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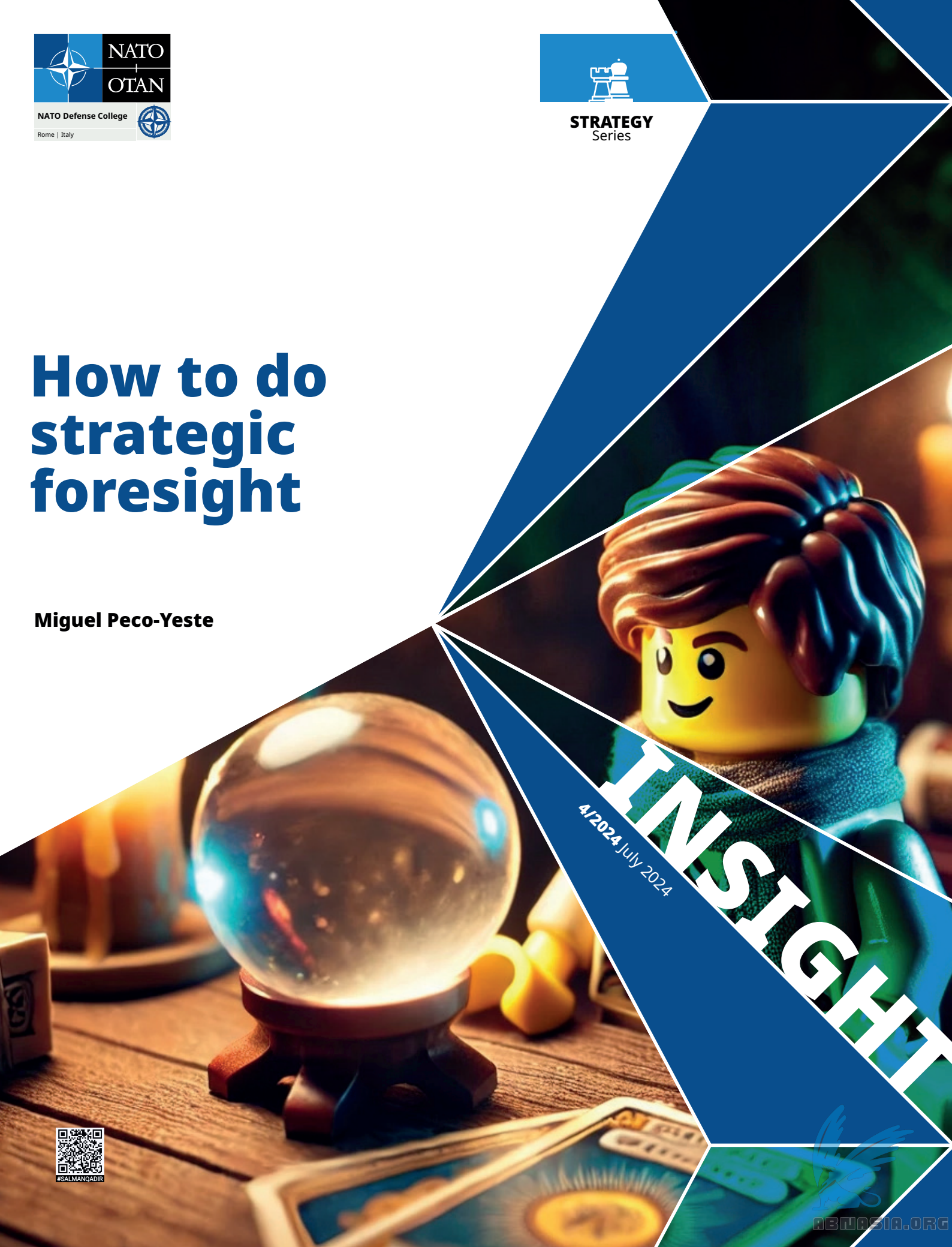
STRATEGY
Series

How to do strategic foresight

Miguel Peco-Yeste



INSIGHT
4/2024 July 2024

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This guide was initially aimed at the broader goal of continuing to mature, mainstream and consolidate foresight work in NATO HQ. In this regard, I would like to express my appreciation to the Head of the PPU, Dr Benedetta Berti, for encouraging me to work under my own direction and providing me with the resources and support I needed to do what has been a gratifying job. Also, I appreciate Ruben Diaz-Plaja for his valuable organisational experience and support in producing the initial drafts, with a pleasant memory of our efforts together to push forward foresight work in our organisation. Of course, my appreciation goes as well to the rest of my PPU colleagues at the time: Ana Dukic, Dominik Jankowski, Giuseppe Spatafora, Christina Kessler, and Lindsay Ann Jore for their insightful ideas, comments and availability to participate in internal foresight exercises. I also have a special remembrance of Robert Dresen, my predecessor in foresight work at the PPU. On the other side of the Atlantic Ocean, at NATO Allied Command Transformation, I appreciate the Head of Strategic Foresight, Dr Gergely Nemeth, and Dr Maureen Archer for their expertise and contribution to reviewing and proofreading the work.

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Introduction

"Foresight" is on the rise. What was a discipline restricted to a few people decades ago has become very popular. That's good news – a wider use of foresight can have a number of benefits, as this guide explains. However, along with that popularity, the expectations about the scope of foresight have also grown. We can even find an aura of mystery surrounding the discipline. This is less helpful, as there is a risk of creating misperceptions about the nature of foresight. That is why it is necessary to limit the scope of foresight from the outset by clearly stating what it is and is not.

Foresight is not about predicting or knowing the future. Despite the fantastic cover of this work, the aim of foresight is not envisioning what the future holds for us, i.e. predicting *what is going to happen*. Instead, foresight aims to make us more aware of *what may happen*, through a broad study of phenomena that are already present, so as to inform potential decisions. It may seem paradoxical, but a thorough analysis of the *present* reality is the basis of good foresight.

Foresight is not a body of expert knowledge. It is not the realm of "experts" who pretend to hold special insights on the future. Rather, foresight is a methodical approach to thinking about possible futures that, at the same time, allows us to reveal and refine the assumptions and understandings we have about those futures. That does not mean that expertise does not matter. To the contrary, good foresight must integrate thematic, regional, scientific, military, political, economic, environmental, and other expertise to provide valuable insights.

Foresight is not an end in itself. Instead, foresight is the first step to building better strategies and policies and improve the decision-making process in general. In this regard, foresight helps us to understand how potential, plausible futures could look like. Foresight helps us challenge our understandings and assumptions about the future, preventing bias that could hinder our plans and policies. Furthermore, foresight can help us shape our idea of a preferred future and set the basis of our effort to achieve it.

Strategic foresight goes beyond pure foresight practices and is about integrating foresight into the policy-making process. This is a statement closely related to the previous idea and justifies the title of this guide. Chapter 4, "Setting the Policy," is precisely dedicated to linking foresight to the policy/strategy-making process. As highlighted there, developing strategies and plans can be enhanced and supported by considering multiple alternative futures and their implications. This guide will use both terms, strategic foresight and foresight, the latter more specifically referring to the discipline of exploring, anticipating, and shaping the future in a systemic way.[1]

This guide aims to provide a simple tool for policy practitioners to start navigating the foresight discipline and help foster foresight thinking in policy teams and organizations. It does not intend to present a set of last-generation methodologies. Instead, this guide offers some simple tools and techniques of proven effectiveness that can be used by non-expert personnel. Nevertheless, simplicity is not equivalent to a lack of rigour, so the guide proposes a complete foresight process, starting with driver identification and scenario-building and ending with preparing and monitoring subsequent policies.

1 This approach is in line with other organizations, e.g. "Strategic Foresight," European Commission, accessed November 7, 2023, https://commission.europa.eu/strategy-and-policy/strategic-planning/strategic-foresight_en

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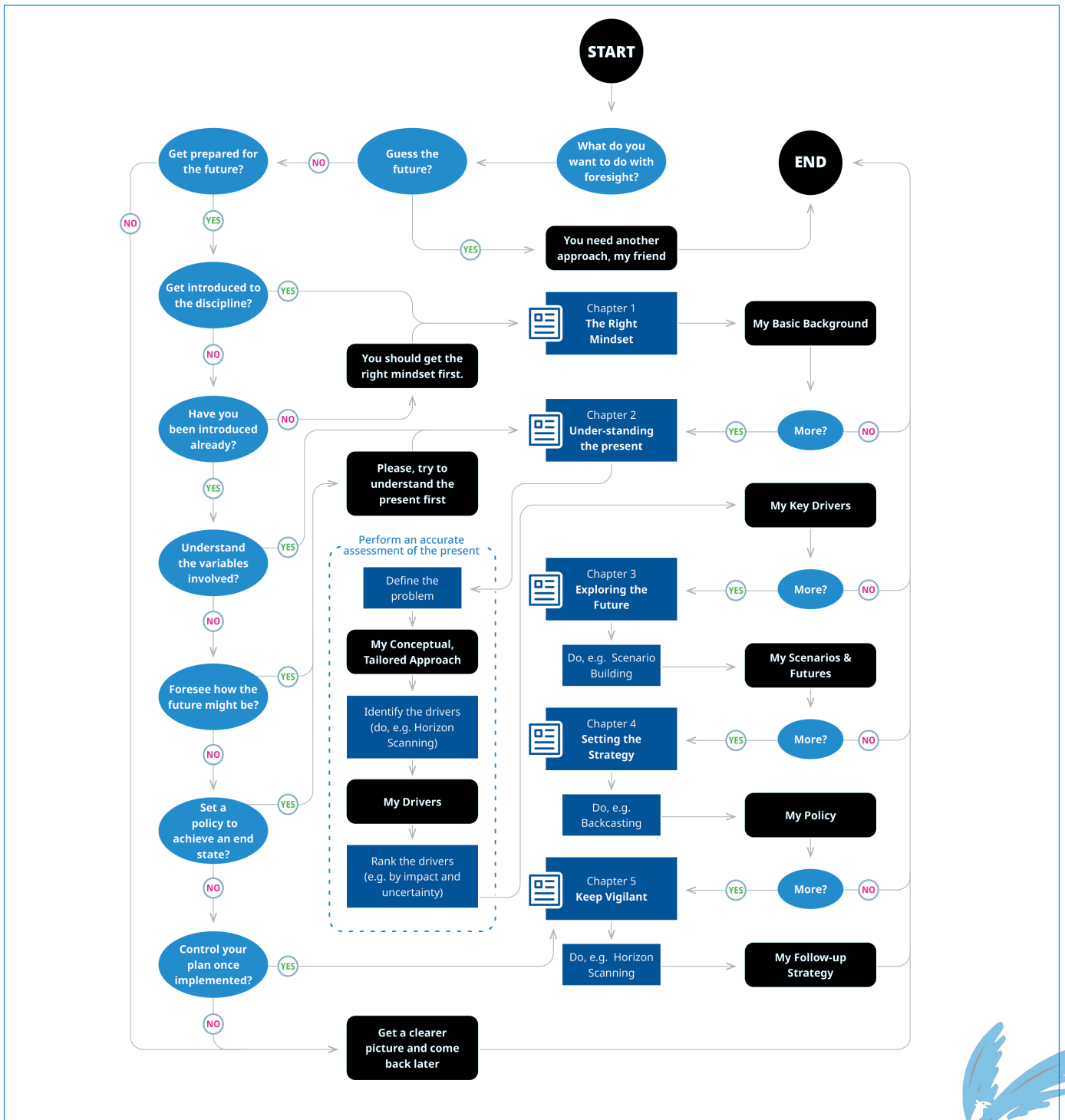
How to use this guide?

The flow chart below illustrates how this guide intends to introduce readers to foresight.

The reader just needs to follow the arrows from the 'Start' button and find their way. If the reader suddenly encounters a premature 'End', maybe they should review their expectations and return later. In any case, we hope the readers will enjoy this experience and gain some insights into the value of applying foresight.



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The right mindset

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1

The right mindset

Terms, definitions and relationships[2]

While the concept of strategic foresight is quite self-evident to its practitioners, the fact is that there is no explicit, commonly agreed shared definition of it. According to the Organization for Economic Cooperation and Development (OECD), strategic foresight is about perceiving and making sense of different plausible futures that could arise based on the analysis of the present and the opportunities and challenges they could present for our policies. Strategic foresight is a structured and systematic way of challenging and exploring implicit assumptions and ideas about the future to anticipate and better prepare for change. We then use those insights to make better decisions and act now.[3]

Strategic foresight uses different tools, such as horizon scanning to discover emerging changes, trends analysis and scenario-building to reveal and discuss valuable ideas about the future. Examples of core concepts in strategic foresight are, e.g., *mega-trends*, *catalysts* and *game-changers*.[4]

Foresight and its derivative "strategic foresight" are close to other disciplines, but the following are important boundaries to understand:

Strategic foresight vs strategic planning. As stated above, strategic foresight results from integrating foresight into the strategy/policy-making process.[5] Strategic foresight, if used correctly, can enhance and support strategy and policy-making by reflecting on multiple alternative futures and their implications. It also raises critical questions that might have gone unasked, revealing and challenging potentially fatal assumptions and expectations. Initially, foresight allows planners to envision a preferred future, i.e., a final desired situation to which strategies and policies will aim. During the planning process, challenging our assumptions about the future allows us to create more sustainable, effective strategies and policies resilient to contingencies. Implementing foresight in the planning review phase helps manage and guide transformation, inspire innovation by identifying emerging forces of change, and support the design of desired future changes and policies.[6] It should be noted that foresight provides plausible, preferable futures but does not define the ways, goals, and means necessary to achieve those futures. Such a definition is a genuine part of strategic planning.

Foresight differs substantially from forecasting, although both disciplines are powerful tools to prepare ourselves for the future. Forecasting is the process of making predictions based on past and present data and trend analysis, i.e. through extrapolations of existing data. Forecasting aims to predict a single, likely version of a narrow aspect of the future based on evidence and probability. Foresight, in turn, explores and maps alternate assumptions about the future derived from understanding the present but does not claim to guess specific events in detail. Instead, it produces multiple alternative, plausible futures that will be used to develop robust, future-ready policies. Foresight

2 A useful glossary on Foresight terminology can be found at: Centre for Strategic Futures & Civil Service College, "Foresight: A Glossary," n.d. https://www.csf.gov.sg/files/media-centre/publications/csf-csc_foresight--a-glossary.pdf (accessed 01 03, 2024)
3 OECD. *Strategic Foresight*. n.d. https://www.oecd.org/strategic-foresight/whatisforesight/ (accessed 01 03, 2024).
4 See, for instance, Florence Gaub, *Global Trends to 2030 Challenges and Choices for Europe*. ESPAS, 2019, https://ec.europa.eu/assets/epsc/pages/espas/index.html
5 This has, in some environments, been called the "integrated strategic approach."
6 Javier Jordan, "What is Strategic Foresight?" Global Strategy, October 15, 2020, https://global-strategy.org/what-is-strategic-foresight/ (accessed 01 03, 2024).

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methodologies can use a qualitative or quantitative approach, but most combine both and can focus on either the short or the long term.

Despite the differences between both disciplines, forecasting can play a role in foresight by providing the likely evolution of a single, well-defined variable that can be fed into a more comprehensive foresight scenario.[7] Furthermore, scientific forecasts, projections and trend predictions derived from scientific methods can be cited and used in strategic foresight to challenge assumptions about the future.

The knowledge generated by foresight is not scientific, i.e. the results of foresight work are not derived from applying the scientific method. The future does not exist and cannot be verified empirically. Instead, *foresight is a knowledge-generation process.* It helps groups of people explore their implicit and explicit assumptions and helps clarify what is uncertain and unknown, and to share tacit knowledge that might affect the future.[8]

Despite not being a scientific discipline, foresight involves a systematic and rigorous process, and this ads value and differentiates it from simple intuition, linear logic and expectations derived from rigid cognitive frameworks. Properly using foresight techniques systematizes prior expert knowledge, fosters creativity, and challenges reductionist interpretations.

Complex systems thinking is a different but relevant discipline and a loose school of interdisciplinary study. It examines how complex systems are built up of several elements that interact and interconnect as a whole to dynamically produce an overall outcome, which is not necessarily predictable from prior knowledge of the behaviour of individual components.[9] For instance, some systems can produce volatile outcomes due to a pivotal change in a variable, e.g. cascading failures or escalations.

Despite being a different discipline, systems thinking is a valuable complement to foresight, as it can help provide practitioners with concepts and vocabulary to think through situations with a high degree of interdependency. In particular, when building foresight scenarios, it can help us show how multiple interacting drivers can produce synergies causing (un)expected or (un)desirable results and how this could lead to radical change.

The process

Beyond specific tools and techniques, foresight work requires some ingredients. These can be taken as a complete or partial set depending on time or ambition:[10]

The right mentality. By default, our vision of the future tends to project the present with slight alterations. Inertia, progressive, linear and incremental change is comfortable for us. Conversely, disruptive ideas about the future are normally difficult to accept. Therefore, before embarking on foresight work, it is a good idea to warm up your (mental) muscles, broaden your perspective and encourage creativity. Simple foresight practices over daily issues can easily reveal unexpected chains of consequences and prepare audiences for more complex exercises.[11] The more sensitive we are to what contradicts conventional thinking, the better we'll prepare for big surprises.

Understanding the present. However complex and chaotic the future may be, a causal chain always starts from the present. For this reason, all foresight work begins with a strategic analysis of the current situation that identifies key parameters (i.e. focal issue, purpose, time horizon and methodological approach), key actors, patterns and drivers. As a result of the analysis, we figure out, first, the relatively stable *trends* that partially condition the evolution of events, and two, the key *uncertainties* – or *game changers* – that, depending on how they behave and interact with each other, will give rise to different realities. Both are the *drivers*: the forces that shape the different futures.

Exploring alternative futures. Any future includes infinite variables. In order to simplify such complexity and limit the number of variables to a manageable size, foresight makes wide use of *scenarios*. Scenarios are made of different combinations of the identified drivers, i.e. trends and uncertainties. The fundamental thing in the construction of scenarios is

7 "Strategic Foresight for Better Policies," OECD, accessed November 17, 2023, https://www.oecd.org/strategic-foresight/ourwork/Strategic%20Foresight%20for%20Better%20Policies.pdf
8 Jordan, "What is Strategic Foresight?." See also Rafael Ramirez and Angela Wilkinson, *Strategic Reframing – the Oxford Scenario Planning Approach* (Oxford: Oxford University Press), 2016, chapters 2 and 3.
9 There is a link here to the notion of *black swan* and other "black menagerie" events.
10 Adapted from "What is Strategic Foresight?"
11 E.g., a Futures Triangle or a Futures Wheel are simple tools that can be utilized anywhere, and conducted with access to few resources and minimal training and equipment. Annex I includes an explanation of both tools.

