

Foresight activities within the EU Agencies Network on Scientific Advice (EU-ANSA)

2019–2024



Disclaimer

This paper is the product of a collaboration under the EU-ANSA initiative. The views expressed are those of the authors and should not be understood or quoted as being made on behalf or necessarily reflecting the position of the agencies or organisations with which the authors of this document are affiliated.

Acknowledgements

The EU-ANSA would like to thank Future Impacts (www.future-impacts.de), who contributed to the drafting of this report and the design and analysis of the mapping exercise that it is based upon.

Luxembourg: Publications Office of the European Union, 2025

© European Union, 2025

Reproduction is authorised provided the source is acknowledged.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightholders. The European Union does not own the copyright in relation to the following elements: page 11, Figure 1, © Popper, R. (2008)

Foresight activities within the EU Agencies Network on Scientific Advice (EU-ANSA)

2019–2024

Discussion paper on the status of and future opportunities for the use of foresight methods by EU agencies



AUTHORS

EU-ANSA Futures Cluster members

Antonio Ranieri, Stelina Chatzichristou, Ramona David and Lidia Salvatore, Cedefop

Gerjon J. Ikink and Piotr Kramarz, ECDC

Celine Bout and Vadim Kononenko, EEA

Angelo Maggiore and Bernard Bottex, EFSA

Jolanta Reingarde, EIGE

Valentina Cordo, Enrico Tognana and Falk Ehmann, EMA

Alessandra Bo, Klaudia Palczak, Paul Griffiths and Maria Moreira EUDA

Cristiano Cagnin, ETF

Annick Starren, EU-OSHA

Teddy Wilkin and Constantinos Melachrinou, EUAA

Michele Consolini and Franz Eiffe, Eurofound

Katerina Vyzvaldova, FRA

Luigi Raffaele, Dragos Voicu and Darek Saunders, Frontex

Acronyms and abbreviations

EU-ANSA	Futures Cluster of the EU Agencies Network for
Futures Cluster	Scientific Advice
EUDA	European Union Drugs Agency
EU-OSHA	European Agency for Safety and Health at Work
Frontex	The European Border and Coast Guard Agency
ECDC	European Centre for Disease Prevention and Control
Cedefop	European Centre for the Development of Vocational Training
EEA	European Environment Agency
EFSA	European Food Safety Authority
Eurofound	European Foundation for the Improvement of Living and Working Conditions
EIGE	European Institute for Gender Equality
EMA	European Medicines Agency
ETF	European Training Foundation
EUAA	European Union Agency for Asylum
FRA	European Union Agency for Fundamental Rights
FTE	full-time equivalent
JRC	Joint Research Centre
R & I	research and innovation
VET	vocational education and training

Contents

Acronyms and abbreviations	2
Executive summary	4
Overview of key findings	5
Introduction and context	7
Methodology and approach of the mapping exercise	8
Mapping of EU-ANSA foresight activities: findings	10
Methodological portfolio and time horizons	10
Technical competency and capacity building	17
Work organisation and resources	20
Communication methods and channels	22
Collaboration with other agencies	24
Key outcomes and benefits	26
Areas for improvement and lessons learnt	30
Conclusions: reflecting on options for future activities and enhanced cooperation	33
Recent agency projects – highlights	35
References	36
Additional resources	37
Annexes	38
Annex I: Highlights from the agencies' existing foresight publications or activities	38
Annex II: Main projects from the agencies' existing foresight publications or activities	40
Annex III: Overview of capacity-building materials from the agencies' foresight activities	45
Annex IV: EU-ANSA Futures Cluster questionnaire – Mapping exercise: overview of foresight and futures activities	47

Executive summary

This report explores the foresight work carried out by the members of the EU Agencies Network for Scientific Advice (EU-ANSA) Futures Cluster between 2019 and 2024 – a period marked by heightened attention to foresight within the EU. Notably, this included the appointment of the first European Commission Vice-President for Foresight in 2019, reflecting a growing institutional commitment to long-term thinking. During this time, the global landscape was shaped by a series of complex and disruptive events – from geopolitical tensions and the COVID-19 pandemic to rising political volatility and rapid technological advances in areas such as AI. These developments have underscored the importance of strengthening mid- and long-term policy perspectives to better anticipate and respond to future challenges and opportunities. There is now a shared recognition of the need for enhanced preparedness at the EU level.

Alongside the Commission, other European institutions, including EU agencies providing scientific advice, have increasingly adopted futures methods in their work. This paper examines their growing relevance and diffusion. It is based on a mapping of recent foresight activities of the 13 members of the EU-ANSA Futures Cluster and compares these insights with results from a previous survey conducted in 2018.

The results demonstrate an increase in the depth, breadth and expertise of foresight activities by the agencies compared to the 2018 results. All agencies are now engaged in foresight work, most with several years of experience, and are increasingly considering longer time horizons. The study also suggests that levels of technical competency have risen since 2018, although there remains a need to

expand the range of methods commonly used. Most agencies report actively addressing this issue through foresight capacity building and training activities.

Within agencies, the organisation of foresight work is very heterogeneous. Some have centralised specialised units, while others integrate this task into their overall scientific strategy or scientific coordination mechanisms, and some assign it to specific units or sectors. Resource constraints are reported as a significant challenge across agencies. The communication of foresight outputs also varies widely but often combines the publication of results with more targeted briefs and interactive formats for specific stakeholders.

Many agencies report that foresight is increasingly recognised as a valuable tool for enhancing stakeholder engagement, increasing its quality and helping make interactions more meaningful. The approach is also valued for providing long-term insights helpful for informing policy development at the strategic level. Utility is also apparent in supporting internal programme planning and developing substantive research activities. Collaboration within the EU-ANSA Futures Cluster network is universally supported and regarded as beneficial.

To further improve the impact of foresight studies, better integration of foresight work into core agency processes and functions is regarded as essential. This requires enhancing how the strategic implications drawn from foresight exercises can provide concrete, action-oriented proposals that meet decision-makers' needs, along with further efforts to establish foresight as a cultural practice and extend the agencies' methodological portfolio and competencies.

Overview of key findings

Topic	Key findings
Methodological portfolio and time horizons	- Agencies are using a broad portfolio of approaches, with around 4.5 different approaches reported per agency on average. - There are variations in the approaches used. Not all methods are commonly used, with only a few agencies reporting the use of forecasting (skills forecast) or technology foresight. - The time horizon used for scenario activities is now usually quite long-term, i.e. 10 to 20 years. This is a change from 2018, when 'short- and mid-term time horizon[s] (0 to 10 years ahead)' were the most reported. Longer time horizons appear to have been adopted as agencies have gained experience in conducting foresight exercises.
Technical competency and capacity building	- Almost half of agencies have now worked with foresight for more than five years. - Technical competencies are reported as strongest in the areas of participatory approaches, horizon scanning and quantitative surveys. - Further investment in capacity building is reported as being necessary from all agencies. The areas particularly requiring development are scenario planning, horizon scanning, Delphi studies and quantitative forecasting/modelling approaches. - Two thirds of agencies report conducting capacity building activities. Nearly a third (31 %) also report involving their main stakeholders in foresight training. - Nine agencies have produced technical foresight manuals (see Annex III).
Work organisation and resources	- Nearly half of agencies report embedding futures/foresight activities into their existing work processes. - The responsibility for conducting foresight studies varies within agencies and includes specialist units, scientific governance or coordination mechanisms, and specific technical units or working groups.
Collaboration with other agencies	- All agencies see their work as relevant for other agencies. - Two thirds of agencies have already collaborated in foresight work with EU-ANSA partners. Participatory activities include joint studies, mutual learning exercises and workshop participation. - Interest in increasing collaboration between EU agencies is universally supported.
Communication methods and channels	- A range of communication channels and approaches are used for the dissemination of findings. Alongside more general outputs, targeted approaches aimed at specific stakeholders are also commonly used. - Some agencies also report conducting 'futures dialogues' to increase the dissemination of the analysis and for improving the translation of findings into action. These are usually conducted with key stakeholders or interest groups. - In addition to using events and conferences as active key communication channels, dissemination through stakeholder networks is often utilised as a communication channel.

Topic	Key findings
Outcomes and benefits	▪ Foresight is reported as being viewed as a useful tool to engage with the agencies' main stakeholder groups. ▪ Other benefits identified include: informing internal and external decision-making processes; sensitising colleagues to drivers of change; and improving preparedness to address future threats, opportunities and challenges. The use of these kinds of approaches is also viewed as beneficial for improving the quality of collaboration between and within agencies.
Areas for improvement and lessons learnt	▪ There is broad agreement on the importance of more closely integrating foresight into the core activities of agencies. Leadership support is seen as a key enabler, with several agencies highlighting the value of identifying and working with internal 'champions' to build momentum and demonstrate the relevance of foresight to strategic priorities. ▪ Stakeholder involvement is widely recognised as essential to the success of foresight efforts – both in terms of shaping the process and ensuring the relevance and uptake of results. The careful selection of participants, with attention to expertise, lived experience and a diversity of perspectives, is seen as important for achieving balanced and meaningful engagement. ▪ Many agencies express interest in continuing to develop and diversify their foresight methods. Starting with more established approaches often helps build confidence and creates space for experimentation with newer or less conventional methods over time. ▪ Both broad and targeted communication strategies are viewed as important for sharing foresight results effectively. Some agencies have taken steps to involve key stakeholders in follow-up activities, which serve not only as dissemination tools but also as opportunities to deepen engagement and support the practical application of insights.

Introduction and context

The growing availability of studies and project reports demonstrate the expanding use of foresight in the public sector across the EU, as well as within the EU Member States. More specifically, from 2019 to 2024, European institutions were increasingly adopting foresight and future-orientated approaches within their work as tools to support better and more future-proof policymaking. Foresight and future studies are understood by the European Commission as ‘the discipline of exploring and anticipating future possible developments to shape the preferable future’ (European Commission, 2020). To achieve this, foresight taps into collective intelligence in a structured and systematic manner. Strategic foresight specifically aims to embed future-orientated insights into EU policymaking and strategic planning, thereby enhancing preparedness as it ‘helps the EU to prepare for and anticipate future shocks and opportunities’ (European Commission, 2020). Anticipating the range of possible futures we face helps inform a discussion in the present on what actions are possible now to help shape the future we want.

