/12/leonie-koessler-and-renan-araujo-a-novel-german-precedent-for-protecting-future-generations/>.
47. Kohler, Kevin, 2021: *Strategic Foresight. Knowledge, Tools, and Methods for the Future: Risk and Resilience Report*, Zürich: Center for Security Studies, available online: <https://css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/RR-Reports-2021-StrategicForesight.pdf>.

48. Könnölä, Totti, *et al.*, 2021: “Transformative governance of innovation ecosystems”, *Technological Forecasting and Social Change*, 173, p. 1–14, available online: <https://doi.org/10.1016/j.techfore.2021.121106>.
49. RCL 2023; A network of science and innovation advisors (SIA) under creation in Government institutions, Research Council of Lithuania, available online: <https://lmt.lrv.lt/lt/naujienos/kuriamas-mokslo-ir-inovaciju-patareju-mip-tinklas-vyriausybes-institucijose/>.
50. Law No I-270 of the Republic of Lithuania on Official Statistics and State Data Governance, available online: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.5592/asr>.
51. SRL WG LFEC 2023: Decision No SV-S-1090 of the Board of the Seimas of the Republic of Lithuania of 20 September 2023 on the Setting up of the Working Group for the Development of a Draft Concept of Lithuania’s Futures Ecosystem (White Paper), available online: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/da78fd92579511ee8e3cc6ee348ebf6d/asr>.<https://eseimas.lrs.lt/portal/legalAct/lt/TAD/da78fd92579511ee8e3cc6ee348ebf6d/asr>.
52. RU OSRL 23/29: Kanapka, Giedrius *et al.*, *‘Lithuania 2050’: responsibility to future generations. Structured information*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2023.
53. RU OSRL 23/28: Šarkutė, Ligita *et al.*, *‘Lithuania 2050’: how will we develop Lithuania’s regions? Structured information*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2023.
54. RU OSRL 23/89: Šarkutė, Ligita, *Influence of Civil Society Organisations on Future Decision-Making in the European Union. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2023.
55. RU OSRL 23/112: Kanapka, Giedrius, *Overview of Poverty Risk and Social Exclusion Levels in Lithuania. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2023.
56. RU OSRL 23/06: Trainauskienė, Sigita, *Institutionalization of Anticipatory Governance in Lithuania. Research report*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2023.

57. RU OSRL 24/48: Kanapka, Giedrius et al., *Dictionary of Futures Studies: 100 Steps towards the North Star. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
58. RU OSRL 24/39: Šimašius, Linas et al., *Infrastructure Model of Lithuania's Futures Ecosystem, Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
59. RU OSRL 24/22: Šarkutė, Ligita; Kanapka, Giedrius, *Infrastructure Development of the Futures Ecosystem in Lithuania: Resources and Opportunities. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
60. RU OSRL 24/21: Šarkutė, Ligita; Kanapka, Giedrius, *Institutional Prerequisites for Lithuania's Futures Ecosystem: Structure and Functions. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
61. RU OSRL 24/19: Šimašius, Linas, *Developing Foresight-Based Systems. Cases from the European Union, Finland, and Estonia. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
62. RU OSRL 24/18: Urbonaitė-Barkauskienė, Veronika; Šimašius, Linas, *Foresight in the Context of Global Trends: Principles, Methods, and Opportunities. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
63. RU OSRL 24/17: Kanapka, Giedrius; Šarkutė, Ligita, *International Context of Lithuania's Futures Ecosystem. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
64. RU OSRL 24/16: Urbonaitė-Barkauskienė, Veronika, *Application of Futures Ecosystem Solutions Taking into Account the Country's Socio-economic and Socio-cultural Factors. Analytical review*, Research Unit of the Information and Communication Department of the Office of the Seimas of the Republic of Lithuania, 2024.
65. LSTI SRL 2024: Seimas Resolution No XIV-2538 of 11 April 2024 On Approving the Description of Directions for Development of Lithuania's Long-term Policy on Science, Technology and Innovation, available online: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/ad54f302f80311ee97d-7f4f65208a4ec?jfwid=q8i88ls5l>.