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plausibility, the logical explanation of why the drivers give rise to a particular scenario, no matter how surprising it may seem. Since the interactions between the drivers are increasingly complex and challenging to predict, the cone of plausibility (see the image below) expands as we lengthen the time horizon. Yet, at all times, the logical chain that allows us to explain the driver's impact is maintained.

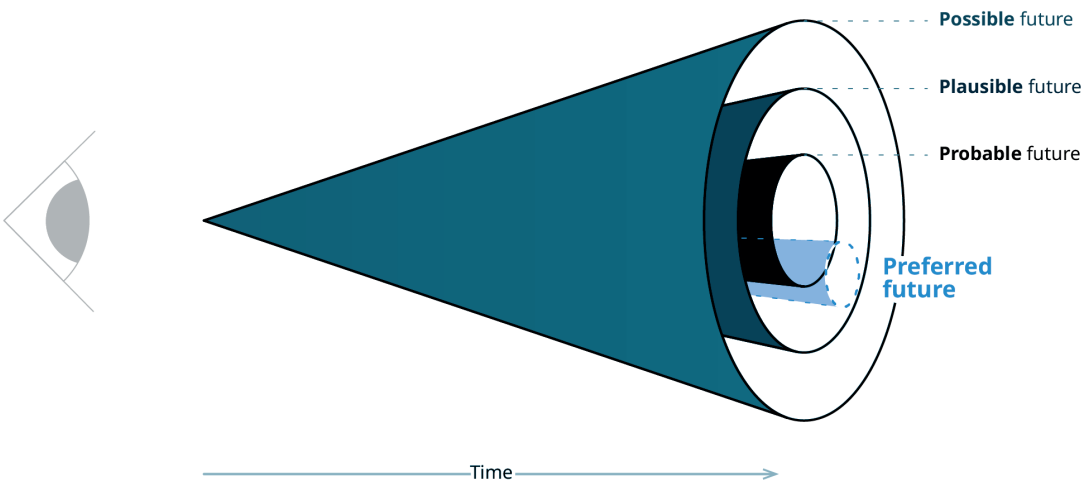
We can organize a range of futures into four categories, with our current subjective understanding of the present as a starting point: [12]

a. *Possible futures*: what may occur, i.e. the broadest range of possibilities considering all variables involved and their combinations, no matter whether or not they seem realistic scenarios.
b. *Plausible futures*: what could occur among all possibilities, i.e. feasible, realistic possibilities involving the variables and parameters we know at present.
c. *Probable futures*: what will likely occur inside the limits of plausibility, i.e. scenarios that, according to the information available at present, will likely happen in the future.
d. *Preferred future*: what we want to occur, i.e. the future we would like to happen, no matter how unlikely it may be. Sometimes, the preferred future is referred to as *vision* or *desired end state*.

Set the right strategy. Although this point is closer to strategic planning than foresight, as explained above, it highlights the fact that foresight is not an end in itself. Instead, foresight is a tool to support the decision-making process and to help us prepare better policies, strategies and plans. Developing strategies and plans are enhanced and supported by considering multiple alternative futures and their implications. Strategic foresight also contributes to strategy-making by posing key questions that might have gone unasked and revealing and challenging potentially fatal assumptions and expectations.

Maintain awareness of the changes. Discovering early signs of potential change (i.e. discontinuities, emerging issues, and other signals of change) is vital when implementing our policies, strategies and plans.[13] These are based on assumptions about the future, and any event or potential event that affects or might affect our assumptions has

The Cone of Plausibility



12 Adapted from Trevor Hancock and Clement Bezold, "Possible Futures, Preferable Futures," *The Healthcare Forum Journal*, 37(2), (March 1994):23-9.
13 Christopher Schnaubelt, "How to write a strategy," *Insight* 3/2024, NATO Defense College, June 2024.

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to be adequately included in the process. Policies, strategies and plans are not definitive decisions; they should be adapted and reoriented according to reality. Organizations should be able to spot trends before they consolidate and identify key action points to reorient their strategies proactively or define new desirable futures.

The obstacles

After exploring the first sections of this guide, readers may now be enthusiastic about foresight and its possibilities. However, when it comes to putting into practice good foresight, one may find some practical problems, both at the organizational and the individual level.

At the organizational level, a barrier to establishing a culture of foresight has to do with organizational inertia. Those environments where this tradition does not exist are frequently reluctant to implement foresight practices. According to experts, the most apparent obstacles to strategic foresight adoption and use in large organizations include short-termism and risk aversion, scarcity of specialized skills in public administration, or the existence of organizational and sectoral silos. Other barriers that have also been identified are the limited accessibility or lack of timeliness of strategic foresight products for decision-makers and the underuse of evaluation instruments.[14]

In order to overcome these obstacles, experts recommend, first, getting policymakers' involvement and buy-in. Sufficient resources, clear ownership and strong mandates for strategic foresight are necessary across institutional arrangements. Second, pay close attention to the credibility and reputation of strategic foresight units and practitioners and their ability to grasp and participate in public debates. High-quality expertise, pertinent skillsets, and pockets of talent or teams equipped to operate transversally in government support strategic foresight implementation. Third, embed strategic foresight in the larger policy cycle by providing policymakers with relevant, usable and accessible outputs. Fourth, continuously improve strategic foresight processes and practices by interacting regularly with users to gather feedback and conducting impact assessment exercises.[15]

At the individual and group level, cognitive limitations or biases can prevent analysts from doing good foresight work. Cognitive biases can generally be described as systematic and universally occurring tendencies, inclinations, or dispositions that skew or distort information and decision-making processes in ways that make their outcome inaccurate, suboptimal or simply wrong.[16] Among these biases, we can cite the following:[17]

e. *Anchoring Effect*: Accepting a given value of something unknown as a proper starting point for generating an assessment.
f. *Availability Heuristic*: Judging the frequency of an event or category by the ease with which instances of this come to mind.
g. *Confirmation Bias*: Seeking only information consistent with the lead hypothesis, judgement, or conclusion.
h. *Groupthink*: Choosing the option that the majority of the group agrees with or ignoring conflicts within the group due to a desire for consensus.
i. *Hindsight Bias*: Claiming the key items of information, events, drivers, forces, or factors that actually shaped a future outcome could have been easily identified.
j. *Mirror Imaging*: Assuming that others in similar circumstances will act the same as we would.
k. *Premature Closure*: Stop searching for a cause when a seemingly satisfactory answer is found before sufficient information can be collected and proper analysis can be performed.

The best way to overcome these cognitive biases is to employ a rigorous methodology that stimulates creative thinking, helps bind the problem, identifies new opportunities, and offers a comprehensive framework for understanding how the future will evolve. Strategic foresight provides systematic and rigorous techniques to support the analyst in avoiding, overcoming, or at least mitigating these cognitive challenges.[18]

14 Bruno Monteiro and Rodrigo Dal Borgo, "Supporting Decision Making with Strategic Foresight: An Emerging Framework for Proactive and Prospective Governments," *OECD Working Papers on Public Governance,* No. 63, (2023), https://doi.org/10.1787/1d78c791-en
15 *Ibid.*
16 J.E. (Hans) Korteling and Alexander Toet, "Cognitive Biases," *Encyclopedia of Behavioral Neuroscience*, 2nd edition (2022): 610-619, https://doi.org/10.1016/B978-0-12-809324-5.24105-9
17 Randolph H. Pherson, "Strategic Foresight – Nine Techniques for Business and Intelligence Analysis," *Globalytica*, (accessed 11 17, 2023) https://www.analytic-education.com/resources-download/Pherson_Strategic-Foresight-Nine-Techniques.pdf
18 *Ibid.*

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The opportunity to carry out foresight

The abovementioned barriers should not discourage practitioners from implementing foresight into their organizational processes. Foresight can be used in a variety of situations, from very elaborated, ambitious, and sometimes complicated exercises to more light-touch, regular meetings. Using the latter approach as a rule could be more beneficial in complex organizations, where finding time and resources to conduct large exercises involving key staff is extremely difficult.

In any case, it is important to stress that foresight is best carried out on a cyclical basis, checking on assumptions regularly. At the same time, time investment might be required, and multiple iterations can be valuable to achieve sound results.

Key takeaways

- Foresight is about gaining awareness of plausible futures that could arise based on the analysis of the present to anticipate and better prepare for change.
- All foresight work begins with an analysis of the current situation. A good foresight exercise requires a comprehensive and accurate analysis of the present.
- Foresight is proactive, cyclical-basis work. Organizations should be able to check assumptions regularly, spot trends before they emerge, and reorient their strategies proactively.
- Environments where a culture of foresight does not exist are frequently reluctant to implement related practices. Enablers to overcome this barrier are, for example, the involvement and buy-in of policymakers, the credibility and reputation of practitioners, providing policymakers with relevant outputs, and regular interaction with users.
- Cognitive bias and wrong assumptions are always present in any foresight work. The best way to overcome them is to employ a rigorous methodology.
- Finding time and resources to conduct large foresight exercises involving key staff in complex organizations could be extremely difficult. Instead, regular light-touch foresight work could be more beneficial.

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Understanding the present

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2

Understanding the present

All foresight work begins with an analysis of the current situation that identifies key drivers, i.e. trends and uncertainties. It is worth remembering at this stage that foresight is not an end in and of itself but rather a means to help us make better strategic decisions. Without a good assessment of the present, making the right decisions supposedly intended to prepare us for the future is impossible. Problem definition and key drivers' identification and ranking are the first steps in scenario-building, the framework we use here to materialize foresight.

Problem definition

Defining the problem is half the solution. When starting a new foresight project, we need to consider the following:[19]

The focal issue around which we will explore the future. When choosing the theme or focal issue, it is crucial to consider the major trends and uncertainties, as well as other variables that can be relevant to our organization. This study should be comprehensive enough to elicit new courses of action that are not only a continuation of the past but sufficiently succinct to prevent potential deviations.

The purpose or reason for which we wish to explore the future of said focal issue. This consideration is extremely useful to maintain control of the foresight exercise and prevent deviations that could lead to unwanted or unplanned outcomes. Examples of foresight purposes distinct from the exercise include establishing a collection of factors to consider when creating a future strategy or plan or testing the resilience of current organisations and programs in the face of changing circumstances. Apart from the policy process that the foresight exercise is going to feed into, the purpose should also include the recipient or the audience of the product.

The time horizon we want to consider. The time horizon will affect the range of focal issues to be considered and, conversely, narrow or expand the range of uncertainties that might characterize the long-term future of a given issue. Although strategic foresight usually focuses on a long-term horizon, each organization should define the time horizon that suits its goals. Narrowing the time horizon will help us to simplify possible alternatives for the future and also entails a choice of focus.

The conceptual, tailored approach towards the issue. In other words, *how* we will apply the foresight process to our specific focal issue, which may include phases, assumptions and methodology, among other aspects.

Example of problem definition: using foresight to shape the policy planning function within the Ministry of Defence of a fictional country

Etheriland is a medium power whose security environment is evolving rapidly and uncertainly. Security dimensions are trespassing the classic defence and military domains and incorporating more and more aspects related to resilience, climate change, and critical technologies, among others. The Ministry of Defence (MoD) of

19 Javier Jordan, "¿Qué es el Análisis Estratégico?: Comprender el Entorno Para Actuar Estratégicamente," *Global Strategy*, (accessed 11 17, 2023) https://global-strategy.org/analisis-estrategico-comprendiendo-el-entorno-para-actuar-sobre-el/

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Etheriland has been involved in a transformation process since some time ago. Its senior leadership is fully aware that they must restructure and adapt its policy, strategy and decision-making processes to a changing security environment.

As part of this restructuring, boosting the organizational function of policy planning within the Etheriland MoD will be a primary effort. Overall, the policy planning function aims to provide the organization's leadership with policy and strategic policy advice, strategic foresight analysis, and innovative suggestions on Etheriland MoD present and future challenges. It is flexible in terms of scope and format, looking at the broad set of security trends within Etheriland's strategic environment.

The policy planning staff at Etheriland MoD has traditionally been a small team, placed above classical directorates and directly subordinate to the senior leadership. The team is made up of both permanent and rotating personnel with a marked generalist nature. It bases its work on internal and external analysis and research, internal consultation and coordination, and close contacts with policy planners in other Etheriland governmental organizations, academic institutions and think tanks. The team produces a wide range of documents, from background research to detailed policy advice.

Problem definition:

How should the current policy planning function/team at Etheriland MoD evolve over a 10-year horizon to bring the most value to its leadership?

Conceptual, tailored approach:

1. Identify the driving forces shaping the organizational developments concerning the policy planning function in Etheriland MoD.
2. Based on the above, build plausible scenarios in the 10-year horizon. Identify the desired end state (and the most challenging scenario as well)
3. Set the strategy to support/achieve the desired end state and how to adapt to it. Additionally, set the strategy to avoid/prevent the most challenging scenario and how to adapt to it.
4. Maintain awareness of incipient driving forces changes and how they might affect the above scenarios.

Key drivers identification

This step aims to identify the key forces and factors that can affect the problem identified. Among them, special attention should be paid to major driving forces, i.e. the *drivers*. Drivers are those factors – forces, events, currents of opinion, paradigms, etc. – that can impact the problem identified, either at present or in the future. Drivers can be:[20]

> **Trends** are those drivers that possess a clear value at present and whose value will arguably not change in the future. According to some authors, trends arise from broad changes and innovations and are experienced by everyone. They create broad parameters for shifts in attitudes, policies, and business. Trends are typically more powerful than organizations and even nations, so most actors cannot cause major changes on them.[21]

Examples of trends for global issues include increasing human empowerment, the energy transition, digitalization, power transition and diffusion, the centrality of information, accelerating technological advancement, increasing environmental stress, and changing populations and evolving habitats.[22]

> **Uncertainties** are those drivers that may have a present value, but their future value is unclear. Depending on how they behave and interact, uncertainties will give rise to different realities. Uncertainties have also been referred to as *game changers*. Special attention deserves those uncertainties that may cause a severe impact, the so-called *black swans*.

Examples of current uncertainties include e.g. the impact of artificial intelligence; an expanding competitive space; increasing proliferation of weapons of mass effect; erosion of state sovereignty; adaptation of the rules-based international system; an expanded and unregulated information space; rising inequality, reducing social cohesion, and fragmented societies; understanding human enhancement; increasing competition in the global commons; increasing disruption and cost of climate change; increasing demand and competition for resources; managing technological change; increasing threat from crime and extremism; managing demographic change, among others.[23]

20 There are different views on the definition of *driver*. While some equate *driver* to *trend*, others make the difference between *trends* and *uncertainties*, both being drivers. The latter view is adopted in this work.

21 Ozcan Saritas and Jack E. Smith. "The Big Picture: Trends, Drivers, Wild Cards, Discontinuities and Weak Signals," *Futures* 43, no. 3 (2011): 292-312. https://doi.org/10.1016/j.futures.2010.11.007

22 Ministry of Defence, *Global Strategic Trends - The Future Starts Today,* London, Ministry of Defence UK, 2018, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1075981/GST_the_future_starts_today.pdf

23 *Ibid*.

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Drivers identification is arguably the most important part of the foresight process, so a thorough analysis of the present is strongly recommended. For global issues, drivers can be drawn from featured work, such as the Allied Command Transformation's Strategic Foresight Analysis (2023) or the UK MoD's Global Strategic Trends (Sixth Edition, 2018).

For more specific, tailored issues, practitioners are encouraged to utilize some of the tools and techniques listed in Annex I.[24] In particular, Horizon Scanning is a proper tool to start the foresight process. Horizon Scanning is the simplest level of foresight activity; any related endeavour should include it from the beginning. Different models of Horizon Scanning have been developed over the past years. Horizon Scanning is sometimes defined as:

"(…) the systematic outlook to detect early signs of potentially important developments. These can be weak (or early) signals, trends, wild cards or other developments, persistent problems, risks and threats, including matters at the margins of current thinking that challenge past assumptions. Horizon Scanning can be completely explorative and open or be a limited search for information in a specific field based on the objectives of the respective projects or tasks. It seeks to determine what is constant, what may change, and what is constantly changing in the time horizon under analysis. A set of criteria is used in the searching and/ or filtering process. The time horizon can be short-, medium- or long-term."[25]

In case time or resources are not available, an improvised discussion about drivers can be easily set up by running a simple brainstorming in a suitable framework, such as PMESII-PT or other.[26] The acronym stands for "political, military, economic, social, information, infrastructure, physical environment, and time" areas. Note that those areas are purely indicative and should be chosen according to the features of the problem identified. In the example of driver identification included this chapter, for instance, the military area has been replaced by an "organizational" one. A possible sequence could be:

1. Select participants and set up the working session, e.g. one small group for two or three of the PMESII-PT areas.
2. By applying the brainstorming rules, ask groups to identify factors in their respective area that could impact the problem identified. There is no need to differentiate between trends and uncertainties at this stage, but special attention should be paid to gaps in areas to be covered.
3. Ask participants in each group to vote on the factors that could play a major role for the problem identified, in a given time horizon (e.g. 10 years).
4. Collect the outcome of all groups and make a list of drivers. The more independent they are from each other, the better.

Example of driver identification:

As a result of a brainstorming session covering political, economic, information and organizational areas, the following drivers have been identified:

- D1 (Pol). Level of ambition: In a world where military and non-military means and ways are used in an integrated way, Etheriland MoD's political dimension will likely grow in the coming years, in comparison with the pure military one, to enable Etheriland to deal with the full spectrum of threats and challenges to their security.
- D2 (Eco). Resources: In a more uncertain security environment, more resources will be allocated to Etheriland MoD.
- D3 (Pol/Info). Decision-making process: Etheriland MoD's senior leadership will continue requiring an independent team, outside the classic staff directorates, exclusively dedicated to the policy planning function.
- D4 (Info). Nature of work (I): As a result of the rise of new security dimensions, there will be an increase in demand for policy planning and foresight work on specific, emergent issues within Etheriland MoD at the expense of general, cross-cutting ones.
- D5 (Org). Organizational design (I): The policy planning team will continue to have a limited size due to organizational design constrains.
- D6 (Org). Organizational design (II): Due to its increasing importance, the policy planning function will be conducted by more permanent, experienced staff.
- D7 (Org). Organizational design (III): Policy planning, in a broad sense and at all levels, is conducted by the whole of Etheriland MoD. Therefore, the policy planning team's work could punctually overlap with the MoD directorates, creating duplicities and malfunctions.