This paper is to be seen against the backdrop of the overall increasing diffusion and use of foresight, looking specifically at the activities by EU agencies. The EU Agencies Network for Scientific Advice (EU-ANSA) Futures Cluster enables the exchange, learning and coordination of futures work among 13 agencies.

This report presents the results of the mapping of EU-ANSA members’ foresight activities, along with the methods applied and the outcomes and learnings. It aims to identify avenues to further improve foresight work in the agencies and to spot areas for further activities of the EU-ANSA Futures Cluster as an instrument to improve foresight work. To better understand the current landscape of activities in the cluster, a survey was conducted, covering, the activities carried out, the methods applied, the organisation of the work and any areas for improvement. This paper serves to present the results and share insights with a wider audience. Within the context of this paper, the results from the previous (first) mapping of futures activities within these agencies from 2018 are also referenced (where comparable) to give an indication of the evolution of futures work in the agencies ^[1].

[1] This first survey covered activities up to March 2018, and the results were summarised in a 2019 internal EU-ANSA paper: ‘A review of the use of “Futures-Orientated Activities” within the EU-ANSA – An internal discussion paper’.

Methodology and approach of the mapping exercise

In March 2024, EUDA ^[2], in its role as coordinating agency for the EU-ANSA Futures Cluster, conducted a mapping exercise to provide an overview of the foresight experience of the cluster's 13 members. The objective was to identify the concepts and approaches used and audit recent futures-orientated activities. The survey's purpose was to provide an overview of the foresight work of the agencies and to map the evolution of the work since the previous (first) mapping exercise conducted in March 2018. The analysis of this work is intended to facilitate future discussion and the sharing of experience among EU-ANSA members (EU-ANSA, 2019).

The project centred on the development of a questionnaire for EU-ANSA member agencies to complete, which covered the following areas ^[3]:

- experience in working with and organisation of foresight and futures studies;
- topics covered in the futures/foresight studies and a list of studies conducted;
- the methods used, the main methods adopted by the agency, technical competency in the agency and the need to improve technical competency in the agency;
- the outcomes and benefits of futures work and the communication and dissemination methods used to promote the outcomes of futures studies;
- capacity-building activities to increase foresight literacy, along with respective sources and platforms to share among EU-ANSA network members;
- cooperation with other EU agencies or other organisations in foresight/futures work and areas of joint interest among EU-ANSA members;
- lessons learnt in conducting futures work.

^[2] On 2 July 2024, the EMCDDA officially became the European Union Drugs Agency (EUDA) with a revised mandate. While the survey and mapping exercise took place while the organisation was still named the 'EMCDDA', in this paper we refer to the agency by its new name, the EUDA.

^[3] The complete 'EU-ANSA Futures Cluster questionnaire, mapping exercise: Overview of foresight and futures activities' is included in Annex IV.

The questionnaire was shared as an online survey, and all 13 EU-ANSA member agencies took part in the survey. The agencies are:

- **EUDA** (lead): European Union Drugs Agency
- **EU-OSHA**: European Agency for Safety and Health at Work
- **Frontex**: The European Border and Coast Guard Agency
- **ECDC**: European Centre for Disease Prevention and Control
- **Cedefop**: European Centre for the Development of Vocational Training
- **EEA**: European Environment Agency
- **EFSA**: European Food Safety Authority
- **Eurofound**: European Foundation for the Improvement of Living and Working Conditions
- **EIGE**: European Institute for Gender Equality
- **EMA**: European Medicines Agency
- **ETF**: European Training Foundation
- **EUAA**: European Union Agency for Asylum
- **FRA**: European Union Agency for Fundamental Rights

The preliminary results of the mapping exercise were presented at the 7th meeting of the EU-ANSA Futures Cluster in June 2024, which enabled a discussion of and a shared reflection on the results ⁽⁴⁾. Furthermore, all members were invited to comment on the paper and given an opportunity to co-creatively work on the results as presented in this paper.

⁽⁴⁾ Additional insights as documented by the Budapest workshop were integrated into this paper and were treated in the same way as comments received during the survey.

Mapping of EU-ANSA foresight activities: findings

Methodological portfolio and time horizons

Over the last five years, the agencies of the EU-ANSA have been working with a broad variety of mainly qualitative foresight methods (see Figure 1 for an overview of foresight methods). On average, agencies have experience using 4.5 different methodological approaches, indicating that different questions and issues are addressed with a targeted mixture of futures-orientated tools. However, some approaches are more common. All agencies report using qualitative participatory methods, such as foresight workshops ^[5], while only 2 of the 13 agencies report using quantitative forecasting and modelling. The main approaches used over the survey period are:

- qualitative participatory methods (32 %);
- horizon scanning (21 %);
- identification of drivers of change (13 %);
- and scenarios planning (13 %) ^[6].

Other approaches, such as Delphi methods, are used by seven agencies as supporting tools for the main approaches of horizon scanning, scenario planning, etc.; only two agencies report this as their main methodological approach. Nearly half of the agencies (six) focus on forecasting and modelling or technology foresight. The foresight project list highlighted below (see Annex I for a full list) shows that agencies have also sometimes used more innovative and relatively new methodologies such as persona stories or serious game approaches. These approaches may allow for a more immersive exploration of future possibilities and support more in-depth futures dialogues.

Looking back on the evolution of methods used since the 2018 survey, qualitative participatory approaches were not mentioned five years ago, with the results overall implying that more methods are being used today,

^[5] In the survey, 12 of 13 agencies selected qualitative methods, and the remaining agency selected horizon scanning (among other approaches), which is part of the portfolio of qualitative methods.

^[6] This result is in line with results of a recent meta-analysis of methods used in foresight (drawing from projects on foresight for technology policy), which identified scenario planning, expert surveys and Delphi methods, trend analysis and horizon scanning, along with workshops and interviews with experts, as the most used methods (Neels, 2020, p. 8).

including Delphi methods now being utilised by more agencies. Forecasting and modelling were mentioned by one agency in 2018 and are mentioned by two agencies in the 2024 survey ^[7] (see Figure 2).

Figure 1. Overview of foresight methods (foresight diamond from Popper, 2008)

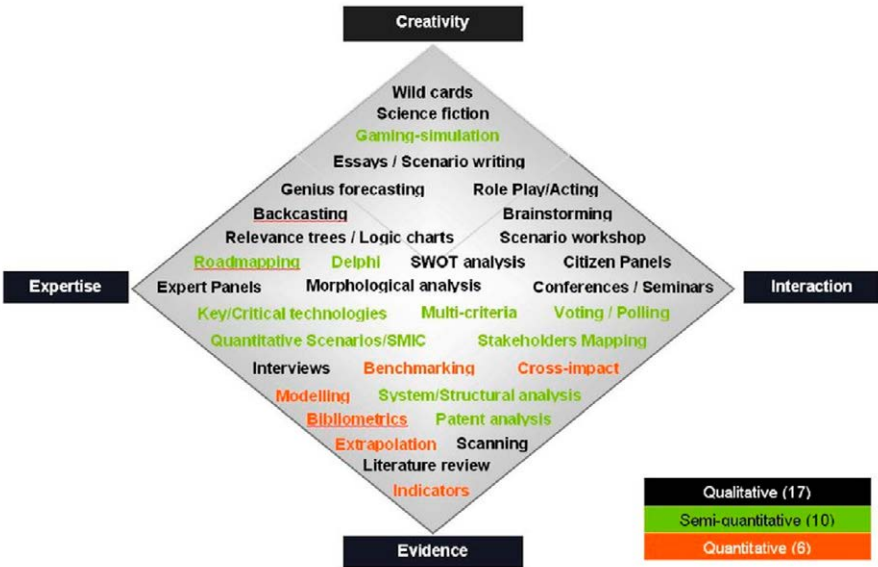
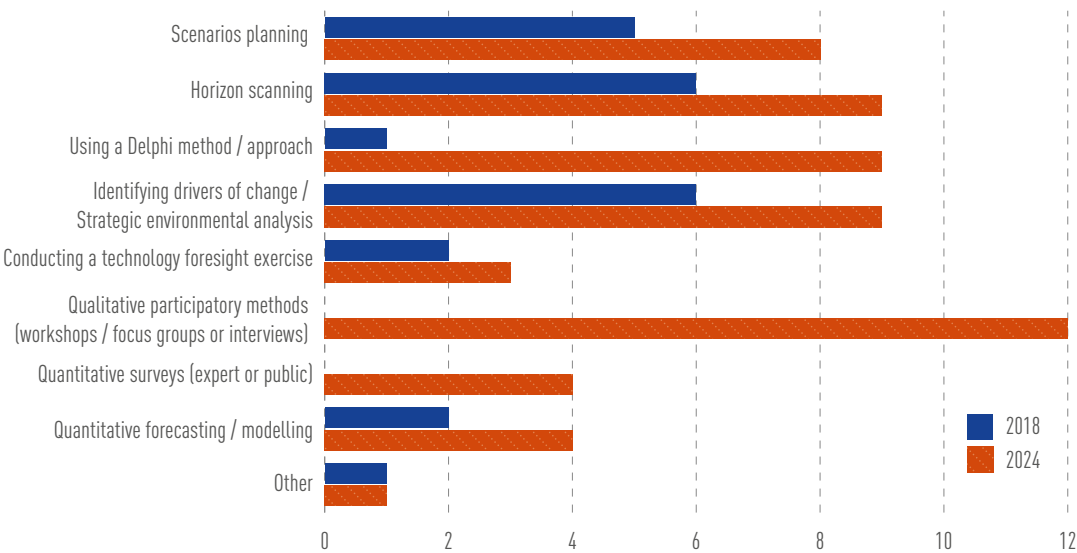


Figure 2. Types of methods for futures activities (comparison of 2018 and 2024 survey results; number of mentions, multiple answers possible)



^[7] However, due to methodological differences in the survey questions, it is not always possible to directly compare the results of the 2018 and 2024 surveys (to collect more in-depth information, the survey questions in the 2024 survey were partially adapted and extended). For example, in the 2018 survey, the survey question on methods was asked in an open question format, while in 2024 it was asked in a closed, multiple-choice format, which could also have led to differences in which methodologies were named and chosen in the replies.