66. Law No XIII-3096 of the Republic of Lithuania on Strategic Governance, available online: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/90386d-20bab711ea9a12d0dada3ca61b/asr>.
67. R&D&I GoRL 2022: Resolution No 835 of the Government of the Republic of Lithuania of 17 August 2022 On Approving the Concept of Research and Experimental Development and Innovation (smart specialisation), available online: <https://www.e-tar.lt/portal/lt/legalAct/9f349d40221011ed-b4cae1b158f98ea5>.
68. SG GoRL: *Strategic Governance*, Government of the Republic of Lithuania, available online: <https://lrv.lt/lt/apie-vyriausybe/strateginis-valdymas/>.
69. SMM GoRL 2021: Resolution No 292 of the Government of 28 April 2021 on the Implementation of the Law of the Republic of Lithuania on Strategic Governance, Articles 4(3) and 4(5) and 7(1) and 7(4) of the Law of the Republic of Lithuania on Regional Development of the Republic of Lithuania, and Article 141(3) of the Law of the Republic of Lithuania on the Budget Structure, available online: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/5e3aa191a8e511eb98ccba226c8a14d7>.
70. Law No VIII-1316 of the Republic of Lithuania on the Civil Service, available online: <https://www.e-tar.lt/portal/lt/legalAct/TAR.D3ED-3792F52B/asr>.
71. Michalski, Anna, *et al.*, 2024: "Small states and the dilemma of geopolitics: role change in Finland and Sweden", *International Affairs*, 100 (1), p. 139–157, available online: <https://academic.oup.com/ia/article/100/1/139/7506710>.
72. Myllyoja, Jouko, *et al.*, 2022: "Strengthening futures-oriented agenda for building innovation ecosystems", *European Journal of Futures Research*, 10 (24), available online: <https://doi.org/10.1186/s40309-022-00211-9>.
73. Monteiro, Bruno; Dal Borgo, Rodrigo, 2023: *Supporting decision making with strategic foresight: An emerging framework for proactive and prospective governments*, OECD Working Papers on Public Governance, No. 63, available online: <https://www.espas.eu/files/OECD-September-2023.pdf>.
74. Nakrošis, Vitalis, *et al.*, 2018: *Public administration characteristics and performance in EU28: Lithuania*, European Commission, Directorate-General for Employment, Social Affairs and Inclusion Publications Office of the European Union, available online: <https://data.europa.eu/doi/10.2767/758935>.
75. NIFG: *Network of Institutions for Future Generations*, available online: <https://futureroundtable.org/web/network-of-institutions-for-future-generations/about>.

76. CN: The Constitution of Niger, available online: [https://www.constitute-project.org/constitution/Niger\\_2017?lang=en](https://www.constitute-project.org/constitution/Niger_2017?lang=en).
77. MI NPP: *Monitored Indicators of the National Progress Plan*, available online: <https://osp.stat.gov.lt/nacionalinio-pazangos-plano-rodikliai>.
78. OCFFRH: *Office of the Commissioner for Fundamental Rights of Hungary*, available online: <https://www.ajbh.hu/en/web/ajbh-en>.
79. Orlik, Jack, 2022: *Unlocking the Future: Anticipatory Innovation Governance in Finland*, available online: <https://oecd-opsi.org/blog/unlocking-the-future-in-finland/>.
80. Pouru-Mikkola, Laura, *et al.*, 2023: "Exploring knowledge creation, capabilities, and relations in a distributed policy foresight system: Case Finland", *Technological Forecasting and Social Change*, 186 (B), available online: <https://doi.org/10.1016/j.techfore.2022.122190>.
81. CSS: *The Constitution of South Sudan*, available online: [https://www.constituteproject.org/constitution/South\\_Sudan\\_2013?lang=en](https://www.constituteproject.org/constitution/South_Sudan_2013?lang=en).
82. CoR 2014: *Resolution of the Committee of the Regions on the Charter for Multilevel Governance in Europe* of 3 April 2014, available online: <https://eur-lex.europa.eu/legal-content/LT/ALL/?uri=CELEX:52014XR1728>.
83. Scott, Stephanie, *et al.*, 2022: "Towards a network-based view of effective entrepreneurial ecosystems", *Review of Managerial Science*, 16, p. 157–187, available online: <https://doi.org/10.1007/s11846-021-00440-5>.
84. Shallowe, Adanna, *et al.*, 2020: *A stitch in time? Realising the value of futures and foresight*, London: RSA, available online: [https://www.thersa.org/globalassets/\\_foundation/new-site-blocks-and-images/reports/2020/10/rsa-stitch-in-time.pdf](https://www.thersa.org/globalassets/_foundation/new-site-blocks-and-images/reports/2020/10/rsa-stitch-in-time.pdf).
85. SOIF 2021: *Features of effective systemic foresight in governments around the world*, available online: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/985279/effective-systemic-foresight-governments-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/985279/effective-systemic-foresight-governments-report.pdf).
86. SPI 2023: SPI Lithuania's report data for 2023, available online: <https://www.socialprogress.org/?code=LTU&tab=2>.
87. Störmer, Eckhard, *et al.*, 2020: *Using Science and Evidence to Anticipate and Shape the Future. Science for Policy Handbook*, Brussels: EU Policy Lab Foresight, available online: <http://dx.doi.org/10.1016/b978-0-12-822596-7.00012-7>.