24 In this guide, we use the term "tools" for structured processes to achieve specific outcomes, e.g. Scenario Building or Futures Triangle, while we use "techniques" for the ways the tools are applied by, e.g. Brainstorming or Workshop. Finally, we use the term "frameworks" for those sets of dimensions through which the focal issue can be best analysed, e.g. PESTLED or PMESII-PT. According to the above, a foresight process or phase can be conducted under a given framework using specific tools, which will, in turn, be applied by one or more techniques. In some cases, expert's opinion or experienced facilitator's work can substitute tools or techniques.

25 Kerstin Cuhls, Annelieke Giessen, and Hannes Toivanen, *Models of Horizon Scanning - How to Integrate Horizon Scanning into European Research and Innovation Policies*, European Commission, 2015, https://www.isi.fraunhofer.de/content/dam/isi/dokumente/ccv/2015/Models-of-Horizon-Scanning.pdf

26 Annex I includes a depiction of some commonly used frameworks.

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- D8 (Org). Nature of work (II): Developments in major initiatives, e.g., the recently issued Etheriliand National Security Strategy, will increase the gap between policy conceptualization and actual implementation, potentially causing a lack of experience-based feedback on policy development. (Note that, while the policy planning function deals with conceptualizing and developing new policies, it is rarely engaged in operationalizing or implementing them.)

Key drivers ranking

A subsequent step consists of ranking the selected drivers according to given criteria. Suppose the aim of the analysis is building future scenarios. In that case, it is quite usual to use two criteria: the impact on the problem previously identified and the degree of *uncertainty* of each driver.[27] Uncertainty should not be confused with unlikelihood. An uncertain driver means that its likelihood of occurrence cannot be estimated, but not necessarily that it is unlikely. The aim at this stage is to identify a few drivers, the most important ones ("high impact trends") and the most uncertain ones ("key uncertainties"). Note that a big number of drivers and their combinations will yield a high number of detailed scenarios, so the process could become unmanageable.

A practical suggestion to carry out this ranking step is to use an impact/ uncertainty diagram with an intuitive scoring system.[28]

1. Ask each group to allocate the collected drivers on the diagram (see the example below) according to their impact on the problem and uncertainty. Ask them to choose the drivers on the top left and right areas.
2. In a plenary session, review the different outcomes of the groups and select the most agreed drivers.

Example of drivers ranking:

High impact trends:

- DT2 (Eco). Resources: In a more uncertain security environment, more resources will be allocated to Etheriliand MoD.
- DT6 (Org). Organizational design (II): Due to its increasing importance, the policy planning function will be conducted by more permanent, experienced staff.
- DT8 (Org). Nature of work (II): Developments in major initiatives, e.g., the recently issued Etheriliand National Security Strategy, will increase the gap between policy conceptualization and actual implementation, potentially causing a lack of experience-based feedback on policy development.

Key uncertainties:

- DU3 (Pol/Info). Decision-making process: Etheriliand MoD's senior leadership will continue requiring an independent team, outside the classic staff directorates, exclusively dedicated to the policy planning function.
- DU4 (Info). Nature of work (I): As a result of the rise of new security dimensions, there will be an increase in demand for policy planning and foresight work on specific, emergent issues within Etheriliand MoD at the expense of general, cross-cutting ones.

27 A detailed explanation can be found at European Foresight Platform, *Scenario Method,* http://foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/scenario/ (accessed 01 03, 2024).

28 For a more accurate approach, see the section "Structural Analysis" at Annex I. This tool helps identify the key variables in a system by analysing their interrelationships. When applied to foresight work, Structural Analysis allows practitioners to explore the relationships between drivers, identifying which ones are dependent/independent and, therefore, to have less/more direct influence on the focal issue.

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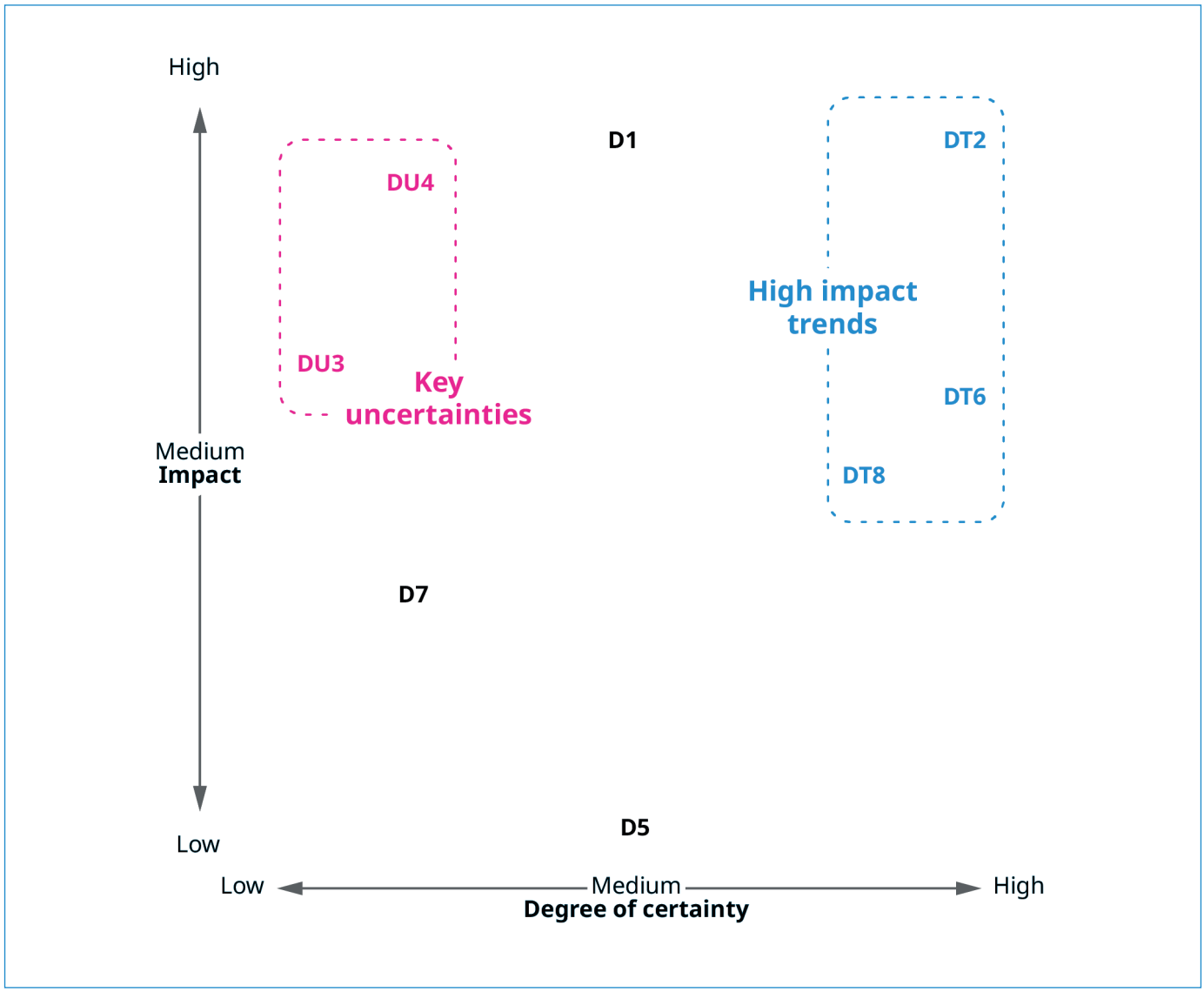

Key takeaways

All foresight work begins with a strategic analysis of the current situation. The analysis should include problem definition, and key drivers identification and ranking.

The problem should be defined broadly enough to inspire alternative courses of action but sufficiently concise to avoid generalizations about the future. Defining the purpose of exploring a given future will prevent deviations from the original goal.

Drivers are the key forces and factors that can affect the problem identified. When identifying key drivers factoring in the focal issue, there is no need to differentiate between trends and uncertainties. However, special attention should be paid to gaps in areas to be covered.

After identifying the drivers, ranking them by the impact on the problem identified and their degree of uncertainty will result in high impact trends and key uncertainties.

High impact trends and key uncertainties are the main deliverables at this stage.

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Exploring the future

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3

Exploring the future

As stated in previous chapters, when we think about a range of futures, we can organize them into four categories.[29]

Possible futures: What *may* occur, i.e. the broadest range of possibilities considering all variables involved and their combinations, no matter whether or not they seem realistic scenarios.

Plausible futures: What *could* occur among all possibilities, i.e. feasible, realistic possibilities involving the variables and parameters we know at present.

Probable futures: What *will* likely occur inside the limits of plausibility, i.e. scenarios that, according to the information available at present, will likely happen in the future.

Preferred future: What we *want* to occur, i.e. the future we would like to happen, no matter how unlikely it may be. Sometimes, the preferred future is referred to as *vision* or *desired end state*.

Possible futures

Scenario Building is a method widely utilized for exploring the future.[30] In principle, possible futures can result from all combinations of drivers identified in previous steps. However, we should focus on the stable trends and key uncertainties selected above to narrow the scope to a manageable extent. This way, a range of possible futures will result from combining extreme values of key uncertainties to which we add all the stable trends to any of the resulting combinations.[31]

Example of possible futures:

In our case, we have 2x2 possible futures derived from 2 key uncertainties. Statements a) and b) reflect the extreme positions of each uncertainty:

DU3 (Pol/Info). Decision-making process:

a. The Etheriland MoD senior leadership will continue requiring an independent team, out of the classic staff directorates, exclusively dedicated to the policy planning function.
b. The policy planning function will be compartmentalized and allocated to each of the staff directorates under Etheriland MoD senior leadership coordination.

DU4 (Info). Nature of work (I):

a. Despite the rise of new security dimensions, policy planning and foresight work on general, cross-cutting issues will continue to be the rule within Etheriland MoD.
b. As a result of the rise of new security dimensions, there will be an increase in demand for policy planning and foresight work on specific, emergent issues within Etheriland MoD at the expense of general, cross-cutting ones.

To each of these 2x2 combinations, we add the stable trends identified above, which affect all futures.

29 Adapted from Trevor Hancock and Clement Bezold "Possible futures, preferable futures." *The Healthcare Forum Journal* 37, no. 2 (1994): 23-9.
30 Scenario Building is illustrated in Annex I
31 More elaborated scenarios can be obtained by combining intermediate values of the uncertainties and/or different weights of the drivers.

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DT2 (Eco): In a more uncertain security environment, more resources will be allocated to Etheriland MoD.

DT6 (Org): Organizational design (II): Due to its increasing importance, the policy planning function will be conducted by more permanent, experienced staff.

DT8 (Org): Nature of work (II): Developments in major initiatives, e.g., the recently issued Etheriland National Security Strategy will increase the gap between policy conceptualization and actual implementation, potentially causing a lack of experience-based feedback on policy development.

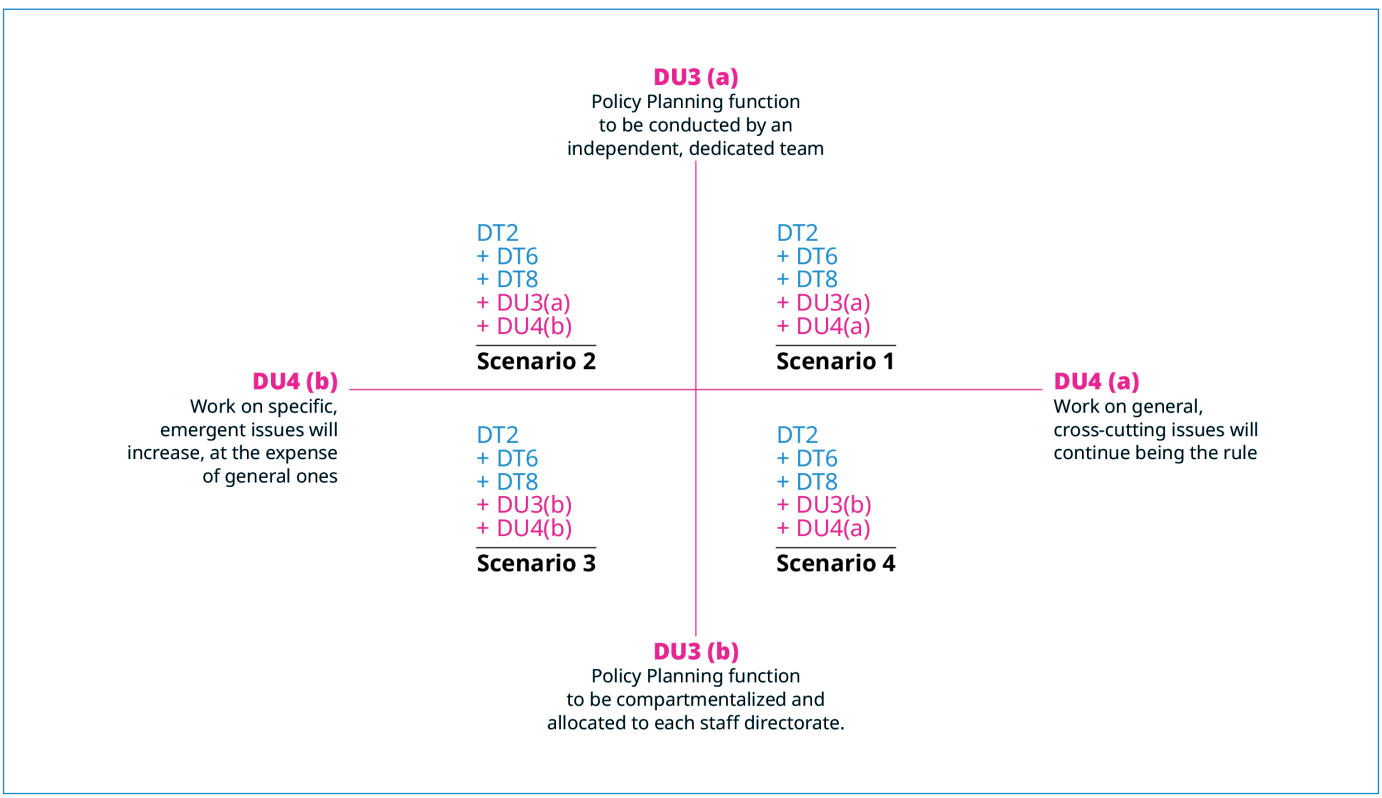
As a result of the above, we have four possible future scenarios.

Example of plausible futures:

Although scenarios 1 to 4 are possible scenarios, note that DT8 would make 3 and 4 inconsistent and, therefore, not plausible ones. The reason is that, by allocating policy conceptualization to the staff directorate that is implementing that policy, the gap will not increase but reduce and even disappear.

In order to solve this issue, we can consider two options:

a. Reject scenarios 3 and 4 and maintain 1 and 2 as the only plausible ones.
b. Closely review DT8 in search of underlying assumptions.



Plausible futures

Possible futures and scenarios are not always internally consistent or externally feasible. An analysis of the trends and uncertainties included in any of them will reveal which ones are really plausible. In principle, implausible scenarios should be rejected for further work. However, the appearance of that circumstance provides opportunities to reflect on our assumptions and consider alternative options.

In this case, a close review of DT8 shows that the trend is not independent but derived from the assumption that the policy planning team will continue being an independent unit out of the classic staff directorates. In other words, DT8 is a consequence of DU3 and, therefore, a non-independent driver.

As a result of the above, it is recommended to discard DT8 and maintain all scenarios 1 to 4 as plausible.