EUDA – European Union Drugs Agency

The EUDA's 'Futures Exercise 2030' employed a horizon-scanning methodology to systematically explore events, issues and trends with potential implications for the drugs field. This approach extended beyond the traditional boundaries of drug use and addiction, encompassing broader societal, technological and geopolitical developments at the global level. The exercise also examined global drivers of change – so-called megatrends – that are currently influencing, or may in the future influence, the drugs situation, drug monitoring systems and the design of drug-related responses.

A multi-method approach was adopted, combining literature reviews, thematic analyses, expert panels and participatory workshops. A key feature of the exercise was its inclusive and participatory design, which enabled stakeholders from diverse disciplines and countries to contribute to, and benefit from, the process. This participatory element ensured the integration of a wide range of perspectives and expertise.

Throughout 2019 and 2020, the EUDA organised six events involving approximately 350 participants.

These included a dedicated thematic track at the Lisbon Addictions 2019 conference – comprising 30 sessions and 60 presentations – and four futures workshops. Participants included researchers, practitioners, policymakers, members of the Reitox network, EUDA staff, representatives of statutory bodies, and international organisations.

The exercise had a significant impact in several key areas. It fostered informed reflection on the evolving mandate of the EUDA, encouraging participants to critically assess its strategic direction and operational scope. The results of the exercise were presented and thoroughly discussed with members of both the Management Board and the Scientific Committee of the EUDA, ensuring high-level engagement and validation.

Importantly, the exercise contributed directly to the identification of research priorities in the field of drug-related issues, aligning future efforts with emerging needs and policy objectives. Additionally, it played a key role in strengthening the capacity of EUDA national focal points at the national level.



ECDC – European Centre for Disease Prevention and Control

The ECDC initiated an elaborate multi-method foresight programme in early 2022. The main aim of this programme is to make European public health systems, including the ECDC, better prepared and more resilient to future health threats and other relevant developments. At its core, it intends to inform EU public health policy and the ECDC's own strategy, along with long-term public health planning, by identifying priorities for public health preparedness, research, training and workforce development. Strategic foresight

capacity building and cultivating an anticipatory and interdisciplinary culture with a futures-thinking mindset are important process benefits of the programme.

The process started by considering what important global megatrends are impacting public health. Based on these megatrends, focus groups and a Delphi survey were employed to identify underlying driving forces or 'drivers of change' most relevant to EU public health systems dealing with

infectious diseases. A dedicated expert workshop particularised how the top 10 drivers of change would most likely develop towards 2040, along with possible alternative pathways to consider. Based on internally consistent, interconnected clusters of future driver pathways, six holistic narrative threat scenarios for 2040 were formulated and vetted in workshops with diverse expert groups. These scenarios describe a wide range of possible future conditions in which the ECDC and other European public health organisations may be required to operate. In a workshop, experts defined optimal future attributes that would allow the ECDC to still be effective under the very different conditions of each scenario. Then, a 'backcasting' was done – from these various possible futures to the present – to consider what steps need to be taken from now on to ensure a future-ready ECDC.

Proposed actions for the ECDC to take – based on common backcasted steps across scenarios – were assessed on their relevance, effectiveness and efficiency through surveys and in-depth interviews with ECDC staff and key external experts, decision-makers and stakeholders. Promising key strategic actions were then stress-tested for their robustness against the different future conditions of the threat scenarios in 'wind-tunnelling' exercises. This ultimately yielded a collection of robust future-proofed actions for operational, strategic and policy consideration across five action clusters: 'one health' and climate change; health services and risk mitigation; demographics and social determinants of health; data, digitalisation and new technologies; and governance and collaboration.



Cedefop – European Centre for the Development of Vocational Training

In 2022, Cedefop concluded a skill foresight exercise to explore the links between the European Green Deal and smart and green cities, and the implications for vocational education and training (VET). The exercise was part of a green foresight study that also covered waste management, agri-food and the circular economy.

External experts representing policymakers, academics, researchers, city representatives and VET providers were identified and placed in the 'driving seat' of the foresight exercise. A literature-review-based background report mapped key trends and developments regarding drivers of change, hindering factors and expected opportunities and challenges that EU cities may face while implementing the European Green Deal. In the first online workshop, experts discussed future trends (2030 and 2050) shaping jobs and skills at the city level, and identified occupations key for 'greener' and 'smarter' future EU cities. The role of VET as a skills development enabler was also discussed. Insights from the first

workshop were used to develop a two-round Delphi-style survey. The first questionnaire was designed to delve into the issues raised during the workshop and assess whether expert consensus on key issues could be achieved. A second survey was then built on the results of the first survey. Having identified areas of consensus among experts, the second survey explored their views on the role of VET in supporting upskilling/reskilling for city administration staff and any worker that supports city operations. Findings from all stages of the foresight exercise were reported back to experts. Key insights were discussed and validated in a final workshop.

The results are presented in a Cedefop policy brief. Experts' input and Cedefop analysis highlighted a set of policy messages pointing to the need for more targeted initial and continuous VET, and the importance of skills intelligence at the local level, strengthened by the increased participation of stakeholders such as local administrations, trade unions and employers.

EFSA – European Food Safety Authority

EFSA has implemented the 'Horizon scanning and strategic options definition' process to: (1) identify gaps and opportunities affecting its mission delivery; (2) inform its working agenda and long-term strategy; (3) assess strategic competencies and define its partner ecosystem; and (4) detect trends, drivers of change and emerging risks within its remit.

The process includes a structured horizon-scanning workflow, where signals, trends and policy developments are analysed by the Knowledge, Innovation and Partnership Management Unit and the Chief Scientist Office. Topics not covered by existing programmes or strategies are further assessed with input from EFSA units and panels. Evaluation criteria include prior coverage, internal or external expertise availability and scientific consensus. Relevant topics are summarised in a factsheet and submitted to the EFSA Preparedness Council for prioritisation.

Moreover, EFSA recently conducted a foresight project on 'Future challenges for the safety of food and feed from the oceans', aiming to explore future ocean uses and identify emerging risks in the context of global changes. A participatory prioritisation exercise identified key areas: sea transport and trade, aquaculture and seabed mining.

The project applied a participatory foresight methodology comprising scanning, scenario building (via morphological analysis) and implications assessment. It included workshops and desk research and used tools such as Sensemaker (for scanning and scenarios) and the Foresight Cockpit (for mapping interdependencies). The selected time horizon was 2050. Potential implications (including emerging risks) for the safety of food and feed from the oceans, along with challenges and opportunities for Europe's sustainability objectives, were indicated. The [final report](#) has recently been published on the EFSA website.



EIGE – European Institute for Gender Equality

As the EU's knowledge centre on gender equality, EIGE aims to improve its preparedness for possible future developments and their impact on the future of gender equality. Accordingly, EIGE is using foresight activities and techniques to facilitate dialogues and strategies to inform EU policies, EIGE's work and its future priorities.

In 2023, EIGE organised two 'strategic foresight' workshops with its Management Board and Experts' Forum. To complement the strategic foresight discussions in the workshops, EIGE also launched a strategic foresight survey (2023), 'The key to change? Your voice!', which was open to the public and aimed at gathering views of EIGE's stakeholders at large.

The workshops were designed to co-creatively think about current and potential future trends that could have a strong influence on the future of gender equality. They focused on key trends relevant for gender equality in the EU, reflected on their potential implications for gender equality and looked at options for respective action or potential strategic pathways for EIGE.

In its [Gender Equality Forum 2024](#), EIGE organised two foresight youth visioning workshops on 'Co-creating positive future visions for gender equality'. They aimed to identify challenges, hopes and drivers for change, focusing on positive, inspiring and action-oriented insights. In an engaging co-creative format, young people collaborated to develop compelling vision(s) for the future.

FRA – European Agency for Fundamental Rights

In 2025, FRA is implementing a project titled 'Fundamental rights in foresight 2040'. With the project, FRA aims to systematically integrate fundamental rights into EU foresight processes and activities. The project explores reference scenarios for fundamental rights and considers how different drivers of change could impact fundamental rights in the period up until 2040. The scenarios form the basis for a set of foresight policy briefs for selected areas. The project builds on the reference foresight scenarios developed by the European Commission's Joint Research Centre (JRC), with a view to complementing them with fundamental rights considerations.

The project includes horizon scanning, retrofitting scenarios, visioning, developing future pathways and stress-testing policy

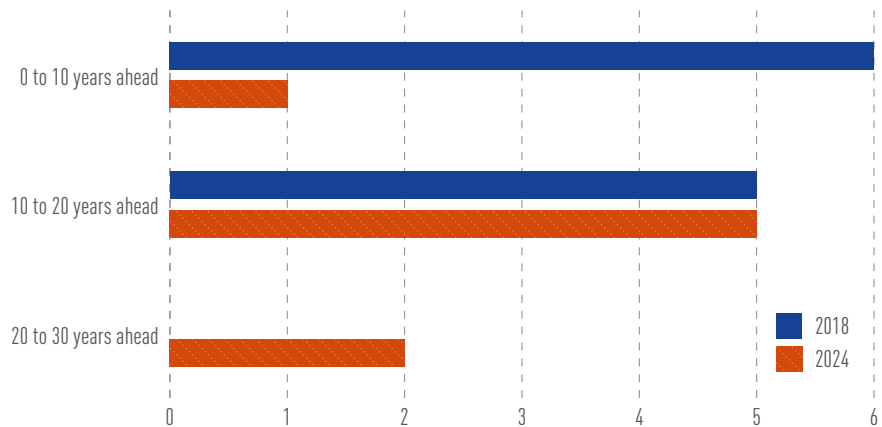
options. In all the activities, the project utilises FRA's draft guidance on inclusive, non-discriminatory and participatory foresight. Outputs comprise a set of fundamental rights scenarios, foresight policy briefs and guidance on embedding fundamental rights into foresight.