88. STRATA 2021: *Challenges in Designing Lithuania's Futures. Analysis of shaping futures ecosystems in other countries and initial proposals for Lithuania*, available online: <https://strata.gov.lt/wp-content/uploads/2024/01/20211220-Lietuvos-ateities-projektavimo-ikiai.pdf>.
89. STRATA 2022a: *Concept of public governance innovation and model of governance*, available online: <https://strata.gov.lt/wp-content/uploads/2024/01/20220704-viesojo-valdymo-inovaciju-konceptija-ir-valdysenos-modelis.pdf>.
90. STRATA 2022b: *Futures governance: how to create a prosperous Lithuania?*, available online: <https://lrv.lt/media/viesa/saugykla/2023/11/h9iiBvfn9Fg.pdf>.
91. STRATA 2022c: *Study on addressing geopolitical and security challenges*, available online: <https://strata.gov.lt/wp-content/uploads/2024/01/2023.03.16-LT2050-temine-geopolitikos-ataskaita.pdf>.
92. STRATA 2023: *Study on addressing governance challenges*, available online: <https://strata.gov.lt/wp-content/uploads/2024/01/LT-2050valdysenostemineataskaita.pdf>.
93. Strategy 'Lithuania 2050': *the State Progress Strategy 'Lithuania's Vision for the Future 'Lithuania 2050'', approved by Resolution No XIV-2466 of the Seimas of the Republic of Lithuania of 23 December 2023 on Approving the State Progress Strategy 'Lithuania's Vision for the Future 'Lithuania 2050''*, available online: <https://www.e-tar.lt/portal/lt/legalAct/3388adf0a55611eea5a28c81c82193a8>.
94. Šarkutė, Ligita, 2023: *Citizen involvement in public governance in Lithuania: the North Star or?... , Foresight*, No 2, available online: [https://www.lrs.lt/sip/getFile3?p\\_fid=56343](https://www.lrs.lt/sip/getFile3?p_fid=56343).
95. Šarmavičienė, Jekaterina, 2021: *Strategic governance and budget. Adaptation of systems and processes for the formation and implementation of political objectives*. A report at the meeting of the Committee for the Future of the Seimas of the Republic of Lithuania of 26 March 2021.
96. Šarmavičienė, Jekaterina, 2024: *Strategy as an effort to achieve limitless ambitions with limited resources*. A report at the conference 'Development Prospects for the Futures Ecosystem in Lithuania' of the Committee for the Future of the Seimas of the Republic of Lithuania held on 19 April 2024.
97. CT: *The Constitution of Tunisia*, available online: [https://www.constituteproject.org/constitution/Tunisia\\_2014?lang=en](https://www.constituteproject.org/constitution/Tunisia_2014?lang=en).

98. Tönurist, Piret; Hanson, Angela, 2020: "Anticipatory innovation governance: Shaping the future through proactive policy making", *OECD Working Paper on Public Governance*, No. 44, Paris: OECD Publishing, available online: <https://doi.org/10.1787/cce14d80-en>.
99. UF MB: *Universal Foresight. Methods Bank*, available online: <https://www.universalforesight.com/uf-methods-bank/>.
100. UK GOS 2016: *Future of Cities: Foresight for Cities. A resource for policy-makers*, Government Office for Science, available online: <https://assets.publishing.service.gov.uk/media/5a815343e5274a2e87dbd027/gs-16-5-future-cities-foresight-for-cities.pdf>.
101. UNESCO 2018: *Transforming the Future. Anticipation in the 21st Century*, ed. Miller Riel, Paris, available online: <https://unesdoc.unesco.org/ark:/48223/pf0000264644>.
102. UNESCO 2022: *Transforming education for the future*, available online: <https://unesdoc.unesco.org/ark:/48223/pf0000382765>.
103. UNESCO FL: *Futures Literacy and Foresight*, available online: <https://en.unesco.org/futuresliteracy/about>.
104. SGBF NAO 2024: *Changes in the strategic governance and budget formation: public audit report*, National Audit Office, 14 June 2024, No VAE-6, available online: <https://www.valstybeskontrole.lt/LT/Product/Download/4680>.
105. NPR NAO 2023: *Comments on the National Progress Report*, National Audit Office, 14 June 2024, No YE-256, available online: <https://www.valstybeskontrole.lt/LT/Product/Download/4677>.
106. ISPS NAO 2020: *Overview of the institutional structure of the public*, National Audit Office, 23 January 2020, No YE-1, available online: <https://www.valstybeskontrole.lt/LT/Product/Download/3773>.
107. CG: *The Constitution of Germany*, available online: [https://www.constituteproject.org/constitution/German\\_Federal\\_Republic\\_2014?lang=en](https://www.constituteproject.org/constitution/German_Federal_Republic_2014?lang=en).
108. SPC: *State Progress Council*, available online: <https://lrv.lt/lt/lietuva-2050/valstybes-pazangos-taryba-2>.
109. WEF 2013: *The Future Role of Civil Society. World Scenario Series*, World Economic Forum, available online: [https://www3.weforum.org/docs/WEF\\_FutureRoleCivilSociety\\_Report\\_2013.pdf](https://www3.weforum.org/docs/WEF_FutureRoleCivilSociety_Report_2013.pdf).
110. WFGW 2015: *Well-being of Future Generations (Wales) Act, 2015*, available online: <https://www.legislation.gov.uk/anaw/2015/2/contents>.



## **WHITE PAPER**

on

Lithuania's Futures Ecosystem

12 12 2025

Published by the Office of the Seimas of the Republic of Lithuania

Gedimino pr. 53, LT-01109 Vilnius

Printed by Petro ofsetas, UAB

Naujoji Riononių g. 25C, LT-03153 Vilnius