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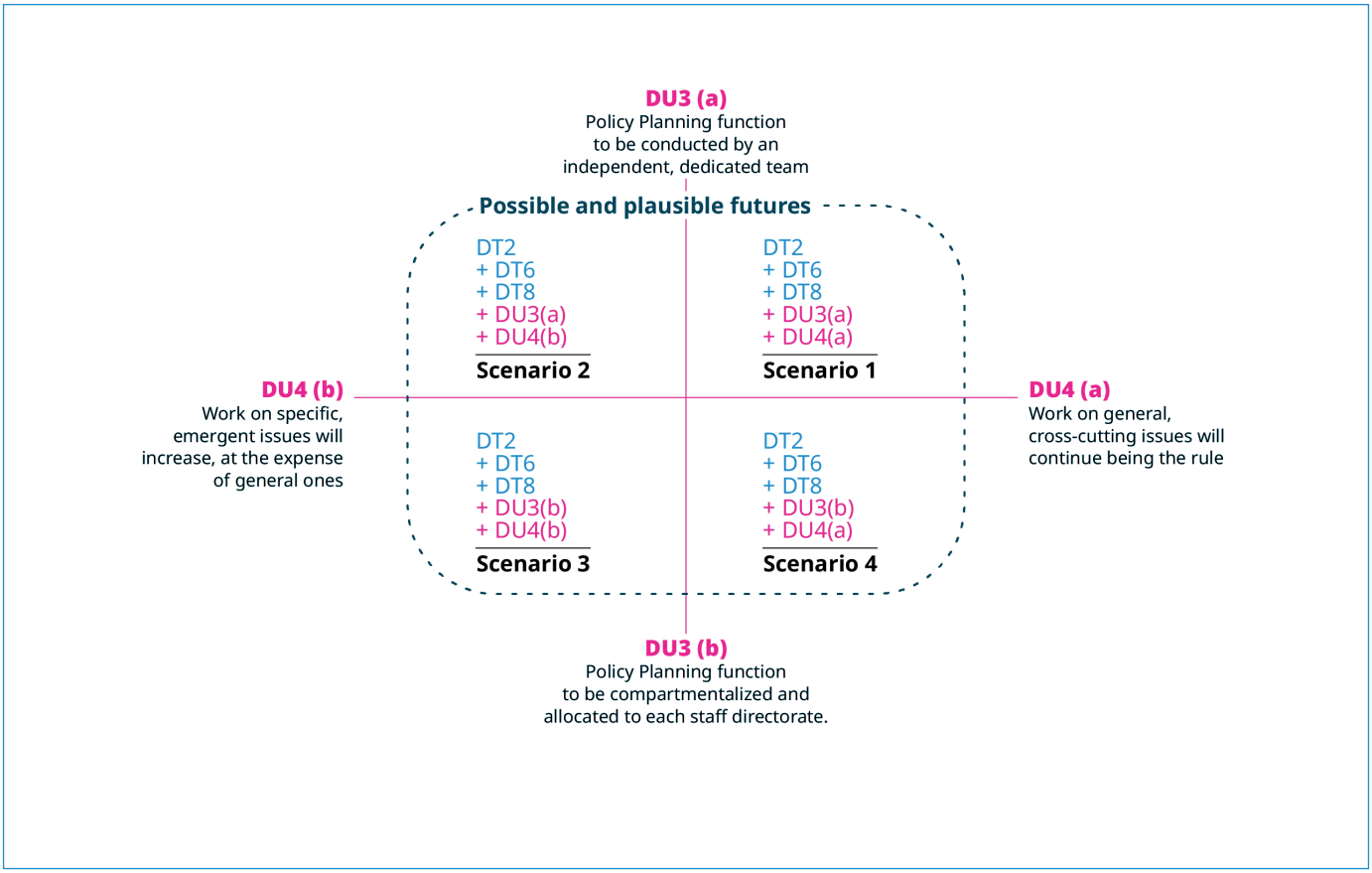
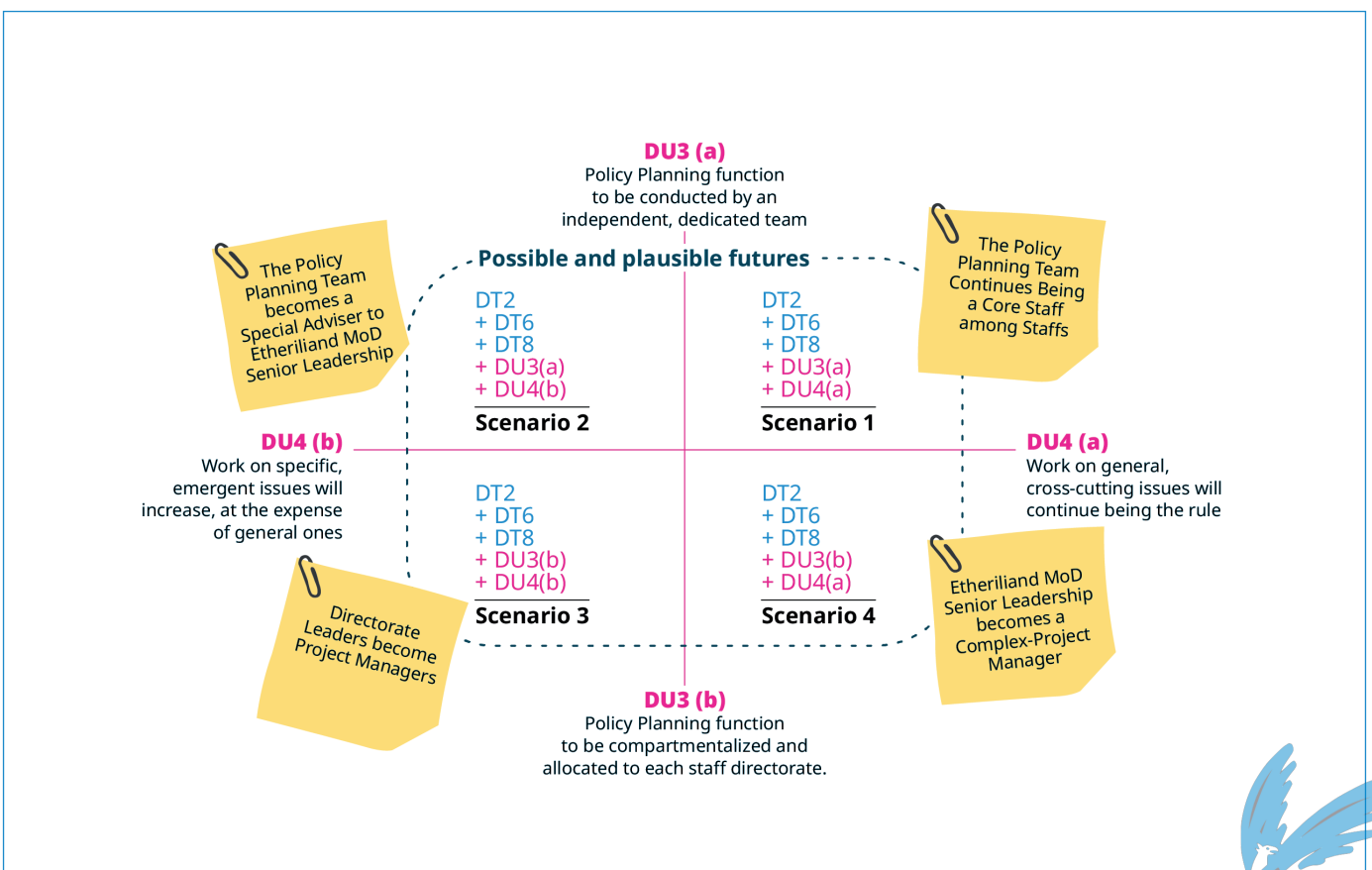


Now, we can use our imagination to depict, or at least assign, a headline to each scenario.



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Probable futures

Probable futures result from comparing scenarios we have identified against the current situation and then applying our judgment. As stated before, extrapolating the present according to current drivers is usually a good estimation of the probable future.

Example of probable future:

In our case, there is no indication that DT2 and DT6 may change the current situation dramatically. Therefore, a fair estimation of the future in this aspect is that the policy planning function will be well resourced and conducted by more permanent, experienced staff. However, uncertainties remain about whether the function will continue being conducted by an independent, dedicated team (DU3) and working on general, cross-cutting issues (DU4). Moreover, during the structured discussion set up at the beginning of the process to identify the driving forces, there was no indication that these uncertainties leaned to one extreme or the other. As a result, it is likely that some work on specific, emergent issues will be demanded at the expense of general ones, and part of the policy planning function will be allocated to the staff directorates.

As a result of the above, we suggest situating the probable future as it is in the figure below.

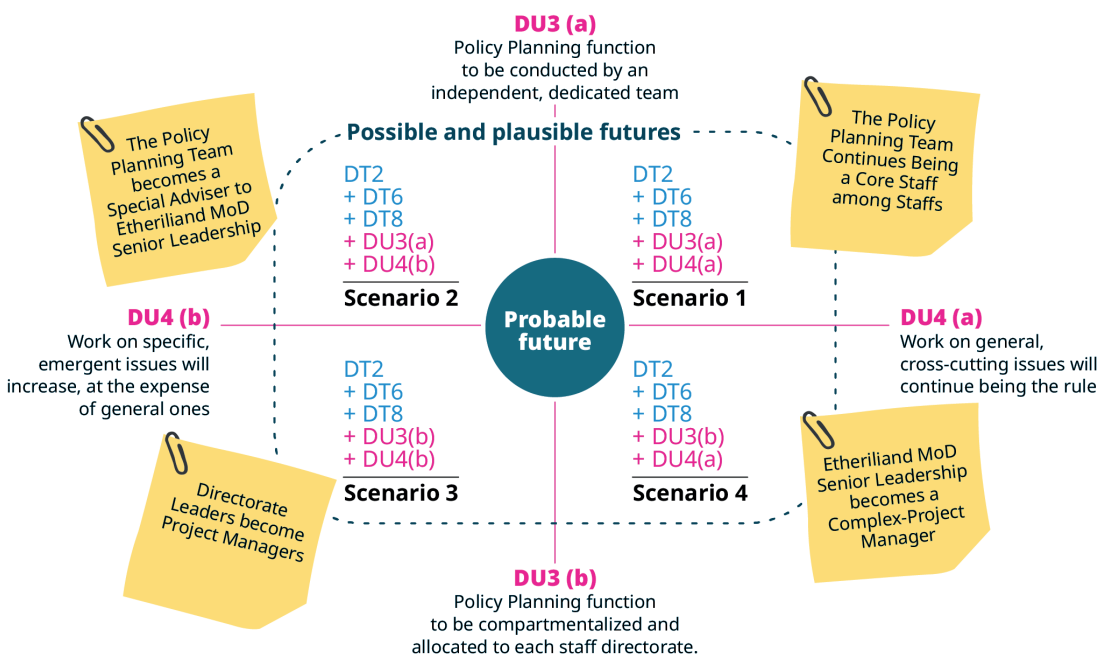
Preferred futures

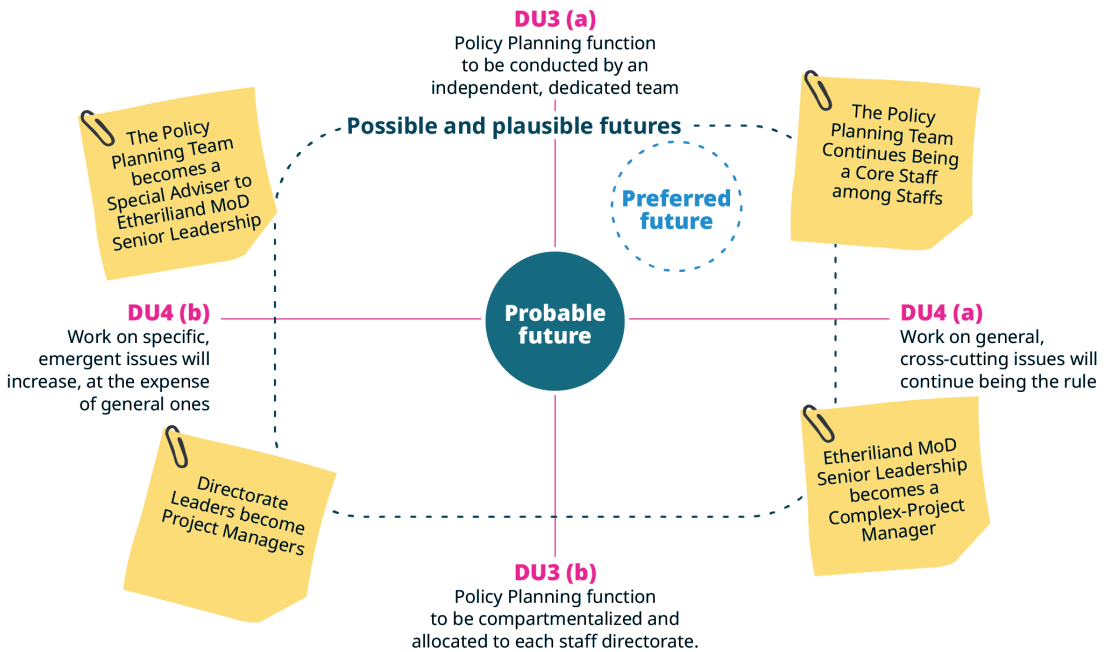
The preferred future can be identified in the range of plausible futures, but it does not necessarily have to coincide with the probable future. Achieving a preferred future – sometimes referred to as the *desired end state* – even if it coincides with the probable one, always requires a plan or strategy. The more the preferred future differs from the probable future, the more demanding the strategy to achieve the former will be (see the following chapter, "Setting the Policy").

Example of preferred future:

As stated above, it is likely that, in the future, some policy planning work on specific, emergent issues will be demanded at the expense of general ones, and part of the policy planning function will be allocated to the staff divisions.

While this circumstance is a logical consequence of a changing security environment, Etheriland MoD senior staff fear that working on these kinds of specific, emergent issues becomes the rule for the policy planning team, and its ability to cope with general ones to be diluted. They would prefer to maintain the team as it is at present, i.e. an independent, dedicated unit able to provide strategic, cross-divisional policy advice on Etheriland MoD's present and future challenges, even if the team will be requested occasionally to deliver advice





and develop policy concepts on a wide array of specific, emergent issues. They envision a preferable future as it is in the figure below:

Key takeaways

- A range of possible futures (scenarios) will result from combining extreme values of key uncertainties to which we may add all the stable trends.
- Probable futures will result from comparing the scenarios we have identified against the current situation and then applying our judgment.
- The preferred future – or *desired end state* – can be identified in the range of plausible futures, but it does not necessarily have to coincide with the probable future. However, the more the preferred future differs from the probable future, the more demanding the strategy to achieve the former will be.
- Scenarios, and probable and preferable futures, are the main deliverables at this stage.

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Setting the policy

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4

Setting the policy

Strictly speaking, setting policies is not a part of the foresight process. Nevertheless, this guide includes a short, dedicated section because foresight is a powerful tool to support decision-making and help us prepare better policies, strategies, and plans. Developing strategies and plans can be enhanced and supported by considering multiple alternative futures and their implications. Strategic foresight (i.e. the result to embed foresight into the policy/strategy-making process) also aims to pose key questions that might have gone unasked in developing a strategy, and to reveal and challenge potentially fatal assumptions and expectations built into current policies and plans.

Backcasting is a method of both strategic foresight and strategic planning in which the future desired (or undesired) conditions are envisioned. Steps are then defined to attain (or avoid) those conditions rather than to take actions that are merely a continuum of present methods extrapolated into the future. More specifically, backcasting consists of envisioning a final desired situation (aim), defining the objectives leading to that situation, and listing the actions necessary to achieve those objectives.

Example of using backcasting to set up a plan:

As stated above, Etheriland MoD senior staff envision the policy planning function primarily conducted by an independent, dedicated unit that provides strategic, cross-divisional policy advice on Etheriland MoD's present and future challenges. At the same time, they are fully aware that the policy planning team should also be able to occasionally deliver advice and develop policy concepts on a wide array of specific, emergent issues.

The point is how to empower the unit with some capacity to deal with specific issues without altering its generalist nature. When facing that situation, Etheriland MoD senior leadership could consider some options that are not mutually exclusive:

a. Hire a few experts as a part of the team instead of generalist personnel.
b. Reach out to external expertise when necessary and pay them with the unit's budget.
c. Assign temporary staff from the staff directorates to the policy planning team at the expense of the directorates' workforce.

A preliminary analysis of the options shows that option a) is difficult to implement successfully given the wide range of different expertises that may be required. Option b) is a feasible one, given that the unit's budget will be increased in the coming years due to DT2. Option c) is also feasible, but it should be restricted to preserve staff directorates' means and capacity to deal with their regular duties.

Etheriland MoD senior leadership made their decision, which entailed three objectives. First, as a rule, continue resourcing the policy planning team with generalist personnel. Second, empower the unit with the capacity to deal with specific issues, normally by reaching out to external experts. Third, make the unit capable of integrating temporary staff from the staff directorates when needed.

In order to achieve those objectives, the following actions might be needed:

- Update and issue the corresponding recruitment regulations.
- Identify the areas of expertise that would likely be needed in the coming years.
- Reach out to external experts who may be able to provide advice on the respective areas.
- Dedicate a part of the unit's budget to commission research and recommendations on specific issues.
- Approach the staff directorates and identify the subject matter experts that might temporarily be assigned to the policy planning team.
- (Others)

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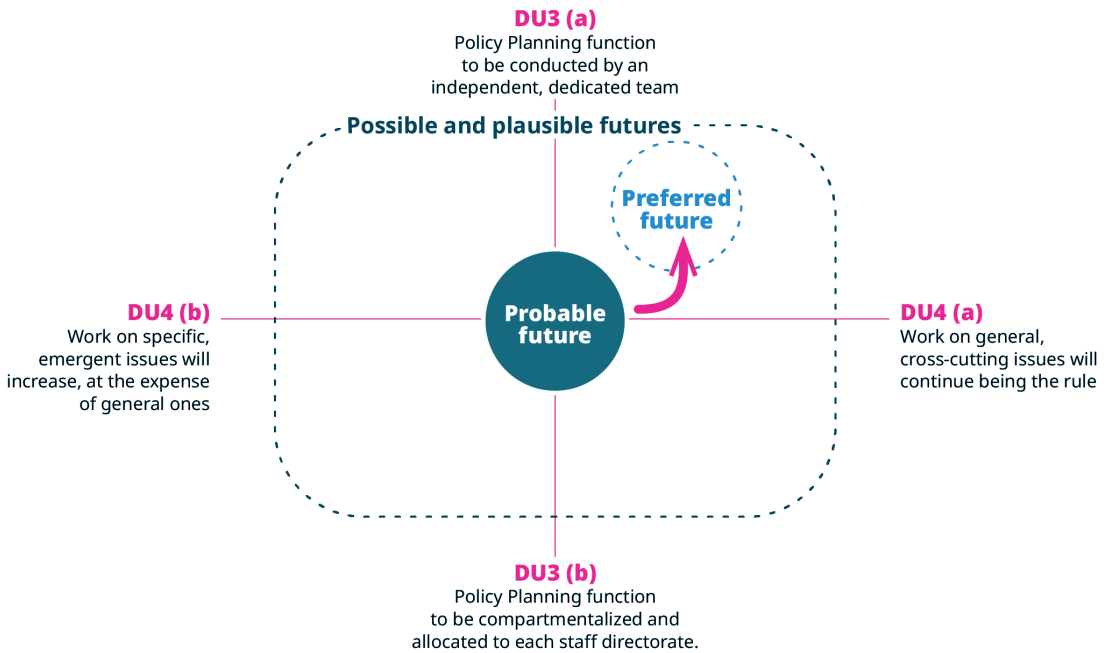

Key takeaways

- Foresight could become a useful tool to support the decision-making process and to help us prepare sound policies.
- Backcasting consists of envisioning a final desired situation, defining the objectives leading to that situation, and listing the actions necessary to achieve those objectives.
- The main deliverable at this stage is a specific policy or strategy aiming to achieve the preferable future.

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Keeping vigilant

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5

Keeping vigilant

Strategic foresight is a cyclical process that requires continuous feedback. At this point of the process, practitioners should be aware that foresight is made of experiences, perceptions, opinions and assumptions. Drivers are concepts inferred from reality that ultimately depend on people's perceptions. Scenarios are built on drivers, and only a few combinations of those drivers are chosen for further elaboration. Finally, strategies and policies are strongly dependent on assumptions about how the future will most probably be.