This project and the foresight knowledge it generates will enable FRA and other stakeholders to support EU institutions and Member States in addressing future challenges by creating a foresight framework that incorporates a fundamental rights perspective and ensures that policies remain inclusive, forward-looking and in line with the EU's core values.

The time horizon of the agencies' foresight projects (for scenario-planning studies) was mainly reported as long-term, i.e. 10 to 20 years ahead, and in some cases even longer. Interestingly, the short- and mid-term time horizons (0 to 10 years ahead) are now the exception, while it was the majority time frame adopted in 2018. Thus, it seems the time horizons have lengthened as the agencies have gained experience using foresight approaches (see Figure 3).

The broader spectrum of foresight approaches and the longer time horizon noted in the 2024 survey compared to the 2018 survey results suggest a further professionalisation of long-term foresight work.

Figure 3. Typical time horizon of scenario planning projects (comparison of 2018 and 2024 survey results; number of mentions) ⁽⁸⁾



SUMMARY OF KEY FINDINGS

- Agencies are now using a broad portfolio of approaches, with around 4.5 different approaches per agency on average.
- Some methods are uncommon, however. Only a few agencies report using forecasting (skills forecast) or technology foresight.
- The time horizon adopted for scenario-planning activities is mainly long-term, i.e. 10 to 20 years ahead (compared to 'short- and mid-term time horizon[s] (0 to 10 years ahead)' being the majority of responses in 2018); it seems the time horizons have lengthened as the agencies have gained foresight experience.

⁽⁸⁾ In the 2024 survey, the time horizon question referred to scenario-planning exercises, while in the 2018 survey, the time horizon question was asked for all types of futures activities.

Technical competency and capacity building

All EU-ANSA members have worked with foresight methods, with almost half of agencies having worked with them for more than five years, and only one agency being a relative newcomer, having worked with foresight methods for less than a year. Many agencies confirmed that their technical competency in using foresight methods had improved. Competencies were most widespread in participatory approaches (workshop methods), horizon scanning and quantitative survey methods. However, the agencies also expressed a need to improve their methodological competency. Capacity-building efforts were reported as being particularly needed in the areas of scenarios planning, horizon scanning, Delphi methods and quantitative forecasting/modelling. The lowest number of agencies indicated a need for training in the areas of participatory approaches (workshops) (five agencies) and quantitative surveys (three agencies) (see Figure 4).

To enhance futures literacy and the capacity to run foresight and futures exercises, three quarters of the agencies reported organised training activities in the past five years: 44 % of the agencies ran internal capacity-building measures, and nearly one third used capacity-building measures to spread futures literacy beyond the organisation by conducting activities together with, or for, external stakeholders or networks. Hence, capacity building involving networks has been used to encourage futures thinking across the Member States and networks and to potentially enrich an individual agency's work with the future insights gathered by the network (see Figure 5). Nine agencies have foresight manuals and toolkits that they can share with other EU-ANSA members (see Annex III).



EUDA – European Union Drugs Agency

The EUDA's '[EUDA Horizon scanning toolkit](#)' aims to support other stakeholders, players and researchers in the drugs field in implementing their own foresight exercise in the form of an introductory trend-based workshop. This approach was chosen as a result of the experience gained through the EUDA's own foresight work and because of the high level of interest expressed by stakeholders for these kinds of workshops.

In addition to building on the megatrends from the JRC hub and bringing those identified as being critical for the future of drugs into the EUDA's foresight process, the approach and corresponding trend set supplied in the toolkit also feature

emerging trends that are specific to the drugs arena, along with related monitoring and research, as identified within the EUDA's foresight activities to date. All such trends are supplied in the trend cards set, which is available for download and is intended to be used with the templates, also available for download, for running a workshop within the approach outlined in this toolkit.

The exercise of developing the toolkit not only contributed to enhancing the future literacy of our stakeholders, but internally it helped to set up the foundations of the agency's horizon-scanning framework.

Frontex – European Border and Coast Guard Agency

In 2021, Frontex conducted the study '[Technology foresight on biometrics for the future of travel](#)', with the objective of studying the future of biometrics for its implementation in border check systems that may benefit the work of the European Border and Coast Guard community in short-, medium- and long-term perspectives. Three experts' consultation events (two technology foresight workshops and a Delphi survey) took place during the project, with the involvement of a broad group of relevant stakeholders in order to benefit from collective intelligence and stimulate consensus-oriented discussions. A custom technology foresight methodology was developed, opening the door to the exploration of the vast field of biometric technologies, which were analysed from various perspectives in the context of border checks.

Each of the phases of this complex research study produced its own set of insights, summarised in five distinct volumes: the [Research Study](#);

the [Executive Summary](#); a [Technology Foresight Manual](#); a [Taxonomy of Biometric Technologies and Biometrics-Enabled Technological Systems](#); and the results of the [Patentometric and Bibliometric Analyses](#). The study included the creation of a customised set of scenarios for EU in 2040, a prioritisation matrix of biometric technological clusters, a set of technological roadmaps for the identified key technological clusters (contactless friction ridge recognition, 3D face recognition, infrared face recognition, iris recognition in the near-infrared spectrum and iris recognition in the visible spectrum) and a set of capability readiness heatmaps. Due to the substantial amount of information provided and the adopted participatory foresight approach, this study is expected to directly contribute to an enhanced understanding of the relevance and applicability of novel biometrics and technology foresight, in addition to identifying areas of strategic interest and aiding informed decision-making about paths of future developments in biometrics.



EIGE – European Institute for Gender Equality

Within its remit on gender mainstreaming, EIGE developed a toolkit on [gender-responsive evaluation](#) (2024), which also includes a tool on gender-responsive strategic foresight in evaluation. Additionally, EIGE published a policy brief (2024) aimed at integrating gender considerations into EU foresight initiatives, promoting gender-responsive and intersectional foresight practices. Through these initiatives, EIGE strives to systematically examine the future of gender equality, outline strategic pathways for itself and its stakeholders and inspire and facilitate wider discussions around the future of gender equality within the EU.

At the Gender Equality Forum 2024, EIGE organised a foresight masterclass titled 'Practical insights in trend-based foresight for gender equality'. This masterclass introduced EIGE's *Foresight on Futures of Gender Equality: A how-to guide* (2025) and provided participants with knowledge and practical skills to help them conduct their own trend-based foresight workshops on gender equality within their institutions. The guide will be published on EIGE's [Strategic Foresight web section](#) in 2025.

Figure 4. EU-ANSA members’ technical competencies in foresight approaches and areas where improvement in technical competencies is needed (number of mentions, multiple answers possible)

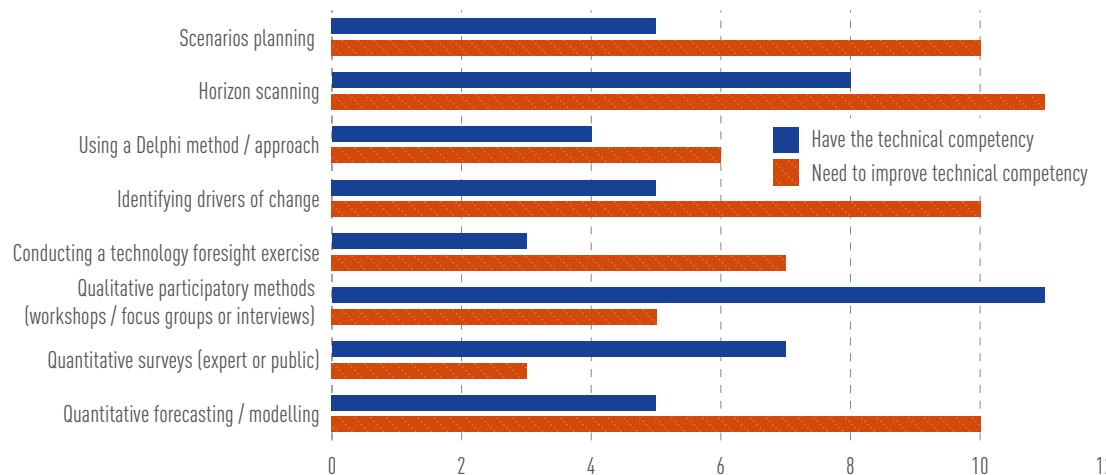
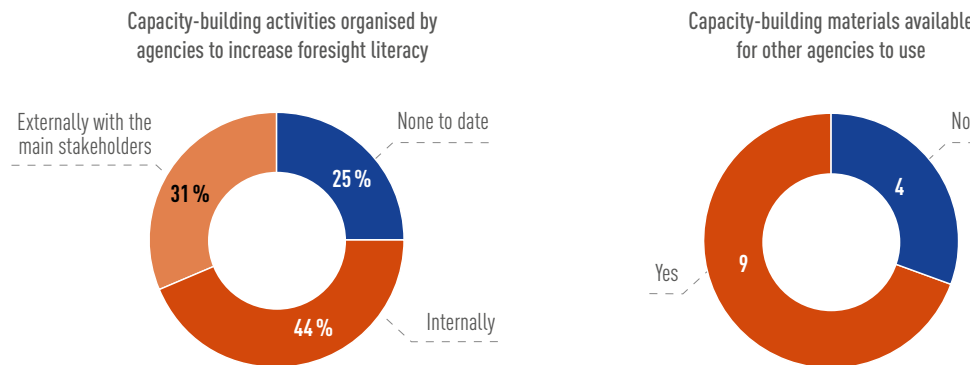


Figure 5. EU-ANSA members’ capacity-building activities and availability of capacity-building material (percentage of all mentions and number of mentions)



SUMMARY OF KEY FINDINGS

- Almost half of agencies have worked with foresight approaches for more than five years.
- Technical competencies are most widespread in participatory approaches, horizon scanning and quantitative surveys.
- Capacity building is necessary across all agencies, especially in scenario planning, horizon scanning, Delphi studies and quantitative forecasting/modelling.
- Three quarters of agencies have undertaken capacity-building measures, and 31 % involve their main stakeholders in foresight training.
- Nine agencies offer foresight manuals (see Annex III).