This slippery terrain, even being the best basis we can use to make our plans, requires close attention and flexibility enough to adapt and reorient them according to new circumstances. As stated in Chapter 1, discovering early signs of potential change, i.e. discontinuities, emerging issues, and other signals of change, is vital when implementing our policies, strategies and plans. Any event or potential event that affects or might affect our assumptions has to be appropriately included in the process. Policies, strategies and plans are not definitive decisions, and organizations should be able to re-evaluate assumptions, spot trends before they consolidate and identify key action points to reorient their strategies or define new desirable futures proactively.

However, there is more. According to experts, feedback and learning loops provide opportunities to achieve common ground on specific topics and ensure that an inclusive vision of the future is developed and consolidated during the process.[32] This aspect is closely related to building a foresight culture in organizations. In Chapter 1, we discussed the obstacles to strategic foresight adoption and use in large organizations. Establishing mechanisms to provide feedback to the process is a good approach to creating a foresight culture in organizations. Otherwise, the results achieved after the hard work with the "core" foresight process will vanish over time.

Horizon Scanning is a foresight tool that plays an important role in all range of forward-looking activities. Apart from being widely used at the beginning of the foresight process, as stated in Chapter 2, Horizon Scanning is useful to detect signs of potential change in previously identified drivers, provide initial feedback, and, in a few words, conduct the review process that will end up with adapting policies and strategies.

Key takeaways

- Strategic foresight is a cyclical process that requires continuous feedback. Organizations should be able to detect early signs of change and reorient their strategies accordingly.
- Establishing mechanisms to provide feedback to the process is also a good approach to creating a foresight culture in organizations.
- Horizon Scanning is a proper technique to detect signs of potential change in previously identified drivers.

32 "Supporting Decision Making with Strategic Foresight: An Emerging Framework for Proactive and Prospective Governments," 33.

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Annexes

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Annex I

Frameworks, tools and techniques

Introduction

This guide uses the term "tools" for structured processes to achieve specific outcomes, e.g., Scenario Building or Futures Triangle. In contrast, it uses the term "techniques" for the processes by which the tools are applied, e.g., brainstorming or workshops. While most of the tools in this guide have been designed explicitly for foresight work or related disciplines, techniques are used in a wide range of disciplines other than foresight. Finally, we use the term "framework" to refer to the set of factors through which the focal issue can be best analysed, e.g. the PEST framework, which covers the political, economic, social, and technological factors.

According to the above, a foresight process or phase can be conducted under a given framework using specific tools, which will, in turn, be applied by one or more techniques. We call this the FxTxT approach. Sometimes, expert opinions or experienced facilitators' work can substitute tools or techniques. For instance, Annex II includes a foresight exercise encompassing *driver identification* and *future exploration* phases. Under a PMESEI framework, the driver identification phase is based on expert opinions (no specific tool was used) and is conducted using a set of online surveys that includes feedback regarding the group results, i.e. a Delphi-inspired technique. During the future exploration phase, a scenario-building tool combining two key uncertainties is utilised. No specific technique is used to apply this tool apart from facilitator work, although the conclusions are agreed upon in a plenary workshop session.

The tables below show some of the most known frameworks, tools and techniques used in foresight work. These are explained in upcoming sections.

FACTORS	FEATURED FRAMEWORKS					
	PEST	STEEP	STEER	PESTLE	PESTLED	PMESII-PT
Political	X	X		X	X	X
Regulatory			X			
Economic	X	X	X	X	X	X
Social	X	X	X	X	X	X
Technological	X	X	X	X	X	
Environmental		X	X			
Legal & Ethics				X	X	
Demographics					X	
Military						X

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Information						X
Infrastructure						X
Physical Env.						X
Time						X

TOOL	UTILITY
Horizon Scanning	At the beginning of the foresight process, while identifying the drivers, Horizon Scanning is a structured way to discover early indicators of potentially significant developments. After the foresight process, Horizon Scanning continues to be a valuable tool to detect signs of potential change in previously identified drivers.
Structural Analysis	After the initial identification of the drivers, Structural Analysis allows practitioners to analyse the relationships between those drivers and helps identify which are the key ones.
Futures Triangle	While exploring the future, the Futures Triangle is a simple tool to identify plausible ones by considering the pull of the future, the push of the present and the weight of the past
Futures Wheel	While exploring the future, the Futures Wheel is a simple tool to identify primary, secondary, and tertiary consequences of trends, events and emerging issues.
Scenario Building	While exploring the future, Scenario Building facilitates the visualisation of plausible futures by combining different values of the previously identified drivers.
Backcasting	While setting plans and strategies, Backcasting is a logical way to identify the steps leading to a preferred future from the present.

TECHNIQUE	UTILITY
Brainstorming	Brainstorming is a widely used technique to draw new, fresh ideas without previous elaboration.
Syndicate work	Syndicate work is a helpful technique to conduct large workshops, gain a comprehensive understanding, and produce a variety of perspectives of a complex issue.
Surveys & Delphi method	Surveys and the Delphi method are techniques alternative to brainstorming and workshops. Specifically, the Delphi methodology facilitates participants to release their input anonymously under the controlled influence (feedback) of the rest of the group.

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Horizon scanning

Horizon scanning is a systematic approach to discovering early indicators of potentially significant developments.[33] These, among others, are:

- *New drivers of change*: New factors –e.g. forces, events, opinions and paradigms- that can impact the problem identified, either in the present or future. As new factors, they may include a significant component of *uncertainty* but can also become solid *trends* over time.
- *Discontinuities*: Sudden changes in existing drivers, either trends or uncertainties, that can potentially impact the problem identified. Discontinuities should not be confused with the so-called *wild cards*, usually related to unexpected, abrupt events.
- *Weak signals*: Incipient indications that can anticipate the appearance of a new driver of change or a discontinuity, either by themselves or in combination with others.
- Horizon Scanning is an appropriate tool to start the foresight process. In addition, Horizon Scanning it is also widely used to review the process by detecting signs of potential change in previously identified drivers that have been used to create policies or strategies.

Setting

Depending on the objectives, Horizon Scanning can range from a focused search for information in a specific field to an open, exploratory endeavour. In terms of participants and frequency, Horizon Scanning can involve a considerable number of people for short periods (e.g. for the initial stages of a foresight activity) or a dedicated small team in the organisation (e.g. to track previously identified drivers).

A Horizon Scanning workshop can be easily set up by bringing together people with a range of backgrounds and expertise under the guidance of a facilitator. No previous experience is required. For materials, the usual whiteboard and sticky notes are enough.[34]

Outline

There is no single, widely recognised method to perform Horizon Scanning.[35] A logical, practical sequence to proceed may be:

1. *Define the problem*: Horizon Scanning may be performed by focusing on a particular issue or a broader one. In any case, the focal issue should be clearly and unequivocally identified. The more comprehensive the issue, the more general its definition should be. However, this generality should never be confused with a lack of definition.
2. *Search for information*: Information related to the focal issue can be found in and collected from various sources. One can use traditional methods, e.g. desk research or workshop discussion, resort to automated searches, or some combination. At this point, biases should be avoided. For example, one should avoid seeking only information consistent with the lead opinion, stop searching for a cause before sufficient information is collected, and others.[36] Searching for information takes time but can be done before conducting the main event.
3. *Produce an extensive list of related topics*: Based on the previous search, this step consists of producing a list of relevant topics and information concerning the focal issue. A headline or short paragraph for every piece of key information should be sufficient. This step also takes time and, like the previous one, can be done before conducting the main event.
4. *Seek concept links among the topics*: Group the topics and label the groups according to the conceptual relationship they reflect. Note that the same topic can be included in more than one group. This step can be done during the main event.

33 See, for instance, Cuhls et al. "Models of Horizon Scanning - How to integrate Horizon Scanning into European Research and Innovation Policies."
34 For a practical setting see, e.g. "Preparing for a Horizon scan workshop," European Commission, accessed December 3, 2023 https://knowledge4policy.ec.europa.eu/foresight/topic/horizon-scanning_en
35 For a detailed process see, e.g., T. Schindler, G. Guadarrama Baena (lead authors), *Horizon Scanning -Tips And Tricks A Practical Guide*, European Environment Agency (2023), accessed January 1, 2024, https://www.eea.europa.eu/publications/horizon-scanning-tips/download
36 See Chapter 1, "The obstacles" section.

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5. *Come up with hypotheses, refine and rank them:* In light of the information processed to date, participants should be able to come up with insights and rough hypotheses about drivers of change, discontinuities and other phenomena. After this, they should discuss the hypothesis, eliminate redundancies, and categorise them, e.g., on a two-dimensional intuitive diagram impact/uncertainty.
6. *Test the hypothesis*: This part may require more expertise than the previous steps and should be conducted after the main event. There is no single rule on how to conduct this step. Experimental approaches are not possible with hypotheses about the future, so testing these should be performed, for example, by using signals that do not align with the supposed new trend or discontinuities.

Strengths and limitations

Horizon Scanning is basically a structured way to look at the future, so the advantage of this tool lies in the fact that it is better to have it –either permanently in use or ready to be used- than to improvise a starting point for the foresight work. Irrespective of the specific method through which horizon scanning is applied, it works best with dedicated, experienced people.

Structural analysis

Structural Analysis is a tool widely used in foresight and other disciplines. In a few words, the tool helps identify the key variables in a system by analysing their interrelationships. When applied to foresight work, Structural Analysis allows practitioners to explore the relationships between drivers, identifying which ones are dependent/independent and, therefore, to have less/more direct influence on the focal issue. The outcome is a set of key drivers, both trends and uncertainties, that will be used for further foresight work, e.g. scenario-building.[37]

Setting

An easy way to perform a Structural Analysis consists of taking the set of identified variables –drivers in this case– and determining the influence of each of them on the rest. The process can be performed using workshops or survey techniques in real or virtual contexts. Specific software for Structural Analysis, available on the cloud, may be helpful for any setting that might be performed.[38]

Outline

After identifying the set of drivers under a given framework, the first step is preparing a 2x2 matrix with all the drivers.

Using the drivers identified in the exercise of Annex II as an example, participants should estimate the influence of each variable (left column) on the rest of the variables in the first row: No influence (0), weak (1), average (2), strong (3). For instance, the situation in Southoria (driver 4) strongly influences the chains of supply (3). Note that the influence of one driver on itself is always zero.

37 See, for instance: M. Godet, "Identifying the key variables: structural analysis," in *From Anticipation to Action* (UNESCO Publishing, 1994), 83-101 and J. Nazarko *et al*. "Structural Analysis as an Instrument for Identification of Critical Drivers of Technology Development," *Procedia Engineering* 182 (2017) 474 – 481, accessed January 1, 2024 https://doi.org/10.1016/j.proeng.2017.03.137

38 See, for instance, "Methods of prospective- Micmac," La prospective, accessed December 30, 2023, http://en.laprospective.fr/methods-of-prospective/softwares---cloud-version/4-micmac.html

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Drivers		Tamoria	Misinf.	Supplies	Southoria	(...)	Easthoria	TOTAL
1	Tamoria	0	1	2	2	(...)	2	**7**
2	Misinf.	1	0	0	1	(...)	2	**4**
3	Supplies	0	0	0	1	(...)	1	**2**
4	Southoria	1	0	3	0	(...)	0	**4**
	(...)	(...)	(...)	(...)	(...)	0	(...)	**(...)**
13	Easthoria	1	3	3	1	(...)	0	**8**
TOTAL		**3**	**4**	**8**	**5**	**(...)**	**5**	N/A

The totals in the bottom row illustrate how much each variable has been influenced by the other variables. The totals in the right column illustrate how influential each variable has been. In the example above (note that not all variables involved in Annex II have been included), if Easthoria would orchestrate a military alliance, it would significantly impact the regional situation, at least in comparison with other variables. On the contrary, the chains of supply in the region are very vulnerable to how the rest of the variables will evolve. Using specific software will allow more details about the relationship among variables.

Identifying how influential the variables are can be very useful for further work. For instance, establishing measures to control influential variables will be more efficient when setting up strategies and plans than doing the same with "uncontrollable" ones. Also, when building scenarios by combining uncertainties, it is recommended to use variables that are independent of each other. Finally, a very influential variable that is, in turn, significantly influenced by the rest reveals feedback loops in the system whose manipulation may have uncertain consequences.

Strengths and limitations

Structural Analysis is a valuable tool for simplifying systems into their fundamental components. The more we can identify the independent variables, the more we will be able to manipulate them, control the system, or foresee its changes. Translating the above into foresight terms, the more we can identify the key drivers, i.e. the forces that are going to influence the future, the more we will be able to visualise plausible futures, foresee how they are most likely going to evolve, and take efficient measures to shape them, to some extent.

The way we propose to perform Structural Analysis is a simple process that can be easily conducted by non-expert (in systems) people. The software referenced above is also easy to access and use, and facilitators can learn its most essential features by themselves. An additional advantage of this tool is that it stimulates participants to look at the future holistically, countering linear thinking and discovering possibilities that otherwise would be counter-intuitive. As for limitations, estimating the influence of each variable on the rest takes time, and the technicalities of the process, in general, can look unusual for some participants.

Futures triangle

The Futures Triangle was initially developed as part of a more comprehensive theory of future thinking.[39] The tool aims to shape our vision of the future through three forces. The first one is the attraction of the future, which is the pull that makes us move forward. The second one is the momentum of the present, which is the quantitative drivers and trends that may change the future. Thirdly is the weight of the past, which is the barrier to change we can identify in the present. In this way, the Futures Triangle helps us develop a plausible future by analyzing the interaction between these three forces.

39 Sohail Inayatullah, "Six pillars: futures thinking for transforming," *Foresight*, Vol. 10 No. 1 (2008) 4-21, accessed on December 02, 2023, https://doi.org/10.1108/14636680810855991

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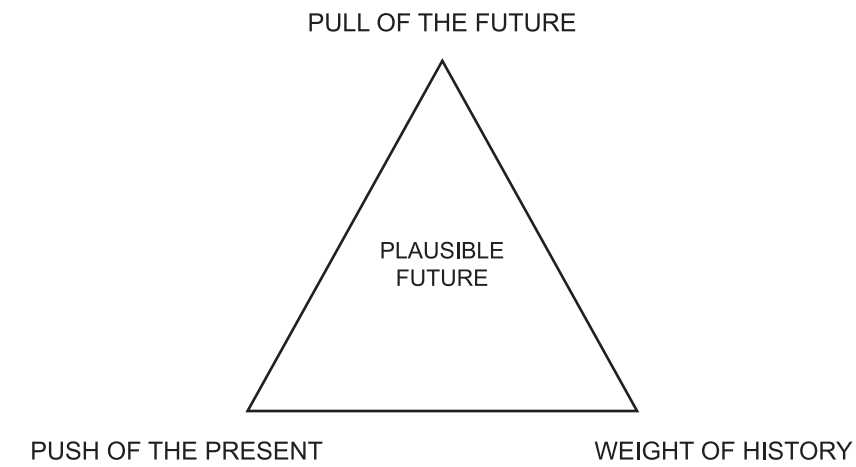
Setting

A Futures Triangle session may be successfully conducted on a brainstorming basis by a proficient facilitator. Large groups should be divided into small ones, which will work simultaneously. The issue to explore and the aim of the session will determine the selection of the participants. As usual, it is important to include people with a wide range of cultural and ethnic backgrounds, experiences, genders, and ages. They do not need to have experience in the Futures Triangle. For supplies, all one needs is the usual whiteboard and notes to stick on the corners of the triangle.



The Futures Triangle. Source: Inayatullah, "Six pillars: futures thinking for transforming"

Outline

A Futures Triangle session may encompass the following steps:

1. Select the focal issue and share it with the participants in advance.
2. In a plenary session, explain the theory subjacent to the Futures Triangle and then split the participants into smaller groups, if necessary. A sequence of work may be:

   a. Identify the *Pull of the Future*. Useful questions in this phase may be:

   - What is the most likely future for our focal issue, provided no action is taken?
   - What other possible futures are envisioned? Are they internally consistent? Which ones are feasible?
   - How our preferred future would be? Is it in the range of feasible ones? How distant is it from the most likely one?

   b. Identify the *Push of the Present*. Useful questions in this phase may be:

   - What is our motivation to achieve such a preferred future?
   - What are the present forces that are leading us to the most likely future?
   - What can we do, within our means and capabilities, to turn those forces towards our preferred future? What are our constraints/restraints?

   c. Identify the *Weight of History*. Useful questions in this phase may be:

   - What are the forces/structures that would oppose that move?
   - What are our assumptions? Are they well-funded?
   - How have similar situations been sorted out in the past?

   d. Get back to step a.

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- Is the preferred future actually achievable?
- If not, what else do we need, e.g., assets or conditions? Shall we move to a more realistic goal?

3. Present and discuss in plenary the outcomes of the groups and draw conclusions.

Strengths and limitations

The Futures Triangle is a simple tool that can be used anywhere and only requires basic resources. It is also an appropriate framework to attract people who are reluctant to participate in more complex foresight exercises. Even non-trained participants can easily determine drivers and interactions leading to feasible futures.

As for limitations, the outcomes of a Futures Triangle session should always be treated as initial ideas subject to further refinement or integration in more complex foresight work. As usual, the tool's effectiveness strongly depends on a good definition of the focal issue.

Futures wheel

The Futures Wheel is a tool to help identify primary, secondary, and tertiary consequences of trends, events, and emerging issues in a structured manner. Generally speaking, the tool is an easy way to organize and question ideas about the future.[40] The Futures Wheel has a wide range of applications, the most evident being helping planners and decision-makers identify, analyze and anticipate the consequences of said decisions.

Setting

A Futures Wheel session may be successfully conducted on a brainstorming basis by a proficient facilitator. Large groups should be divided into small ones, which will work simultaneously. The issue to explore and the aim of the session will determine the selection of the participants. As usual, it is important to include people with a wide range of cultural and ethnic backgrounds, experiences, genders, and ages. They do not need to have experience in the Futures Wheel. For supplies, all one needs is the usual whiteboard and sticky notes. A mind map –manual or running on a computer- will be helpful to connect and visualize concepts.