Work organisation and resources

Nearly half of EU-ANSA members (6 out of 13 agencies) integrate and embed foresight into existing work processes, mainly in strategic planning and research and innovation, and in 3 of the 13 agencies, futures work is integrated into their core work activities (see Table 1).

Compared to the 2018 survey, which reported around one third of agencies were conducting recurring foresight activities, there is an increasing degree of integration of forward-looking activities into core agency tasks. However, agencies also reported that they want to learn (more) about ways to further mainstream futures work into their routine organisational processes to enable the uptake of findings into the agency's work and to solidify futures work within the organisation.

Table 1: Foresight embedded into existing work processes of EU-ANSA members (number of mentions)

Integration of foresight into the following processes:	Number of mentions
in strategic planning	5
in research and innovation	4
in core areas of work	3

The resources allocated to foresight activities within individual agencies range from 'no definite staff allocation' up to 3–6 full-time equivalents (FTEs). On average, 1.5 FTEs are available for running futures exercises in an agency ^[9]. The amount of resources spent on foresight by EU-ANSA members covers a wide range: over half of the agencies (7 out of 13) have less than 1 FTE working on foresight (ranging from 10 % to 85 % of their time), two agencies have 1 to fewer than 3 FTE, while three agencies are solidly equipped with 3 to 6 FTE resources to work on foresight activities. In one agency, foresight resources are activated internally in years in which the foresight cycle is active to produce input for multi-annual planning documents. Several agencies also draw on external contractors to run foresight exercises ^[10], but only one agency mentioned this explicitly in the survey.

Looking across agencies, foresight work within the individual agencies is organised in a multitude of ways. One way is the centralised set-up of foresight work within the agency. Four agencies have set up a specific unit, sector or group working on futures activities. In two cases, foresight work is done as part of the strategy of scientific coordination. The most common way of organising foresight work by EU-ANSA members (five agencies) is

^[9] Not accounting for the most extreme values, i.e. the agency with the highest and the one with the lowest number of staff allocated for futures work, the average across the remaining 11 agencies is 1 FTE.

^[10] As reported in the Budapest workshop.

building an internal working group of colleagues who act as champions for the work, i.e. work is organised in transversal form. In four agencies, foresight is implemented and carried out in each unit or sector at the employees' own discretion.

Reflecting on the implications of the results, the wide range in the resources available for foreign work is also driven by the difference in sizes and overall budgets of the agencies. However, the strain of limited resources was reported across agencies. It is thus also clear that very limited resources (i.e. less than 1 FTE, which is the case in seven agencies) often make it challenging to carry out foresight research in the organisation, to ensure quality and to enable an integration of foresight knowledge into internal planning and research processes. In such cases, working with external service providers will be often necessary.

In three cases, agencies reported that they had just one person implementing foresight at their own discretion, which brings with it challenges in contingency planning in cases of absences and of people changing positions. In cases where there is a transversal organisation of futures activities across units or sectors of the agency, keeping up the momentum to invest in foresight work can become a challenge, i.e. to ensure that foresight is sufficiently resourced in the context of competing duties.

Table 2: Organisation of foresight activities in EU-ANSA members (number of mentions)

Organisation of foresight activities	Number of mentions
Internal working group of colleagues (e.g. champions)	5
Specialised unit/sector that works on the topic	4
Each unit/sector implements foresight at their own discretion	4
Done as part of strategy of scientific coordination	2

SUMMARY OF KEY FINDINGS

- Nearly half of agencies embed future activities into their existing work processes.
- The average staff resources available for foresight across the agencies is 1.5 FTE, but with a wide range across agencies from 0.1 to 6 FTE.
- Half of agencies have fewer than 1 FTE working on foresight tasks.
- The way foresight is organised in each agency varies widely: internal working groups, specialised units or each unit implements foresight exercises at its own discretion.

Communication methods and channels

EU-ANSA members actively communicate insights, results and recommendations from their futures studies, specifically targeting stakeholders, providing forums to understand future developments and the implications for their work. Various dialogue and learning formats are used, both face-to-face and online. The alignment of results for specific audiences plays an important role through target-group-oriented reporting, dialogue and information formats.

Nearly all agencies share their foresight results in publications, often accompanied with target-group-specific formats such as policy briefs or regional specific analysis; in addition, the scientific publications and publication of datasets, along with methodological papers/toolkits, are regularly mentioned. In most cases, dissemination takes place via agencies' websites, by informing the stakeholder network, organising specific events or sharing results at topical conferences. Webinars are also used by some agencies to pass on messages and to train people to apply the findings. Additionally, expert workshops and peer learning sessions are used to transfer futures insights into concrete action or strategic planning. Some agencies highlight their activities in foresight results briefings or dialogue and learning formats to disseminate findings and enhance futures literacy across the organisation. As further dissemination channels, some agencies use press releases, newsletters and social media, while one agency is planning to produce a podcast (see Table 2).

Figure 6. Communication channels for sharing foresight from EU-ANSA members (number of mentions)



EUDA – European Union Drugs Agency

One key part of the EUDA's work is anticipating future drug-related challenges and their potential consequences and helping in the development of strategies to achieve the best possible outcomes in this area.

Scenarios can play a major role as a foresight approach that offers a way to consider alternative pathways and reflection on possible upcoming developments. They highlight risks and opportunities and facilitate discussion and communication around actions and strategies by showing how actions in the present, i.e. future-shaping, targeted decisions by stakeholders and policymakers, can result in desirable outcomes.

An EUDA workshop was accepted and included in the scientific programme of Lisbon Addictions 2024, currently the biggest addiction conference worldwide. Participants were introduced to the future EUDA scenarios and invited to share their insights on what changes the different scenarios could bring to the drugs and addictions field, before reflecting on what these changes could mean for key stakeholders in 2040. Insights from this workshop helped to fine-tune and finalise the EUDA framework scenarios for the future of drugs published in 2025, together with a dedicated toolkit on how to run a scenario workshop, as a further step in the continued foresight journey of the agency.

EFSA – European Food Safety Authority

Between 2021 and 2023, EFSA, with the collaboration of the JRC, ran a project on 'Ensuring preparedness for the assessment of safety of new food/feed sources and production technologies'. It included a stakeholder workshop, called 'Future food/feed lab'. The aim of this project was to evaluate whether signals of emerging technologies ('weak signals') in the field of new food/feed sources and innovative production technologies can be identified combining the expertise and IT systems of JRC (Tools for Innovation Monitoring) with EFSA expert knowledge to validate these signals. The 'Future food/feed lab' added value by gathering feedback on the identified weak signals, reviewing the research methodology used and detecting additional signals and emerging production technologies of interest.

The target audience of the lab was defined to include selected stakeholders from academia, industry, non-governmental organisations,

EU institutions and agencies, EU national authorities and international organisations. The list of stakeholders was built on the outcome of a stakeholder mapping assignment, which was further complemented by an open call for an expression of interest.

Four discussion groups were created within the lab, each focusing on a specific area of interest: cell-culture-derived meat, nanotechnology, novel feed and edible insects. In the plenary session, which took place on the second day of the lab, the outcomes of the group discussions were presented, which triggered further sharing of knowledge and expertise among the 32 participants. The list of the weak signals and the outcome of the workshop were published at the end of February 2025.

The [final report](#) has recently been published on the EFSA website.

SUMMARY OF KEY FINDINGS

- Active communication and a targeted approach to specific stakeholders are quite common.
- Some agencies carry out futures dialogues to increase the uptake of insights and the translation of findings into action, together with key target groups.
- Informing stakeholder networks and using events and conferences are reported as key communication channels.

Collaboration with other agencies

Two thirds of the agencies (eight agencies) have collaborated with other agencies in conducting futures work, or with other external regional or international organisations or networks. Four agencies elaborated that their collaboration with other EU agencies focuses on integrating topical expertise via contributions to foresight processes and workshops, while one agency mentioned carrying out mutual learning seminars. An interest in increasing collaboration was expressed by those four agencies who have not yet collaborated with other agencies in their futures work.

All EU-ANSA Futures Cluster members see areas of their current or planned foresight work as potentially relevant to share with other members. Cross-cutting topics are likely to be of relevance, with mentions given to the green transition, the green and digital transitions (the twin transition), digital transformation topics (such as artificial intelligence), the future of work and skills, housing, the 'one health' approach and digital health. Security-related topics were also thought to be of more general interest. These are cross-cutting topics that are of shared interest for several different agencies and are topics linked to the priorities of the EU. With respect to foresight approaches, areas for collaboration named are joint horizon scanning, scenarios that benefit from joint exploration or even the joint development of scenarios ^[11]. Furthermore, the agencies reported examples where collaboration can support (and already has supported) the sharing of experiences in running foresight activities within EU agencies, developing competencies in areas such as technology foresight, innovation, forecasting approaches and value-driven foresight approaches that cover fundamental rights.

In conclusion, a considerable volume of collaboration already exists – but there is also the potential for that to be enhanced. The EU-ANSA Futures

^[11] They could be used in a similar way to the JRC's [Reference Foresight Scenarios](#) (Vesnic Alujevic et al., 2023) that are developed to kick-start foresight work and used as a shared benchmark to stress-test policy proposals. They are built to be relatively easily adapted to more specific areas.

Cluster could help address some hurdles to collaboration mentioned in the survey, such as coordinating foresight topics and planning agency work programmes. Reflecting on the results, this implies that it might be helpful for the network to identify possible areas of joint interest at an early stage and to reflect on possible shared topics and the policy priorities of the EU (when these have been set). This could then help align agency work planning in a timely manner, so as to bundle resources and skills across agencies effectively. It is also important to note that collaboration is seen by the agencies as a means to increase futures literacy and develop skills in specific applied futures methods, i.e. it can be expected that collaboration focusing on working together on specific topics (e.g. co-implementing a scenario project on digital health futures) will have the side benefit of increasing the methodological competencies of the participating agencies.