Outline

Basic rules for brainstorming also apply to the Futures Wheel, e.g., participants should be encouraged to release ideas without inhibitions, these should be compiled and recorded, and no comments nor feedback should be initially provided.

The issue to explore is written in the centre of an oval, and the facilitator asks the group for immediate consequences based on logic criteria (e.g., what might occur next if this happens?). Establishing a time horizon could be useful. Then, the facilitator writes these impacts in respective ovals around the former and connects them with a ring. Next, the facilitator again asks the group about the consequences of each of the 1st tier consequences, without considering the subject in the centre of the wheel. They write the secondary consequences and draw ovals around them. A third reiteration should be enough. Note that far from linear chains of consequences, the Futures Wheel completes the successive tiers in concentric circles.[41]

If required, consequences are scored by impact, likelihood, or a mix of both. The outcome should yield clues about the unexpected effects of potential decisions, realistic and unrealistic goals to achieve, and risks to prevent or assume.

40 The first version of the Futures Wheel was published at J.C. Glenn, "Futurizing Teaching vs Futures Course," *Social Science Record*, Syracuse University, Volume IX, No. 3 (Spring 1972).
41 Jerome C. Glenn, *Futures Research Methodology – V3*, The Millennium Project, April 30, 2009.

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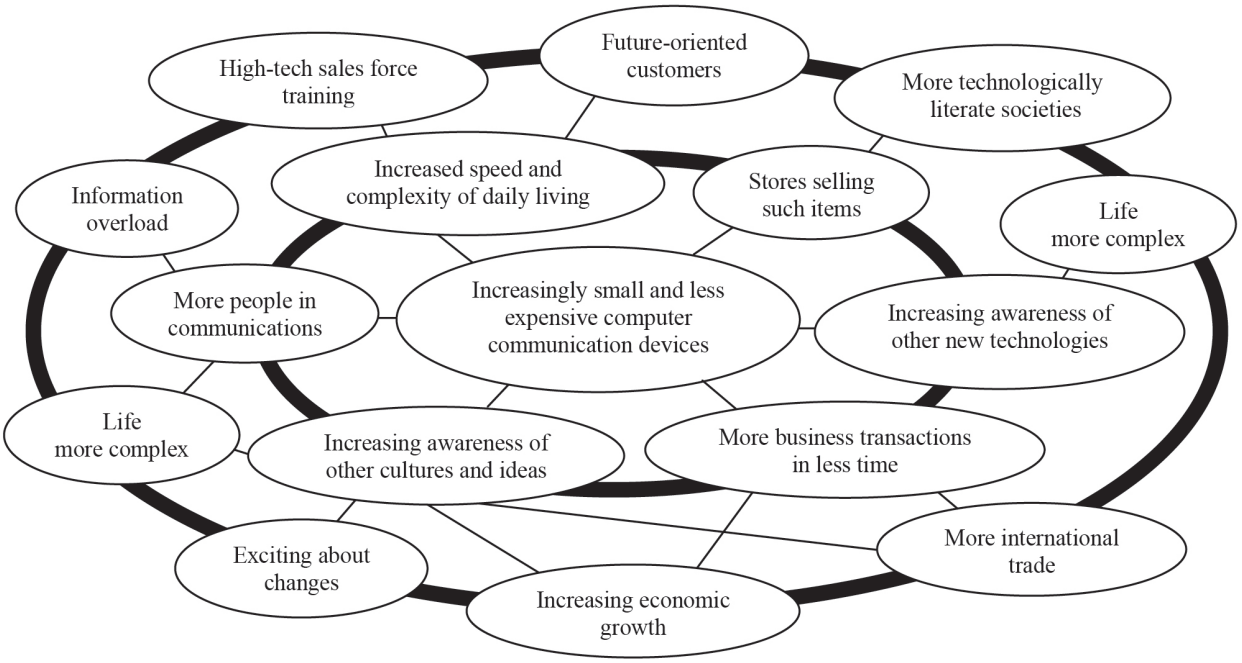

Futures Wheel. Example of primary and secondary impacts of a trend. Source: J. Glenn, The futures wheel, Futures Research Methodology, V3.

Strengths and limitations

The Futures Wheel is a simple tool that can be used anywhere and only requires basic resources. It is also an appropriate framework to attract people who are reluctant to participate in more complex foresight exercises. Even non-trained participants can easily obtain valuable results after working through successive levels of consequences.

As for limitations, the outcomes of a Futures Wheel session should always be treated as initial ideas subject to further refinement or integration in more complex foresight work. As usual, the tool's effectiveness strongly depends on a good definition of the focal issue.

Scenario building

Scenario Building facilitates the visualisation of *plausible futures* by combining different values of the previously identified key *drivers*, encompassing both trends and uncertainties.[42]

Scenario Building is one of the most illustrative tools in foresight work.[43] After performing a Scenario Building process and gaining awareness of the range of plausible futures, practitioners can figure out the most *probable* one. Subsequently, they can quickly visualise the *preferred* one, and discuss the steps that are required to achieve it.[44]

42 For categories of futures, see Chapter 3 "Exploring the Future." For drivers, see Chapter 2 "Understanding the Present."
43 For an overview of history and different approaches to Scenario Building see, e.g., Neumann, Iver B. & Erik F. Overland, "International Relations and Policy Planning: The Method of Perspectivist Scenario Building," *International Studies Perspectives*, No 5, pp. 258-277 (2004), Accessed 16 December 2023 https://doi.org/10.1111/j.1528-3577.2004.00173.x
44 Scenario Building is the tool that has been chosen used in the examples illustrating Chapters 2 and 3, as well as the foresight exercise in Annex II.

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Setting

Scenario Building is a long process that involves several phases. This complexity, along with the necessity for participants to stay engaged throughout the process, considerably impacts the structure and techniques used in the successive sessions.

The relevant factors of the focal issue will define the framework of analysis: PEST, PMESII-PT, or others. Then, workshop techniques can consistenly serve as a viable solution. However, these are time–consuming practices and need relatively long sessions, which is a significant problem for most organisations. Using surveys may be an alternative approach, provided there are experienced, committed facilitators at hand.[45] As an additional advantage, surveys allow the involvement of many participants throughout the process, and efficiently collect and ellaborate their inputs.[46] The downside of surveys is that they impose a considerable amount of workload on facilitators, and occasionally, participants might miss the inspiring time they share together.

Outline

A Scenario Building process may be developed in different ways. Despite this diversity, it is quite common to include the phases of problem definition, drivers identification and ranking, as well as scenario definition and discussion in all of them. Differences among the ways of proceeding usually lie in how drivers are ranked, and scenarios are defined.[47]

1. *Problem definition:* The problem should be defined broadly enough to inspire alternative courses of action yet it needs to be but sufficiently precise to avoid generalisations. Defining the purpose of exploring a future will prevent deviations from the original goal.
2. *Drivers identification:* Practitioners can use the abovementioned techniques to identify the drivers factoring in the focal issue. However, a thorough analysis of the current situation, e.g. a Structural Analysis, is always advisable.[48] At this stage, there is no need to differentiate between trends and uncertainties. Particular attention should be directed to prevent gaps in the factors to cover, e.g. PMESII-PT.
3. *Drivers ranking:* After identifying the drivers, ranking them by the impact on the problem identified and their degree of uncertainty will result in high-impact trends and key uncertainties.
4. *Scenario definition:* An easy way to obtain a set of 2x2 scenarios consists of combining extreme values of two key uncertainties and adding all the high-impact trends to each combination (see examples in the main body and Annex II). More elaborated scenarios can be obtained by combining intermediate values of the uncertainties and varying degrees of the drivers.
5. *Discussion:* Analyzing the trends and uncertainties included in any of the chosen scenarios will reveal which ones are externally plausible and internally consistent. Probable futures will result from comparing the identified scenarios against the current situation and then applying our judgment. After that, the preferred future can be identified from the range of plausible futures, but it does not necessarily have to coincide with the probable one.

Strengths and limitations

A complete Scenario Building process conducted by appropriate facilitators and participants is a handy tool when it comes to gaining shared awareness and achieving consensus on plausible, probable and preferred futures. This is a preliminary stage before devising strategies and plans.

As for limitations, Scenario Building is sometimes overestimated. For instance, practitioners tend to exaggerate the importance of scenarios to the detriment of the drivers. The scenarios recreated at the end of the process are only a tiny part of what could occur in the future. The significant outcome of the process is the set of key drivers, while the primary worth the scenarios consists of illustrating them. Another limitation is the complexity of the tool itself. Other straightforward tools that do not require much resources and expertise, e.g. a Futures Wheel or a Futures Triangle, may be applied for specific needs in many situations.

45 See upcoming "Surveys and Delphi method" section in this Annex.
46 Annex II provides an example of scenario building conducted under a survey format.
47 See, for instance: "Scenario Method," European Foresight Platform, accessed December 16, 2023 http://foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/scenario/ and "La Técnica de Construcción y Análisis de Escenarios en Los Estudios de Seguridad y Defensa," Global Strategy, accessed December 16, 2023 https://global-strategy.org/construccion-escenarios/
48 See previous "Structural Analysis" section in this Annex.

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Backcasting

Backcasting is a tool to connect the present to a preferred future by determining the practical steps leading to it. Once a vision, desired end state, or preferred future has been outlined, the participants undertake a reverse process to identify the actions required to achieve that future.[49] Backcasting is a valuable tool to set up complex plans and strategies.

Setting

For example, a backcasting session may be carried out through a workshop discussion with an experienced facilitator. Large groups should be divided into smaller ones (5 to 10 participants) to avoid lengthy debates. After that, the results of the different groups are shared and discussed in a plenary session. Participants are expected to possess prior knowledge in strategy formulation and the relevant subject matter.

The preferred future may be part of the session or defined beforehand, during a Scenario Building practice for example. There is no need to involve the same people in both processes.

Outline

Backcasting suits the strategy-making framework of "ends, ways and means" well.[50] Once the session has been arranged, and assuming the preferred future has already been defined, a possible sequence of events may be as follows:[51]

1. Identify the ways by which the preferred future can be achieved. This is the most difficult part of the process and is subject to recurrent mistakes. For instance, non-experienced participants tend to skip the quest for alternative ways and go directly to define the actions needed to achieve the preferred future. This results in a loss of options. Another common mistake is to come up with ways to achieve the preferred future outside the entitlement of the decision-making authority. It should be clear that the outcome of this phase is a range of plausible options by which the decision-making authority itself can achieve the preferred future.
2. Choose an option, i.e. decide the way or ways of action that are going to be followed to achieve the preferred future. As previously mentioned, choices that fall outside the entitlement of the decision-making authority should not be directly considered. However, they might be subject to influence.
3. Define the tangible objectives needed to materialize the way or ways of action. Note that a specific objective may support several ways of action. Note also that a set of objectives may create synergies leading to desirable or undesirable outcomes.
4. Define the means under the control of the decision-making authority necessary to fulfil the objectives.
5. Considering all the above, establish a timeline from the present to the preferred future.
6. Ensure you maintain focus on the probable future; it will act as the resistant factor against alterations throughout the plan's implementation phase.

Strengths and Limitations

A backcasting session is a valuable way to achieve consensus on what strategy to follow in order to achieve a preferred future. As for limitations, backcasting requires more expertise –both in participants and facilitators- than other tools.

49 John Robinson, "Energy Backcasting: A Proposed Method of Policy Analysis," *Energy Policy* 10, (1982) 337-344, accessed December 14, 2023, https://doi.org/10.1016/0301-4215(82)90048-9

50 Arthur F. Lykke, "Defining Military Strategy," *Military Review,* 69, No. 5 (May 1989), 2-8, accessed December 14, 2023 https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/75th-Anniversary/75th-PDF/75th-Lykke.pdf

51 For other ways to perform a backcasting session, see, e.g.: - "Backcasting," European Foresight Platform, accessed December 14, 2023 http://foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/roadmap/backcasting/ and UK Government, Office for Science, *The Futures Toolkit.* (2017), accessed January, 2 2024 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf

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Brainstorming

Brainstorming is a very popular tool. It is widely used before planning or foresight work to facilitate drawing new, fresh ideas. Also, brainstorming is a valuable ice-breaking that facilitates the transition of individuals into a working group.[52]

Setting

Brainstorming requires no more than a proficient facilitator and some means of documenting and presenting thoughts and facts, e.g. flip charts or whiteboards. Participants do not need prior experience in this technique. Small brainstorming sessions of around ten people are more effective than large groups, which should be split into smaller ones.

Outline

After introducing the topic and the aim of the session, the facilitator starts the conversation by posing open-ended questions. An effective facilitator should be able to inspire participants to freely express innovative and unconventional ideas without any reservations. Answers and reactions should be compiled and recorded; no comments or feedback should be provided initially. In a subsequent stage, after a sufficient number of ideas have been collected, the facilitator reviews, categorizes, and ranks them, encouraging participants to reflect on the results. The final product will serve as background material for further planning or foresight discussions.

Strengths and limitations

The main merit of brainstorming lies in cultivating a limitless, liberating atmosphere that fosters creativity among participants, sparking innovative concepts that might otherwise remain concealed. Note that all participants in a brainstorming session have equal status and opportunities to give their opinions.

As for limitations, brainstorming depends strongly on the facilitator and their ability to adhere to basic rules and keep the conversation going smoothly. The outcomes of a brainstorming session should always be treated as initial ideas subject to further refinement or integration in a more complex foresight work.

Syndicate method

The Syndicate method is used to conduct large workshops efficiently. Participants are divided into smaller groups, and their outcomes are discussed in a plenary session. Working in syndicates on a common issue enables participants to thoroughly dissect the focal issue, gain a comprehensive understanding of it, and generate a variety of potential solutions or perspectives that might have otherwise been overlooked.

Setting

Working in syndicates requires a proficient facilitator and rooms or separate spaces for each group. These should have means of documenting and presenting thoughts and facts, e.g. flip charts or whiteboards. Participants do not require prior experience, although the leaders of the respective syndicates should have some training in managing groups. Syndicates around 5-10 people are more effective than larger groups.

52 For brainstorming practices applied to foresight work, see, e.g., "Brainstorming," European Foresight Platform, accessed November 28, 2023, http://foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/creative-methods/brainstorming/ and UK Government, Office for Science, "Driver Mapping," in *The Futures Toolkit* (2017), accessed January 2, 2024 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf

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Outline

After introducing the topic and the aim of the session, the facilitator defines the groups, assigns the topics to be discussed, and specifies their working location and other directions as required. The facilitator may either appoint the group leaders or leave them to do so. Directions should include the time to which all groups should be back to the plenary session and, if necessary, specific instructions on conducting the discussion.

The format of the syndicates may range from formal to unstructured, depending on circumstances. Each syndicate should appoint participants to play the roles of president, secretary and spokesperson, although one single person can do them all.

In a further plenary phase, the respective spokespersons brief participants about the conclusions of each group. After that, the facilitator draws conclusions and, if necessary, opens another round of comments.

Strengths and limitations

Apart from allowing the management of large groups, working in syndicates stimulates the individual's participation and prevents, to some extent, dominant voices from taking over discussions. Views diverging from conventional thought can be more readily expressed and disseminated among the group, offering the organization a chance to devise unique solutions or explore differing perspectives on the same matter.

As for limitations, syndicate work requires detailed planning on addressing the focal issue, especially when it comes to complex ones, as well as anticipating the outcomes of the conversations. Also, syndicate work requires an expert facilitator to provide directions and control the discussions of the different groups, preventing deviations from the initial outline and drawing and delivering preliminary conclusions to the plenary quickly.

Surveys and Delphi method

Surveys performed under structured questionnaires is a technique alternative to conventional brainstorming sessions and workshops. These are time–demanding practices that need relatively long sessions and require all participants to be available simultaneously, which is a severe problem for most organisations. Provided the availability of experienced, dedicated facilitators, resorting to surveys is a valuable option to proceed with foresight work.

A particular way to conduct surveys is the Delphi method. This was initially developed to gain consensus among experts by subjecting them individually to a series of questionnaires combined with intermediate feedback from the group.[53] The Delphi methodology has been applied to different disciplines and in many ways since it was developed in the 1950s. In any case, its distinctive feature is the possibility for participants to release their input anonymously under the controlled influence (feedback) of the rest of the group.[54] The foresight exercise in Annex II of this guide uses the Delphi-inspired methodology.

Setting

A Delphi exercise may be easily conducted via email using simple computer systems and a real or virtual location for plenary sessions. Participants –as many as the event organisation allows- must be experts in the field. An excessive number of participants will result in an excessive workload for the facilitator. Nevertheless, this circumstance could be alleviated by using specific Delphi software.

A Delphi exercise needs exhaustive planning work. The plan should include at least:

- A clear statement of the foresight question and the aim of the exercise.
- Thorough and accurate directions on how the exercise will be carried out and how those directions will be transmitted to participants. This aspect is essential in case no initial plenary session is programmed.

53 Norman Dalkey, Olaf Helmer, "An Experimental Application of the DELPHI Method to the Use of Experts ," *Management Science* 9, 3 (1963) 458-467. The original research memorandum can be retrieved at https://www.rand.org/content/dam/rand/pubs/research_memoranda/2009/RM727.1.pdf

54 See, for instance, "Delphi Study," European Foresight Platform, accessed December 30, 2023 http://foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/classical-delphi/

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- A detailed schedule of the surveys, including launching and submission times, and of plenary sessions. In addition to the estimated time the participants will need to complete each survey, facilitators should consider the time they will require to process the data between successive surveys.
- The specific format of the surveys and their respective directions.
- How data is going to be processed, and
- The exact moment or moments to introduce the feedback.

Outline

An initial plenary session is useful to explain the aim of the exercise, clearly define the foresight question, and provide the participants with the rest of the information they need to carry out the successive surveys. Should that session not be possible, detailed written information should be sent to participants, including the way to ask for clarifications.

Successive rounds of surveys should be launched and submitted according to the planned schedule. The responsibilities of a facilitator encompass gathering contributions from participants during the intervals of surveys, analyzing these inputs, and accurately preparing and presenting the feedback at the predetermined time. An experienced facilitator should be able to identify the circumstances in which a participant's input has to be rejected, e.g. because of a late reply or individual circumstances that could distort group results.