Multi-agency horizon scanning for preparedness and future-proof strategy development in a 'one health' approach

Horizon scanning and foresight are increasingly being used by EU agencies and institutions to provide strategic, anticipatory and future-oriented input useful for the definition of work programmes, agendas and long-term strategies and policies. As such, they are useful methodologies in support of the process of identifying agency-specific strategic options. However, handling the vast amount of sources of information, the throughput of these processes and the efficient uptake of the outcome is, commonly, severely constrained by available resources. In addition, these exercises are often organised by single agencies or institutions, ignoring as such the complex and interlinked nature of drivers of change that trigger implications across a variety of sectors, and resulting in a multitude of reports with limited impact/usefulness in

contributing to the Strategic Foresight Reports of the European Commission.

This project, launched and coordinated by EFSA and EUDA, to be implemented throughout 2025, will bring together several agencies of the EU-ANSA Futures Cluster and the relevant Commission services to run a participatory ad hoc horizon-scanning process in a 'one health' approach. The ultimate goal is to inform the possible update of its current work programmes and the definition of robust strategies to stay relevant in a fast-changing future world. It is also a pilot of what could become a standing process implemented in the context of the EU-ANSA Futures Cluster's activities, which consists in running joint horizon-scanning exercises with a frequency compatible with sustainability criteria to be agreed upon.

SUMMARY OF KEY FINDINGS

- All agencies see their futures work as relevant for other agencies.
- Two thirds of agencies have already collaborated with EU-ANSA partners on foresight work, from joint studies and mutual learning exercises to workshop participation.
- There is a strong interest in increasing collaboration, and several mostly cross-cutting topics of possible general interest have been identified.

Key outcomes and benefits

Nearly all EU-ANSA members (12 out of 13) see futures work as an instrumental way to engage with their main stakeholders. Futures activities and outputs are used to ^[12]:

- inform political debates at various levels (EU institutions, Member States, etc.);
- provide thought leadership in high-level dialogues, inspire discussion in forums and networks and actively shape the agenda through sound and relevant proposals;
- provide evidence for national initiatives and Commission-funded projects.

Three quarters of the agencies (10 out of 13) see the advantage of foresight results being incorporated into internal decision-making processes, while in nearly two thirds of the agencies (8 out of 13) results inform external decision-making processes.

Foresight is reported to provide:

- input to agencies' policy strategies (strategic documents, work programmes, R & I programmes);
- future evidence-based insights for policymaking;
- input to policy strategies to support the EU level in policymaking processes;
- assistance to Member States in their planning and preparedness measures (e.g. 'Forecasting asylum applications in the EU+ – A multi-scenario analysis for 2024').

More than half of the agencies (7 out of 13) see the benefit of foresight in making the staff more sensitive to external drivers of change and thus improving preparedness. Foresight is reported to support better preparedness via:

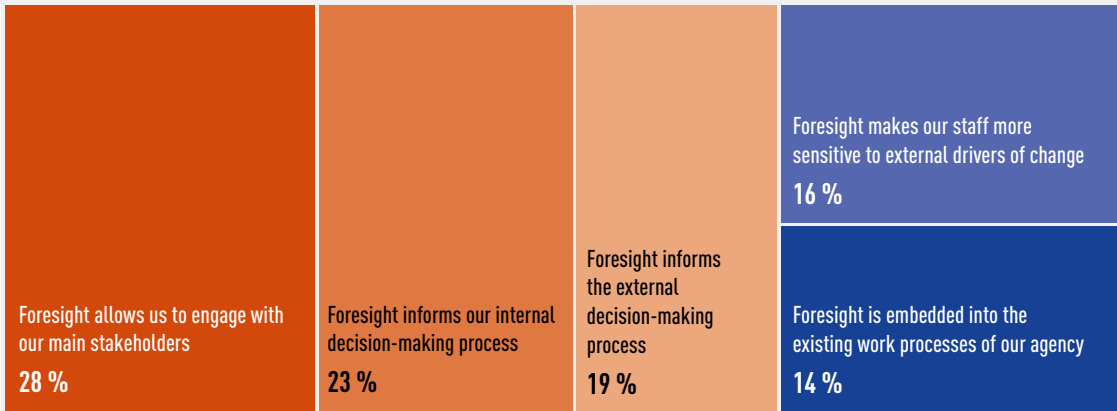
- cultural change towards more anticipatory mindsets and the diffusion of futures thinking;
- the building of preparedness, agility, resilience and adaptivity;
- a better systemic understanding of the development trajectories and trends and pathways that might challenge the agency's mission and need for action;
- innovation of the scope of political measures, widening the scope of options and opportunities to consider.

^[12] Topics mentioned in the bullet-point lists in this section come from a clustering of statements on the key outcomes and benefits of foresight activities in the agencies.

As a side effect of carrying out foresight activities in a participatory manner, i.e. through involving colleagues from across the agency, foresight is also reported to help improve working modes and overall collaboration quality through:

- more systematic approaches, to develop strategies and policy options outside the narrow scope of the agency and develop an anticipatory mindset and forward-looking culture;
- stronger interdisciplinary collaboration across sectors and units in the agency (breaking silos);
- the establishing of new collaborative networks with experts and organisations outside the usual partnerships;
- the identification of emerging and future research priorities and existing gaps.

Figure 7. The purpose and benefits of foresight activities reported by EU-ANSA members (percentage of all mentions, multiple answers possible)



EUDA – European union Drugs Agency

The EUDA contributes annually to the Commission’s research cycle by suggesting the priorities for research funding in the drugs area. Until the change in the EUDA’s mandate (July 2024), which now gives full responsibility to the agency, the EUDA’s Scientific Committee was participating in the Standing Committee on Operational Cooperation on Internal Security’s dialogue on research, providing insights into future research priorities to the Council’s Horizontal Working Party on Drugs.

In 2022, the Scientific Committee’s contribution was developed based on the EUDA’s ‘futures exercise 2030’, a horizon-scanning exercise that analysed the implications of global drivers of change (megatrends) for the drugs situation, drug monitoring and drug-related responses. A Delphi study exercise was set up, employing a comprehensive methodology to identify future research priorities in the drugs field within the European Union. The study began with the formulation of 25 hypotheses, referred to as

'theses', derived from the previous horizon-scanning exercise. These theses were refined through expert workshops and subsequently evaluated through a survey conducted among selected experts in the field. The survey aimed to assess the expected certainty, earliest time to maturity and level of influence of each thesis on the drugs field. The experts evaluated each thesis

based on two main criteria: the expected certainty of occurrence and the level of influence on the drugs field. These two axes helped in determining the overall impact and maturity of the theses. Results from this Delphi study were presented at the 2023 Dialogue on Research to provide input to the EU research cycle.



ECDC – European Centre for Disease Prevention and Control

In its 2022 amended mandate (Regulation 2022/2370), the ECDC is tasked with bolstering its anticipation capacity for prevention, preparedness and response planning. As this touches the core mission of the ECDC, this requirement entails embedding anticipatory 'futures' thinking and strategic foresight practices into the modus operandi of staff across the agency.

A range of relevant foresight skills and competencies have been taken up in the Competency Library for ECDC staff: as transversal competencies for all staff, as 'strategic vision' specifically for managers and as core technical competencies for staff in operational positions. A structured foresight capacity-building curriculum provided monthly training courses and hands-on workshops to all staff. This started with a general introduction to foresight, continuing on to deep dives into easy-to-apply foresight methods that teams would be able to use mostly independently for their own purposes, and culminating in more advanced explorations into institutionalising strategic foresight and anticipatory culture.

In parallel, a bottom-up 'Foresight and futures community of practice' brought together motivated staff that wanted to get more involved in (strategic) foresight and futures thinking. Peer learning through the sharing of insights and resources was aided by a virtual community platform.

Members of the community of practice were also further trained and involved in facilitating foresight workshops that were part of the ECDC's threat scenarios foresight programme (see ECDC box under 'Methodological portfolio and time horizons'). Besides directly informing policy and strategy, that programme also helped develop a 'common language' for public health foresight in the agency, along with further fostering foresight capacity building.

More formalised institutionalising of foresight in the agency was facilitated through a cross-agency foresight taskforce with appointed representatives from all units, including the chief scientist and the head of resource management services (human resources, legal, finance, etc.). This taskforce steers the ECDC's foresight activities towards delivering maximum benefit to the whole of the agency and ensures it aligns with the agency's operational needs and constraints.

These different lines of foresight integration have contributed to broad awareness and experience across the agency, although the time available to staff to structurally apply foresight methodologies in their work remains limited. That said, signs of a cultural change towards more forward-looking and interdisciplinary discussions are indicating benefits that are very impactful, even if difficult to measure.



Cedefop – European Centre for the Development of Vocational Training

Launched in 2024, Cedefop's study on continuing skills development in the EU in the coming decades explores how various forces will shape skills development needs and approaches in the EU in the next 15 to 20 years. It examines the intricate relationships between changes in the labour market, societal trends, environmental factors, technological advancements and their combined impact on workforce skills development. Understanding these interconnections is crucial for identifying effective trajectories of action to achieve a shared and comprehensive vision for continuing skills development.

The study engages a broad range of stakeholders, including futurists and experts, policymakers at various levels, employees' representatives, employers' representatives, civil society organisations and education and training and guidance providers. It is built on three successive steps: scenario building, scenario exploration and vision building.

In the scenario-building phase, Cedefop identified, through a literature review and discussions within experts, 22 trends most likely to influence future developments in the continuing skills development of adults in 15 to 20 years from now. Trends were then analysed, with experts and

stakeholders, in terms of their potential impact on each other, along with the level of uncertainty in how they will evolve in the future under two iterations. Through morphological analysis, four distinct evolution paths emerged, resulting in four scenario outlines that were discussed with experts and stakeholders during an initial expert workshop and through a Delphi-type survey. These scenarios offer alternative views on how various features and conditions relevant to continuing skills development might evolve over the next 15 to 20 years, and their [summaries are available in a podcast format](#).

The scenario exploration phase engages a broader set of stakeholders to discuss how they see their interests, goals and roles within the different scenarios. The vision-building phase will draw on the findings from the scenario exploration to identify areas of convergence and divergence among stakeholders: visions, goals and enabling factors. This will serve as a basis for developing a common vision and trajectories of action for each stakeholder type to contribute to the vision.

The strategic foresight study is expected to conclude at the end of 2025. The initial findings will be available in the first half of 2025, while the full findings will be available at the end of 2025.

SUMMARY OF KEY FINDINGS

- Foresight was widely endorsed as being a valuable tool to engage with the agencies' main stakeholders.
- Other benefits named include informing internal and external decision-making processes, sensitising colleagues to drivers of change and improving preparedness, and an overall effect of improving the quality of collaboration between and within agencies.

Areas for improvement and lessons learnt

The responses to the lessons learnt in conducting futures activities and the areas for improvement centre around four topic areas.

1. Enhancing the integration of foresight into core agency functions.
2. Expanding and upscaling foresight approaches.
3. Strengthening foresight impact through meaningful stakeholder engagement.
4. Effectively communicating as a catalyst for foresight impact.

Enhancing the integration of foresight into core agency functions

Several respondents highlighted the opportunity to more closely align foresight processes with the core activities of agencies, rather than treating them as separate or additional tasks. Strengthening the connection between foresight insights and areas such as R & I capability planning and strategic cycles could add meaningful value.

This alignment may also help address some of the challenges agencies face – such as securing adequate resources and time for projects – while fostering greater engagement from leadership and staff. Encouraging the presence of a ‘futures champion’ and nurturing a culture that embraces foresight could be particularly beneficial.

To support the practical uptake of foresight insights, both internally and externally, agencies noted the importance of translating findings into clear, actionable recommendations. A streamlined yet robust approach to developing strategic implications – one that thoughtfully involves internal resources and remains focused and manageable – was seen as especially valuable.

Expanding and upscaling foresight approaches

Several agencies reported the need to further develop approaches and methods of running foresight projects. Drawing on existing foresight work is regarded as a possible lever, with examples being working with tools or publications from EU JRC, such as the JRC’s [Reference Foresight Scenarios](#) (Vesnic Alujevic et al., 2023) or foresight studies from agencies across the EU-ANSA ^[13]. Digital and remote engagement approaches (online workshops, remote interviews, online surveys, real-time Delphis, etc.) are also named as possible levers to reduce coordination efforts.

^[13] For example, EEA Imaginaries’ ‘[Scenarios for a sustainable Europe in 2050](#)’ project or [EU-OSHA’s circular economy scenarios](#) (EU-OSHA, 2021 and 2023).

Scalable approaches that allow for an efficient expansion of foresight analysis across sectors, countries, stakeholder groups, etc., are named as an area for improvement, as are more distributed, multi-method approaches that allow for flexible but targeted involvement of agency staff in futures work.

Strengthening foresight impact through meaningful stakeholder engagement

According to the survey responses, agencies believe that the selection of groups of experts and further stakeholders to participate in the foresight process requires especially careful consideration. Alongside relevant subject matter experts, it is important (but sometimes challenging) to have representation from a range of diverse groups, perspectives and mindsets. However, the possible diverging views should be identified ahead of time; their integration into projects in a meaningful way is regarded as crucial to ensuring buy-in of the foresight results. While identifying and engaging new stakeholders and achieving a balanced representation of different players are challenging and require resources, some levers to ensure success were also identified. These included ensuring that the involved experts and stakeholders are properly informed and that expectations are managed well (e.g. via read-ahead packages) so they can arrive with an open mindset and have a chance to prepare, and that the results and impact of the foresight work are continuously and effectively communicated to stakeholders.

Effectively communicating as a catalyst for foresight impact

To turn future knowledge into strategic action, many agencies see the communication of results as a crucial step and as a prerequisite for achieving sustainable foresight impact. According to the learnings shared, the communication of results should ideally be focused on key target groups and include perspective briefs and output types that home in on the groups' specific needs. Working with multipliers (such as cross-cutting policy players and multidisciplinary experts) is also regarded as important: sharing foresight insights and identifying learnings via collaboration in futures dialogues achieve buy-in and improve the quality of strategic insights concerning challenges and opportunities. Here, several dialogue formats, including serious game approaches, are reported to be especially useful for activating and enabling target groups to take up insights into their own decision-making processes. Beyond targeted communication, the wide sharing of results is also confirmed as useful.

SUMMARY OF KEY INSIGHTS

- There is a shared view that foresight could be more closely integrated into agencies' core functions. Leadership support plays a key role in this, and identifying internal 'champions' may help foster broader engagement and alignment.
- Involving stakeholders is widely seen as a critical success factor. Careful consideration of the composition of expert and stakeholder groups – ensuring a diversity of perspectives and mindsets – can enhance the relevance and acceptance of foresight outcomes.
- Many agencies see value in continuing to evolve the approaches and methods used in foresight work. Building on existing foresight studies and tools is considered a practical way to enrich the methodological toolkit.
- Communicating foresight results effectively is regarded as essential. Tailoring messages to key audiences and using engaging formats can help activate and empower stakeholders to apply insights in their own contexts.

Conclusions: reflecting on options for future activities and enhanced cooperation

The period from 2019 to 2024 marked a significant phase in the evolution of foresight and futures work across EU-ANSA member agencies. This time frame coincided with a notable institutional shift within the European Union, exemplified by the appointment of the first Commission Vice-President for Foresight in 2019. This development reflected a broader strategic commitment to embedding long-term thinking into EU policymaking. Concurrently, the global context has been shaped by a series of complex and disruptive events – including the COVID-19 pandemic, intensifying geopolitical tensions, rapid technological advancements (notably in artificial intelligence) and rising political instability. These developments have collectively underscored the increasing volatility and uncertainty of the policy environment, reinforcing the need for more resilient and forward-looking governance frameworks.

In this context, the survey findings indicate growing recognition among EU-ANSA agencies of the value of foresight as a strategic function. Agencies have demonstrated increasing maturity in their foresight practices, with evidence of enhanced methodological capabilities, broader thematic coverage and deeper integration into institutional processes. This progress reflects a shared understanding of the importance of preparing for a wider range of futures and strengthening the EU's capacity to anticipate and respond to emerging challenges and opportunities.

This increase in the depth, breadth and expertise in foresight is observable across several areas in the survey results. For example, the level of technical competency rose during the survey period (compared to the outcomes of the first survey), while at the same time an ongoing need to improve foresight and futures competencies and widen the range of methods has been reported. Already, many agencies are actively addressing this issue by conducting foresight capacity building and training activities. Furthermore, the ways in which agencies have set up the organisation and resource base of foresight work is quite varied, taking many different forms: it ranges from being centrally set up with specialised units, to being part of strategic and scientific coordination in the decentralised form of internal working groups, to distributed responsibility in each unit or sector. The communication of foresight outputs also varies, usually combining broad publication of the results, together with targeted briefs and interaction with the core addressees that are intended to take up the messages. In terms of benefits, foresight is reported to be instrumental for engaging with stakeholders in a meaningful debate, for providing futures evidence

to inform policymakers' and other external stakeholders' decision-making processes and for planning internal programmes, strategy processes and core agency content work. The collaboration in the EU-ANSA Futures Cluster on foresight matters is clearly regarded as strong and beneficial, and while (more) options for joint foresight projects have been identified, implementing them also remains challenging, mainly due to resource issues.

Building on the survey results and reflecting on possible avenues for further activities in the agencies and in the cluster, three crucial focus areas for possible future activities can be identified.

- 1.** Enabling deeper and improved integration of foresight and futures work into agency processes and their main functions ('Strengthening the basis'), with, for example, targeted interactive workshops to facilitate peer learning, experience sharing and the identification of actionable improvements.
- 2.** Supporting active and differentiated stakeholder involvement strategies ('Extending the reach in terms of depth and breadth'), with dedicated sessions and the sharing of case studies within the network.
- 3.** Exploring further avenues and modes for collaboration in EU-ANSA ('Utilising synergies'), which can range from cooperation on projects to joint initiatives.

Recent agency projects – highlights ⁽¹⁴⁾

Name of activity (agency that carried out the activity)	Clusters of topics					
	Sustainability	Work/skills	Security	Health	Other	Methods and toolkits
Vocational education and training (VET) for 'smart' cities and the green transition (Cedefop)	X	X				
Drivers of change relevant for public health and the infectious disease landscape, and threat scenarios for 2040 (ECDC)	X		X	X		
Imagining sustainable futures for Europe 2050 (EEA)	X					
Future challenges for the safety of food and feed from the oceans (EFSA)	X					X
Policy brief 'Fostering a gender and intersectional perspective in EU foresight' (EIGE)						X
Gender-responsive evaluation for a sustainable future for all (GREENA) step-by-step toolkit (EIGE)						X
Foresight on futures of gender equality: a how-to guide (EIGE)						X
Forecasting of initial marketing authorizations applications (EMA)	X			X		X
Horizon scanning: analysis of future innovations and trends (EMA)	X			X		X
Capacity-building toolkit for megatrends analysis in the drugs field (EUDA)			X	X		X
Skills for the future in the crafts sector (ETF)		X				
Use of the 'Scenario exploration system' for the dissemination of foresight insights from the recent studies on the circular economy and its implications for occupational safety and health (macro-scenarios and micro-scenarios by sector) (EU-OSHA)	X					X
The future of international protection in the EU+ in the next 10 years – Summary report (EUAA)			X	X		
Future of telework and hybrid work (Eurofound)		X				
Foresight methodology compliant with fundamental rights, to support policymakers when conducting foresight studies – in progress (FRA)					X*	X
Foresight workshop on fundamental rights and environmental protection (FRA)	X				X*	
Fundamental rights scenarios in EU 2040 (FRA)					X*	
Fundamental rights foresight briefs (FRA)					X*	
Technology foresight on biometrics for the future of travel (Frontex)			X			

* fundamental rights

⁽¹⁴⁾ See Annex I for more detail and links; here, answers are partially adapted to ensure ease of understanding. The list stems from the projects the agencies named in the survey as highlights of their recent work; the attributions to the overarching cluster topics were carried out by the authors of this paper.

References

European Commission (2020), 'Strategic foresight', European Commission website, https://commission.europa.eu/strategy-and-policy/strategic-planning/strategic-foresight_en.