A final plenary session is helpful for participants and facilitators to discuss the process's outcome, the incidents, and whether or not the exercise has achieved the planned goals. Considering that the Delphi method usually applies to one of the phases of a complete foresight process, e.g., driver identification, the final plenary session may also be used to start a new phase.

Strengths and Limitations

Surveys generally avoid the problems created by other time-demanding techniques that also require the presence of a large number of experts simultaneously. By using surveys, organisations can involve many experts throughout the process in a way compatible with their daily commitments. Also, participants have more time to gather information and reflect on their ideas before providing their respective input. On the other hand, facilitators can carefully collect and process individuals' input, which differs from the time-pressing circumstances of live sessions.

From a psychological point of view, an individual, anonymous environment can effectively curb, to some extent, the biases commonly encountered in team collaborations, e.g. groupthink. By using surveys, diverging thinking is not corrected by the group. Participants are not exposed to the group's dominant voices and are less influenced by mainstream opinions. Therefore, they can express their own thoughts freely, and fresh ideas and proposals appear more easily than in other circumstances.

As for limitations, participants in an anonymous survey exercise might miss the inspiring time they share together and the general tone of the discussion. Also, the mainstream opinion of the group is sometimes beneficial. It can play a valuable role in initial orientation, reducing disagreements and achieving consensus. Here lies the utility of the Delphi method, which introduces controlled group feedback at a planned moment. Some argue that this feedback is a source of biases, like the groupthink mentioned above. However, the fact is that such feedback is common, impersonal feedback, not the one originated by the more influential members, for instance. Therefore, the groupthink effect is limited. As for disadvantages, the Delphi method is complex and requires thorough planning and execution.

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Annex II

Foresight exercise: Etheriland's neighbourhoods over the next ten years[55]

Background

Etheriland is a medium, non-aligned power whose security environment is evolving rapidly and uncertainly. At the global level, security dimensions are trespassing the classic defence and military domains and incorporating more and more aspects related to resilience, climate change, and critical technologies, among others. Over the past years, temperatures and extreme weather events in the region have increased, causing occasional droughts and food scarcity.

At the regional level, old rivalries and endemic instability favour the emergence of crisis and armed conflicts. Northoria –a very influential country in the region because of its thriving economy and cultural heritage- recently invaded part of the ethnically diverse Easthoria, alleging historical territorial claims. Northoria is supported by Wildoria –a global, autocratic power with an aggressive foreign policy. In contrast, Easthoria is supported by Tamoria, a global, democratic (soft) power. In Transitland, a neighbouring state, the Northorian ethnic minority is taking sides with Northoria and posing serious challenges to the central government.

All countries across the region firmly condemn Northoria's *fait accompli* policy. Apart from being a direct, unjustified attack against Easthoria's sovereignty and international law, the entire region is suffering the consequences of the war in the form of trade restrictions, refugee flows, and other effects. Also, misinformation campaigns undertaken by Northoria, which are supported and intensified by Wildoria, are causing social polarization and citizen protests. Based on shared security concerns about Northoria, Easthoria is prompting the establishment of a military alliance in the region. This initiative is gaining more and more support among neighbouring countries.

Across the region, Southoria faces a military rebellion supported by Wildoria. However, the government still maintains full control of the territory and receives widespread international support thanks to its alliance with Tamoria. Etheriland depends considerably on neighbouring countries, especially Southoria, regarding raw materials and other essential supplies. Any disturbing event affecting Etheriland's southern neighbourhood significantly impacts the country.

Nevertheless, the above situation is not irreversible, and Etheriland's neighbourhoods could become more secure in the future. For instance, the outcome of Northoria's war against Easthoria will largely define the broader security environment for years to come. Power ambitions could change into regional cooperation under certain circumstances, resulting in new valuable initiatives addressing current problems, e.g. climate change. Growing access to information, ideas and exchanges across the region are generating new opportunities for global convergence and action, reducing the effects of misinformation. Above all, a regional military alliance that would deter hostile powers from expanding territorial, ethnic and ideological wishes would be a definitive achievement worth working on.

55 This is an example of foresight exercise, conducted over a fictitious scenario, that illustrates some of the process, tools and techniques previously explained.

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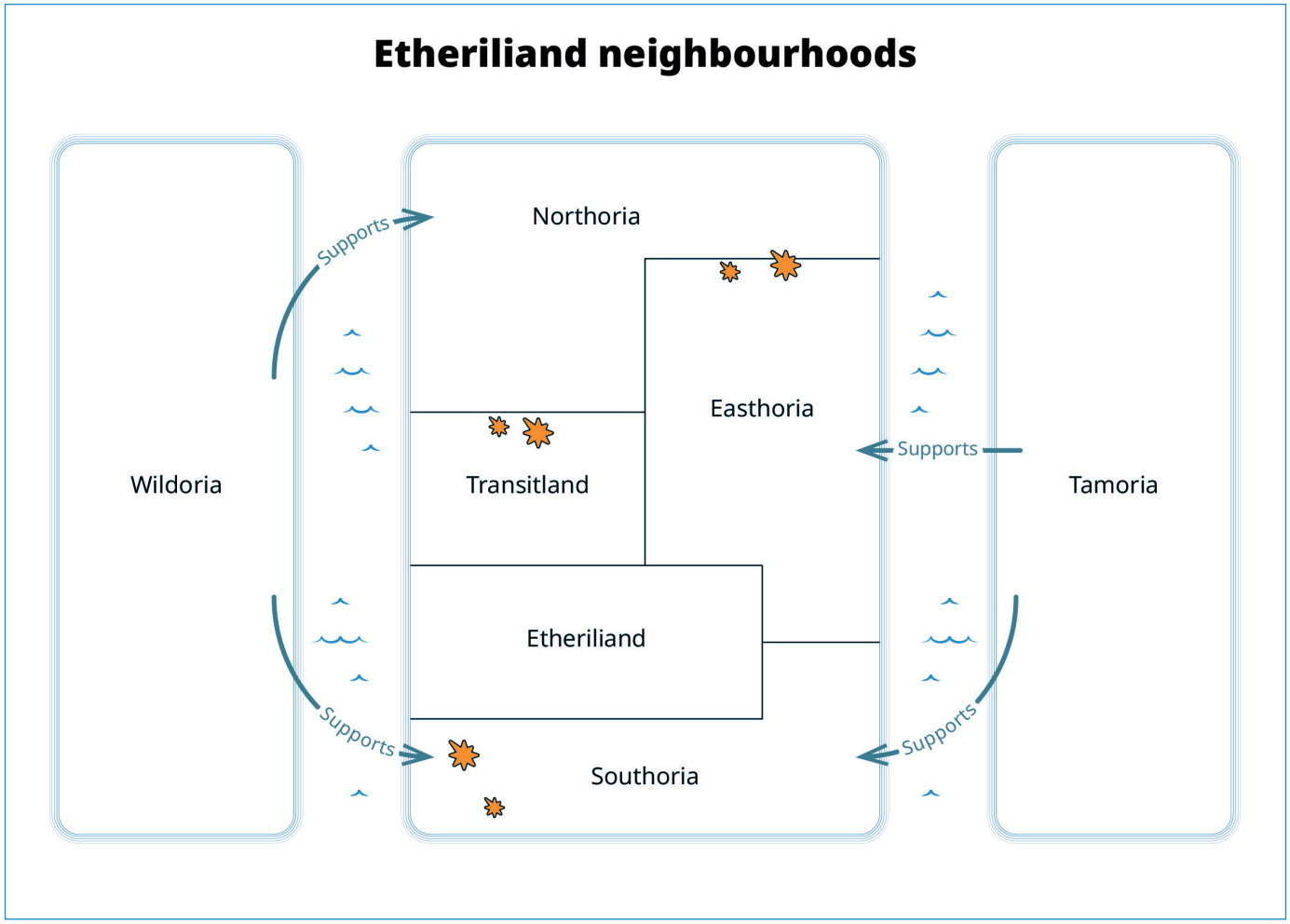

Etheriland's foresight exercise plan

In light of the uncertain strategic situation, the Department of National Security (DoNS) of Etheriland is increasing its efforts to contribute to regional peace and stability and prevent crises and conflicts that can directly or indirectly impact the country. As part of the effort, the DoNS is engaging other government departments and recently conducted a foresight exercise aimed at exploring the following question:

> **"What circumstances and variables could theoretically influence to the greatest degree (i.e. exacerbate, improve or both, depending on developments or change) the security environment in Etheriland's neighbourhood over the next ten years?"**

The exercise was carried out from D-1 to D+15 and was participated in by experts from political, military, economic, social, information, and other areas.

Under a PMESEI framework, the exercise included driver identification and future exploration phases. The first one was based on expert opinions (no specific tool was used) and was conducted using a set of surveys with feedback from the group to the individuals, i.e. a Delphi-inspired methodology. The *driver identification* phase was run entirely online. For the *future exploration* phase, a scenario-building tool was used based on combining uncertainties. No specific technique apart from facilitator work was applied to run this tool, although the conclusions were agreed upon in a plenary workshop session.

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The detailed sequence was as follows:

PHASE	DAY	ACTION	
Preparat.	D-1	1st Survey launched by CoB[56]	Facilitator work
Driver Identific. (Online)	D		Individual work
	D+1	1st Survey submitted by CoB	Individual work
	D+2		Facilitator work
	D+3	2nd Survey launched by CoB	Facilitator work
	D+4	2nd Survey submitted by CoB	Individual work
	D+5		
	D+6		
	D+7	3rd Survey launched by CoB	Facilitator work
	D+8	3rd Survey submitted by CoB	Individual work
	D+9	4th Survey (**feedback**) launched by CoB	Facilitator work
	D+10	4th Survey submitted by CoB	Individual work
	D+11		Facilitator work
Scenario Building	D+12		
	D+13		
	D+14		Facilitator work
	D+15	Plenary	Group work

Driver identification phase

D-1 CoB. 1st Survey launched

E-mail:

Dear expert,

Welcome to DoNS' foresight exercise. The DRIVER IDENTIFICATION phase will take place mostly online over the coming days, according to the calendar below *[omitted]*. The plenary session of the SCENARIO BUILDING phase will take place on D+15 at 09:00. I am attaching the exercise plan just for information *[omitted]*. All communications will be self-explanatory.
You are kindly requested to complete a series of surveys over the coming days. Any survey should not take more than half an hour of your time. The first survey –this one- is probably the most demanding one.
Background: *[omitted]*.
Question:

56 By close of business (CoB) time.

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"What circumstances and variables could theoretically influence the most (i.e. exacerbate, improve or both, depending on developments) the security environment in Etheriland's neighbourhood over the next ten years?"
Directions:
You only need to write one or two variables that you consider the most relevant in terms of IMPACT in each field. You can use (or not) the example; it is up to you.

Field	Variables
Political	- E.g. Northoria [continues / stalls] gaining influence over Etheriland neighbouring countries - (...)
Military	- E.g. The result of the military operations in Easthoria is favourable to [Northoria / Easthoria] - (...)
Economical	- E.g. The security situation of sea lines of communications affecting chains of supply is [deteriorated/improved] - (..)
Social	- E.g. Women's access to the labour market is [stalled/improved] - (...)
Environmental	- E.g. Temperatures and extreme weather events [increase / stagnate] globally. - (...)
Information	- E.g. Governments of neighbouring countries tend to [limit/guarantee] free access to information by populations. - (...)

Please submit your table, adequately filled, by replying to this same e-mail no later than D+1 CoB

Kind regards,

D+1 CoB. 1st Survey submitted

D+2 and D+3. Facilitator work

The facilitator's work in this part of the exercise consisted of collecting, operationalising, unifying, de-conflicting and refining the inputs provided by participants. As a result of that work, a total of 59 variables were obtained (see 2nd Survey e-mail)

In doing so, the following observations were noted:

Observation: Participants were asked to provide variables, e.g. "*The security situation of sea lines of communications affecting chains of supply is [deteriorated/improved]*," but some of them provided just incomplete ideas, e.g. "*The security situation of sea lines of communications affecting chains of supply*." Also, a "fading" effect was detected: The first variables were better defined than the last ones.
Explanation/mitigation measures: "Variable" is a technical concept not necessarily familiar to everybody. Although the facilitator can translate ideas into variables, it is hard work, especially when the number of participants is high. If participants are asked for variables, not only ideas, the initial directions must be elaborated carefully.

Observation: Some experts do not agree on how their ideas have been translated into variables.
Explanation/mitigation measures: Operationalising and transforming participants' ideas into variables is a useful step to subsequently identify trends and uncertainties. Time permitting, facilitators should consider sending the list of variables back to participants and seek their agreement.

Observation: Some participants tend to list an excessive number of variables.
Explanation/mitigation measures: The number of variables must be limited; otherwise, it would be unmanageable. The initial directions should clearly state that only the most important variables should be listed.

Observation: Participants tend to emphasize and list more variables related to their expertise/interests than other areas.
Explanation/mitigation measures: Apart from noticing participants in advance about this effect, they should be chosen diversely in a way that covers the full range of required areas.

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D+3 CoB. 3rd Survey launched

E-mail:

Dear expert,

Thank you very much for your input on the previous survey.
You can find below a table with all the variables that participants have identified *[partially omitted]*. They are randomly listed. Over the coming years, each variable can adopt a value between the a) and b) extremes. Please select 10 of them that, in your opinion, could play a major role in future crises in Etheriland's neighbourhood (10-year horizon). You should not rank variables at this stage; identify them by writing an "X" on the column on the right.

Serial	Field	Keywords	Variable	My Chosen Ones (10)
1	POL	Southoria	The Southorian regime a) continues ruling the country under democratic standards b) crumbles to the revolutionary opposition.	
(...)	(...)	(...)	(...)	
59	INF	Mis-information	Misinformation campaigns conducted by Wildoria and Northoria in Etheriland's neighbourhoods a) cause significant destabilising effects. b) do not affect internal politics and societies.	

Please submit your input by replying to this same e-mail no later than D+4 CoB

Kind regards,

D+4 CoB. 2nd Survey submitted

D+7. Facilitator work

The facilitator's work in this part of the exercise consisted of collecting the inputs provided by participants and ranking the most chosen variables. As a result of that work, 13 variables (drivers) were selected and ranked (see table below).

In doing so, the following observations were noted:

Observation: Exceptions apart, non-trained participants tend to choose the top items on the list.
Explanation/mitigation measures: The list should be ranked randomly, and participants should be notified about this point.

Observation: Participants tend to stick to the variables they suggested in the 1st Survey.
Explanation/mitigation measures: It is normal that experts hold their ground on the variables involved and their importance. However, facilitators and organisers should pay attention to personal agendas, group postures, etc. This effect can be partially mitigated by asking to choose more variables than in the 1st Survey. Working with large, balanced groups is always recommendable.

Observation: An unexpected event ("black swan") affecting the region occurred at the end of the individual work. Some participants were still filling out the 2nd Survey.
Explanation/mitigation measures: The answers submitted after the event would be biased with respect to the rest of the group. They were not taken into consideration.

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Serial	Field	Keywords	Variable	Score
50	ENV	Climate changew	Temperatures and extreme weather events in Etheriland's neighbourhoods a) increase, reaching unprecedented levels. b) stagnate, alleviating pressure on resources.	**4**
2	POL	Northoria external	Northoria's capacity for external action and influence a) remains intact and even increases. b) is reduced to some military power.	**3**
3	POL	Foreign powers	Foreign powers a) strengthen control and influence over regional governments. b) decline control and influence over regional governments.	**3**
7	POL	Tamoria	Tamoria's support to Easthoria and Southoria a) becomes more assertive and includes military aid. b) remains based on soft power and even declines.	**3**
13	POL	Northoria's war	Northoria a) is defeated in Easthoria, with a major setback for the current regime and internal nationalism. b) prevails in Easthoria, perpetuating the regime and exacerbating internal nationalism.	**3**
17	MIL	Transitland	The Northorian minority in Transitland a) remains relatively calm. b) take up arms to combat supposed abuses made by Transitlandian authorities.	**3**
18	POL	Easthoria	To counter Northoria in the future, Easthoria a) will be able to orchestrate a military alliance. b) won't be able to orchestrate a military alliance.	**3**
22	MIL	Southoria	Rebel military forces in Southoria a) persist and even increase their revolutionary activity. b) demobilise and join the democratic system.	**3**
29	ECO	Supplies	Global food supply chains a) remain solid and diversified. b) get weak and frequently disrupted, causing severe crises in Etheriland's neighbourhood.	**3**
59	INF	Mis-information	Misinformation campaigns conducted by Wildoria and Northoria in the region a) cause significant destabilising effects. b) do not affect internal politics and societies.	**3**
14	POL	Wildoria	The transition of power in Wildoria a) does not bring significant changes. b) results in a changed foreign agenda, diminishing support to Northoria and increasing cooperative engagements in the region.	**2**
27	POL	Refugees	Refugees flow across Etheriland's neighbourhoods a) increase and become uncontrolled, contributing to political destabilisation. b) are under control and do not lead to political destabilisation in both transit and destination countries.	**2**
49	SOC	Social Polarization	Social Polarization in neighbourhood societies over political/foreign policy practices a) increases. b) decreases.	**2**

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D+7 CoB. 3rd Survey launched

E-mail:

Dear expert,

Thank you very much for your valuable input to the previous surveys.
You can find below the list of the most important variables the group has identified. They are randomly listed, and a new serial has been assigned. Please assign values to each variable (driver) in terms of the potential impact on Etheriliand (1 to 5) and the direction of the trend (1= strongly towards option a), 5= strongly towards option b): 3 = unknown or uncertain…), over the next ten years.

Serial	Field	Keywords	Variable	Potential impact on Etheriliand (1-5)	Direction of the trend
1	POL	Tamoria	Tamoria's support to Easthoria and Southoria a) becomes more assertive and includes military aid. b) remains based on soft power and even declines.		
2	INF	Mis-information	Misinformation campaigns conducted by Wildoria and Northoria in the region a) cause significant destabilising effects. b) do not affect internal politics and societies		
3	ECO	Supplies	Global food supply chains a) remain solid and diversified. b) get weak and frequently disrupted, causing severe crises in Etheriliand's neighbourhood.		
4	MIL	Southoria	Rebel military forces in Southoria a) persist and even increase their revolutionary activity. b) demobilise and join the democratic system.		
5	POL	Refugees	Refugees flow across Etheriliand's neighbourhoods a) increase and become uncontrolled, contributing to political destabilisation. b) are under control and do not lead to political destabilisation in both transit and destination countries.		
6	MIL	Transitland	The Northorian minority in Transitland a) remains relatively calm. b) take up arms to combat supposed abuses made by Transitlandian authorities.		
7	SOC	Social Polarization	Social Polarization in neighbourhood societies over political/foreign policy practices a) increases. b) decreases.		
8	POL	Northoria's war	Northoria a) is defeated in Easthoria, with a major setback for the current regime and internal nationalism. b) prevails in Easthoria, perpetuating the regime and exacerbating internal nationalism.		
9	POL	Northoria external	Northoria's capacity for external action and influence a) remains intact and even increases. b) is reduced to some military power		
10	ENV	Climate change	Temperatures and extreme weather events in Etheriliand's neighbourhoods a) increase, reaching unprecedented levels. b) stagnate, alleviating pressure on resources.		

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11	POL	Foreign powers	Foreign powers a) strengthen control and influence over regional governments. b) decline control and influence over regional governments.		
12	POL	Wildoria	The transition of power in Wildoria a) does not bring significant changes. b) results in a changed foreign agenda, diminishing support to Northoria and increasing cooperative engagements in the region.		
13	POL	Easthoria	To counter Northoria in the future, Easthoria a) will be able to orchestrate a military Alliance. b) won't be able to orchestrate a military Alliance.		

Please submit your input by replying to this same e-mail no later than D+8 CoB

Kind regards,

D+8 CoB. 3rd Survey submitted

D+9. Facilitator work

The facilitator's work in this part of the exercise consisted of collecting the inputs provided by participants, calculating the respective variables' average scores and other descriptive statistics and preparing an individualized e-mail to each participant.

In doing so, the following observations were noted:

> *Observation:* Variables Impact. Participants's scoring range differs. While some tend to score from 1 to 5, others tend to do it from 2 to 4.
> *Explanation/mitigation measures*: This effect can be mitigated, e.g. by reducing the scoring range from 1 to 3

D+9 CoB. 4th Survey launched

E-mail:

Dear expert #N,

Again, thank you very much for your valuable input to the previous surveys.
You are now familiar with the variables we are considering and their potential impact on Etheriland. In addition, you may see below the group average score for each variable. As a general reference, note that more than 1 point of deviation of your score with respect to the group average means a significant disagreement with the rest of the participants.
In light of the new information, maybe you wish to change some of the values you scored the variables in Survey #3.
Please fill the two columns "New score" below with your new (or the same) score.

Serial	Field	Keywords	Variable	Potential impact on Etheriland (1-5)			Direction of the trend		
				Exp. #N	Group Avrg.	New Score	Exp. #N	Group Avrg.	New Score
1	POL	Tamoria	*[omitted]*	3	3.2		5	3.8	
2	INF	Mis-information	*[omitted]*	4	2.7		4	2.8	

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3	ECO	Supplies	*[omitted]*	5	3.3		5	3.3	
4	MIL	Southoria	*[omitted]*	5	4.0		2	3.5	
5	POL	Refugees	*[omitted]*	5	4.2		1	2.5	
6	MIL	Transitland	*[omitted]*	2	2.7		3	2.2	
7	SOC	Social Polarization	*[omitted]*	5	4.8		4	3.0	
8	POL	Northoria's war	*[omitted]*	3	4.5		4	3.5	
9	POL	Northoria external	*[omitted]*	5	3.8		1	1.5	
10	ENV	Climate change	*[omitted]*	4	3.7		1	2.0	
11	POL	Foreign powers	*[omitted]*	5	4.5		3	2.7	
12	POL	Easthoria	*[omitted]*	5	4.8		5	3.3	
13	POL	Wildoria	*[omitted]*	3	3.2		5	3.8	

Please submit your input by replying to this same e-mail no later than D+10 CoB

Kind regards,

D+10 CoB. 4th Survey submitted

D+11. Facilitator work

The facilitator's work in this part of the exercise consisted of, first, collecting the inputs provided by participants, calculating the descriptive statistics of the respective variables, and comparing them with the ones from the previous survey (see table below). Second, mapping the drivers, identifying key trends and uncertainties (see graphics below)

In doing so, the following observations were noted:

> *Observation*: The feedback on the average group answers worked well. The standard deviation was reduced by around 20% (impact) and 25% (direction of the trend). However, significant disagreement on some variables persists.
> *Explanation/mitigation measures:* N/A

> *Observation*: Some participants feared the feedback would introduce a group think source.
> *Explanation/mitigation measures*: Introducing feedback is essential to the methodology. The feedback was not intended to achieve absolute consensus but to reduce disagreements. Also, the feedback balanced, to some extent, the fact that no live sessions had been conducted so far. Finally, it should be noted that it was group, impersonal feedback. The groupthink effect was, therefore, limited.

Serial	Field	Keywords	Variable	Potential impact on Etheriland (1-5)				Direction of the trend			
				3rd Survey		4th Survey		3rd Survey		4th Survey	
				Group Avrg	Group St dv	Group Avrg	Group St dv	Group Avrg	Group St dv	Group Avrg	Group St dv
1	POL	Tamoria	*[omitted]*	3.2	1.1	3.3	0.8	3.6	0.9	3.8	0.4
2	INF	Mis-information	*[omitted]*	2.4	0.9	2.7	0.5	2.6	1.3	2.5	0.5
3	ECO	Supplies	*[omitted]*	3.0	1.0	3.3	1.2	3	1.0	3.2	1.0

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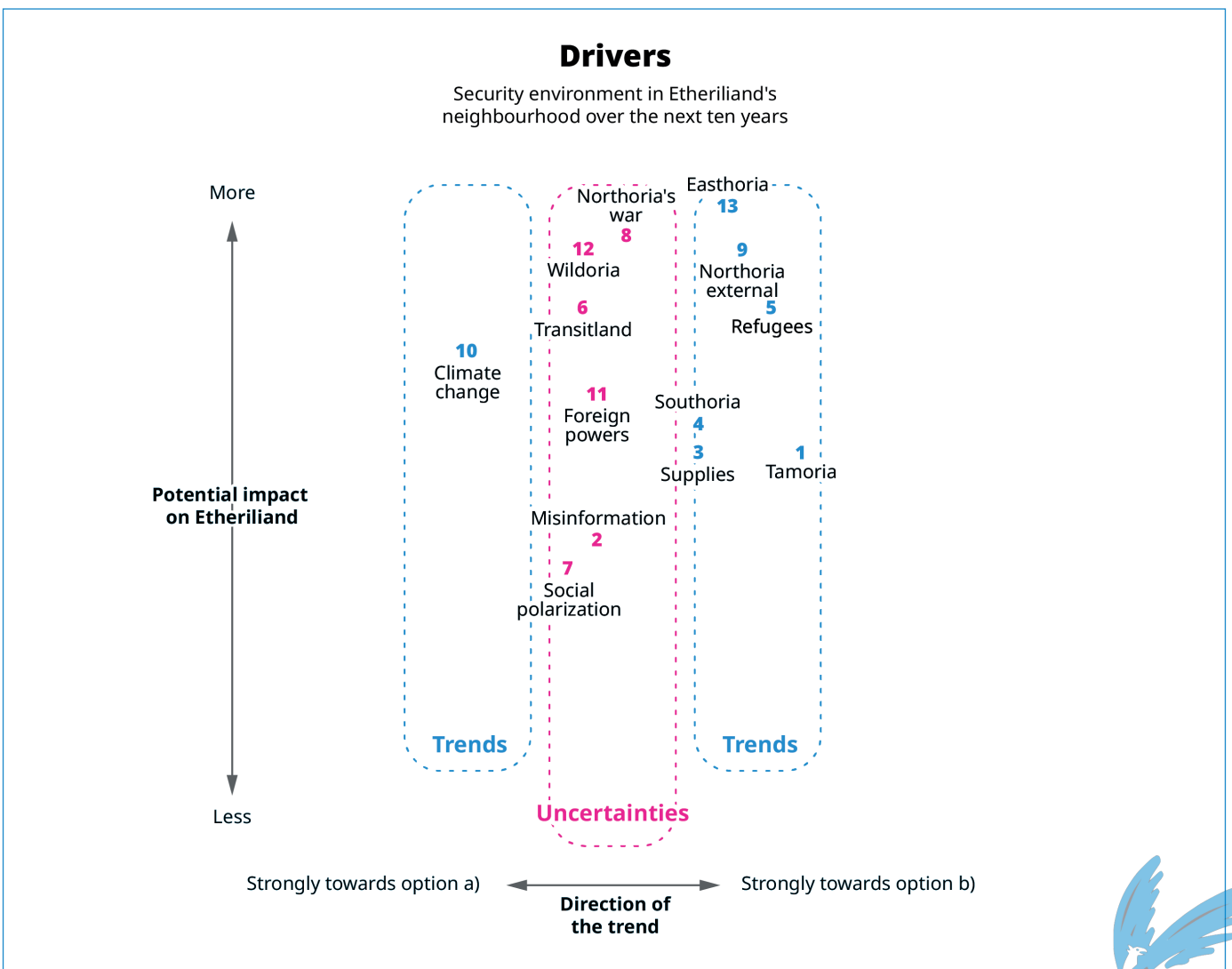
4	MIL	Southoria	*[omitted]*	3.6	1.1	3.5	0.5	3.2	0.8	3.2	0.8
5	POL	Refugees	*[omitted]*	3.8	0.8	4.2	0.4	3.8	0.4	3.7	0.5
6	MIL	Transitland	*[omitted]*	4.0	0.0	4.2	0.4	2.8	0.8	2.3	0.8
7	SOC	Social Polar-izat.	*[omitted]*	2.8	0.8	2.5	0.5	2	0.0	2.2	0.4
8	POL	Northoria's war	*[omitted]*	4.8	0.4	4.8	0.4	2.8	0.8	2.7	0.5
9	POL	Northoria external	*[omitted]*	4.8	0.4	4.7	0.5	3.4	0.9	3.5	0.8
10	ENV	Climate change	*[omitted]*	3.6	0.9	4.0	0.9	1.6	0.5	1.5	0.5
11	POL	Foreign powers	*[omitted]*	3.6	0.5	3.7	0.5	2.2	1.1	2.5	0.8
12	POL	Wildoria	*[omitted]*	4.4	0.5	4.7	0.5	2.6	1.5	2.3	0.8
13	POL	Easthoria	*[omitted]*	4.8	0.4	5.0	0.0	3	1.2	3.3	0.8

Trends and uncertainties can be easily identified by placing the group average values on an XY diagram. Without a structural analysis that allows the variables to be refined and dependencies between them eliminated, those with the greatest impact on Etheriland were chosen as key, i.e., those placed on the upper part of the diagram below.



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Future exploration phase

For this phase, a scenario-building tool was used. After identifying the key drivers, both trends and uncertainties, scenarios illustrate different combinations of these drivers. Considering all possible scenarios would be unmanageable, the drivers were selected according to the specific goals of the exercise. Scenarios were built by combining the extreme values of two key uncertainties and adding some key trends to each combination.

D+14. Facilitator work

D+15. Group work. Plenary

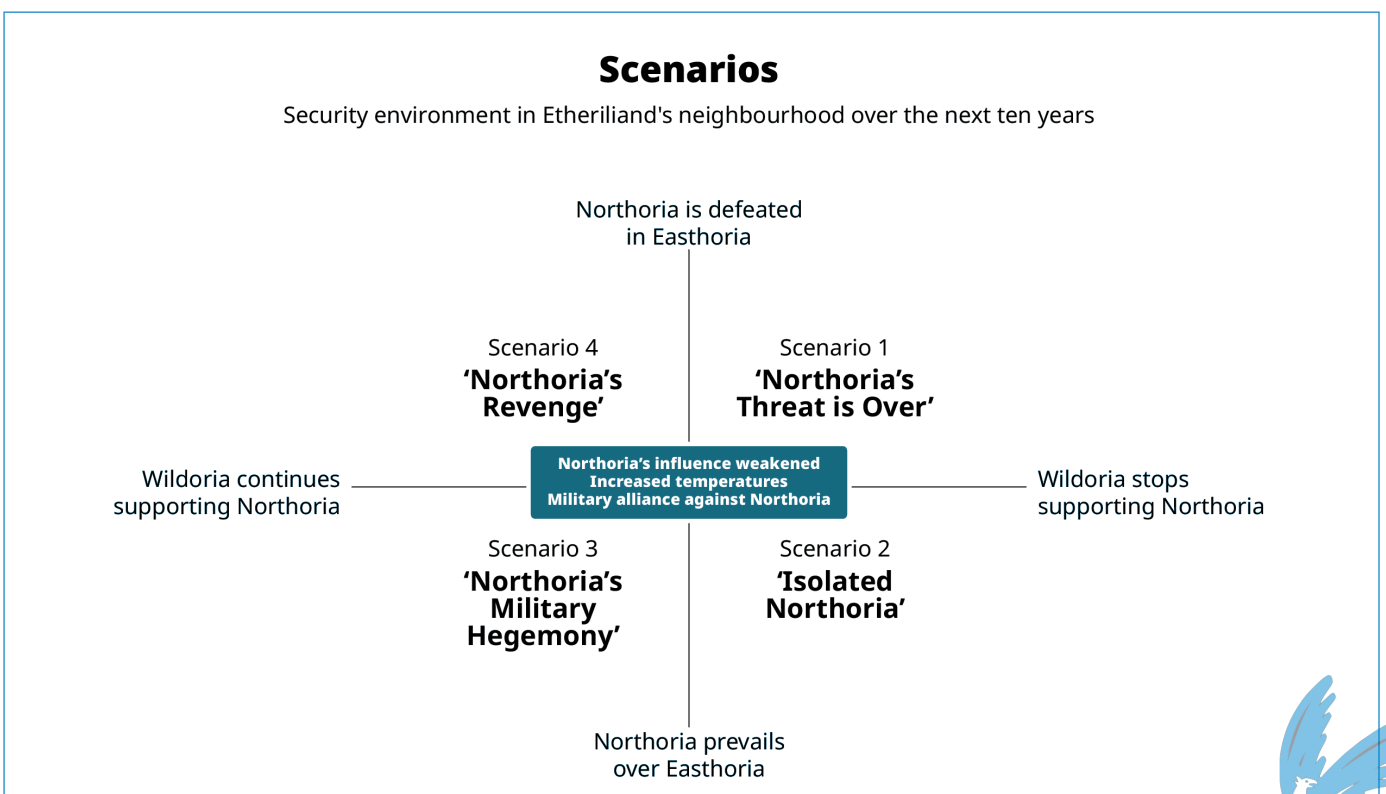
The facilitator's work in this part of the exercise consisted of selecting the drivers, both trends and uncertainties, that will be used as the basis for the scenarios, combining them and creating narratives for each of the four resulting scenarios. Then, the results were presented to the group, asking for comments and seeking agreement.

Trends

9. Northoria's capacity for external action and influence is reduced to some military power
10. Temperatures and extreme weather events in Etheriland's neighbourhoods increase, reaching unprecedented levels.
12 To counter Northoria in the future, Easthoria will be able to orchestrate a military alliance.

Uncertainties:

8 Northoria
a) is defeated in Easthoria, with a major setback for the current regime and internal nationalism.
b) prevails in Easthoria, perpetuating the regime and exacerbating internal nationalism.
13. Transition of power in Wildoria
a) does not bring significant changes.
b) results in a changed foreign agenda, diminishing support to Northoria and increasing cooperative engagements in the region.



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Scenario 1:

Northoria has been defeated in Easthoria, with a major setback for the current regime and internal nationalism. Protests against the regime are common within the country, and an incipient revolt is taking place. At the same time, the transition of power in Wildoria has resulted in a changed foreign agenda, diminishing support for Northoria. Northoria's capacity for external action and influence has been reduced to the remaining military power, but the alliance orchestrated by Easthoria, although kept at minimum capacity, is deterring the regime from potential military actions. Temperatures and extreme weather events have increased, reaching unprecedented levels. Climate change and its consequences in the region have become the main challenge to Etheriland. However, the calm security situation and the cooperative approach initiated by Wildoria allow resources to be dedicated to countering the associated risks.

Scenario 2:

Northoria has prevailed in Easthoria, but its capacity for external action and influence has been significantly reduced. At the same time, the new authorities in Wildoria have changed the foreign agenda, diminishing support to Northoria. The country is isolated, but the regime survives as a result of internal support and its military power, which remains intact and continues to be a threat to the region. The military alliance orchestrated by Easthoria is deterring the regime from potential military actions but at a very high cost. On another front, temperatures and extreme weather events have increased, reaching unprecedented levels. Climate change is becoming a real challenge to Etheriland and the entire region. The new cooperative approach adopted by Wildoria has resulted in joint initiatives to counter the effects of such a phenomenon, but budgetary restrictions prevent them from being carried out.

Scenario 3:

Northoria has prevailed in Easthoria, perpetuating the regime and exacerbating internal nationalism. Although its capacity for external action and influence has been significantly reduced, its military power remains intact and continues to be a threat to the region. Despite the fact that Easthoria succeeded in creating a military alliance, there is no army able to counter Northoria, and the country has become the military hegemon in the region. This circumstance encourages Northoria's regime to promote and support ethnical revolts in neighbouring countries. Northoria continues receiving the support of Wildoria, which facilitates supplies to reach the country and prevents external sanctions from succeeding. On the contrary, temperatures and extreme weather events in the southern countries increase, reaching unprecedented levels and causing scarcity of food and other goods.

Scenario 4:

Northoria has been defeated in Easthoria, with a major setback for the current regime and internal nationalism. Northoria's capacity for external action and influence has been drastically reduced. Protests against the regime are common within the country, and an incipient revolt took place short ago. However, the regime survives as a result of the support provided by Wildoria, and the country is rebuilding its armed forces. Although Easthoria succeeded in creating a military alliance, some countries –including Etheriland- no longer see Northoria as a threat and are stopping resourcing the alliance. Instead, they started diverting budgets to counter the effects of climate change, which is becoming a real challenge. Neighbour countries, on the contrary, are afraid that Northoria will rearm and the regime will begin to carry out military actions against them, which would be easily justifiable internally as revenge for the humiliation suffered.

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Annex III

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