EU-ANSA (2019), A review of the use of 'futures-orientated activities' within the EU-ANSA. An internal discussion paper (unpublished).

EU-OSHA (2021 and 2023), 'Circular economy and its effects on OSH', EU-OSHA website, <https://osha.europa.eu/en/emerging-risks/circular-economy>.

Neels, C. (2020), 'A systematic literature review of the use of foresight methodologies within technology policy between 2015 and 2020', STEaPP Working Paper Series, No 4, https://www.ucl.ac.uk/engineering/sites/engineering/files/final_neels_111120.pdf.

Popper, R. (2008), 'Foresight methodology', in Georghiou, L., Cassingena, J., Keenan, M., Miles, I. and Popper, R. (eds.), *The Handbook of Technology Foresight – Concepts and Practice*, Edward Elgar, Cheltenham, pp. 44-88.

Vesnic Alujevic, L., Muench, S. and Stoermer, E. (2023), *Reference foresight scenarios on the global standing of the EU in 2040*, Publications Office of the European Union, Luxembourg, JRC132943 (EU JRC reference scenarios), <https://doi.org/10.2760/490501>.

Additional resources

Daheim, C. (2020), 'Emerging Practices in Foresight', in: Slaughter, R. and Hines, A. (eds.), *The Knowledge Base of Futures Studies*, Association of Professional Futurists, Washington DC and Brisbane, pp. 125–142.

European Commission: Directorate-General for Research and Innovation and Daheim, C. (2023a), *Mutual learning exercise – R & I foresight – An introduction to the current state of play – Thematic report*, Publications Office of the European Union, <https://data.europa.eu/doi/10.2777/528500>.

European Commission: Directorate-General for Research and Innovation and Cassingena Harper, J. (2023b), *R & I foresight in government – A handbook for policymakers – Final report*, Cassingena Harper, J. (ed), Publications Office of the European Union, <https://data.europa.eu/doi/10.2777/505702>.

EEA (2022), 'The "Scenarios for a sustainable Europe in 2050" project', EEA website, 12 May, modified 7 March 2024, <https://www.eea.europa.eu/publications/scenarios-for-a-sustainable-europe-2050/the-scenarios>.

Heo, K. and Seo, Y. (2021), 'Anticipatory governance for newcomers: Lessons learned from the UK, the Netherlands, Finland, and Korea', *European Journal of Futures Research*, Vol. 9, No 9, 11 July, pp. 1-14, <https://doi.org/10.1186/s40309-021-00179-y>.

Keenan, M. and Garcia, L. (2021), 'OECD 2021 Survey of STI Foresight Exercises and Organisations – Slovenian Presidency Informal Workshop on Foresight and R & I, 10 December, unpublished PowerPoint presentation.

OECD (2021), *Strategic Foresight for Better Policies – Building Effective Governance in the Face of Uncertain Futures*. OECD Strategic Foresight Unit and OECD Publishing, Paris.

OECD (2021), *Foresight and Anticipatory Governance in Practice. Lessons in effective foresight institutionalisation*, OECD Strategic Foresight Unit and OECD Publishing, Paris.

Annexes

Annex I: Highlights from the agencies' existing foresight publications or activities

This list is composed of the work shared by the agencies themselves when answering the survey; thus, it encompasses unpublished work and does not feature all activities of the agencies during the time in question (2018 to spring 2024); see Annex II for more examples.

Agency	Name of activity or publication	Link (where applicable and supplied)
Cedefop	VET [vocational education and training] for 'smart' cities and the green transition	https://www.cedefop.europa.eu/en/news/vet-smart-cities-and-green-transition
ECDC	Future challenges for infectious disease prevention and control – A strategic foresight approach to enhance European public health preparedness and resilience	https://www.ecdc.europa.eu/en/publications-data/future-challenges-infectious-disease-prevention-and-control
EEA	Imagining sustainable futures for Europe 2050	https://www.eea.europa.eu/publications/scenarios-for-a-sustainable-europe-2050/imagining-sustainable-futures-for-europe
EFSA	<i>Future challenges for the safety of food and feed from the oceans: A foresight study</i>	https://www.efsa.europa.eu/sites/default/files/2024-01/7.5-future-challenges-safety-food-feed-oceans.pdf
EFSA	<i>Ensuring preparedness for the assessment of safety of new food/feed sources and production technologies</i>	Ensure preparedness for the assessment of safety of new food/feed sources and production technologies - 2025 - EFSA Supporting Publications - Wiley Online Library
EIGE	Policy brief: 'Fostering a gender and intersectional perspective in EU foresight'	https://eige.europa.eu/publications-resources/publications/fostering-gender-and-intersectional-perspective-eu-foresight?language_content_entity=en
EIGE	Gender-responsive evaluation for a sustainable future for all – GREENA step-by-step toolkit	https://eige.europa.eu/gender-mainstreaming/toolkits/gender-responsive-evaluation-greena
EIGE	<i>Foresight on Futures of Gender Equality: A how-to guide</i>	Publication forthcoming in 2025
EMA	Forecasting of initial marketing authorisation applications	No link available
EMA	EU Innovation Network (EU-IN) horizon-scanning reports: analysis of future innovations and trends	https://www.ema.europa.eu/en/committees/working-parties-other-groups/eu-innovation-network-eu#ongoing-activities-282

Agency	Name of activity or publication	Link (where applicable and supplied)
EUDA	Capacity-building toolkit for megatrends analysis in the drugs field	https://www.euda.europa.eu/publications/manuals-and-guidelines/how-run-trends-workshop-emcdda-foresight-toolkit-drugs-field_en
ETF	Skills for the future in the crafts sector	https://www.etf.europa.eu/en/publications-and-resources/publications/crafting-future-five-squared-52
EU-OSHA	The use of the serious game (scenario exploration system by JRC) for the dissemination of our reports in (very) interactive workshop sessions, as a first step to capacity building.	Link to overall tool: https://knowledge4policy.ec.europa.eu/foresight/tool/scenario-exploration-system-ses_en
EUAA	<i>The future of international protection in the EU+ in the next 10 years – Comprehensive report</i>	https://euaa.europa.eu/publications/future-international-protection-eu-next-10-years-comprehensive-report
Eurofound	<i>The Future of Telework and Hybrid Work – Anticipating and managing the impact of change</i>	https://www.eurofound.europa.eu/en/publications/2023/future-telework-and-hybrid-work
FRA	Strategic foresight in the area of fundamental rights	https://fra.europa.eu/en/project/2024/strategic-foresight-area-fundamental-rights
Frontex	<i>Technology foresight on biometrics for the future of travel</i>	https://www.frontex.europa.eu/innovation/eu-research/news-and-events/frontex-publishes-technology-foresight-on-biometrics-for-the-future-of-travel-us6C6v

Annex II: Main projects from the agencies' existing foresight publications or activities

This list is composed of the work shared by the agencies themselves when answering the survey; thus, it encompasses unpublished work and does not necessarily feature all activities of the agencies during the time in question (2018 to spring 2024).

Agency	Name of activity or publication	Link (where applicable and supplied)
Cedefop	Labour market and skills forecast	https://www.cedefop.europa.eu/en/tools/skills-forecast
Cedefop	Implications of the European Green Deal on skills and jobs:	
Cedefop	<i>The Green Employment and Skills Transformation: Insights from a European Green Deal skills forecast scenario</i> , 2021.	https://www.cedefop.europa.eu/en/publications/4206
Cedefop	<i>Skills in Transition: The way to 2035</i> , 2023.	https://www.cedefop.europa.eu/en/publications/4213
Cedefop	Skills foresights:	
Cedefop	<i>Cities in Transition: How vocational education and training can help cities become smarter and greener</i> , 2022.	http://data.europa.eu/doi/10.2801/009067
Cedefop	<i>Too Good to Waste: Tapping the potential of vocational education and training in the waste management sector – Policy brief</i> , 2022.	http://data.europa.eu/doi/10.2801/434846
Cedefop	<i>Growing Green: How vocational education and training can drive the green transition in agri-food – Policy brief</i> , 2023.	http://data.europa.eu/doi/10.2801/305793
Cedefop	<i>From Linear Thinking to Green Growth Mindsets: Vocational education and training and skills as springboards for the circular economy – Policy brief</i> , 2023.	http://data.europa.eu/doi/10.2801/813493
Cedefop	VET futures:	
Cedefop	'Vocational education and training in Europe, 1995-2035: Scenarios for European vocational education and training in the 21st century', <i>Cedefop Reference Series</i> , No 114, 2020.	https://www.cedefop.europa.eu/en/publications/3083
Cedefop	'The future of vocational education and training in Europe', <i>Cedefop Reference Series</i> , No 125, 2023.	https://www.cedefop.europa.eu/en/publications/3094
ECDC	2022–2023: Drivers of change relevant for ECDC's mission and operations, possible future trajectories and interactions (internal and external experts).	https://www.ecdc.europa.eu/en/about-ecdc/what-we-do/ecdc-foresight-programme https://www.ecdc.europa.eu/en/mapping-driver-trajectory-interactions

Agency	Name of activity or publication	Link (where applicable and supplied)
ECDC	2023: PESTLE (political, economic, social, technological, legal and environmental) analysis of operational environment (internal).	
ECDC	2023: Threat scenarios for 2040 with challenges for infectious disease prevention and control (internal and external experts).	https://www.ecdc.europa.eu/en/about-ecdc/what-we-do/ecdc-foresight-programme
ECDC	2023–2024: Foresight capacity-building programme for all staff (internal).	
ECDC	2023–2024: Future-ready strategic actions to enhance ECDC's preparedness and resilience to future challenges (internal and external experts, ECDC governance bodies and key stakeholders).	https://www.ecdc.europa.eu/en/publications-data/future-challenges-infectious-disease-prevention-and-control
EEA	'Imagining sustainable futures for Europe 2050'	https://www.eea.europa.eu/publications/scenarios-for-a-sustainable-europe-2050/imagining-sustainable-futures-for-europe
EEA	Briefing: 'From the daily office commute to flexible working patterns – teleworking and sustainability'	https://www.eea.europa.eu/publications/from-the-daily-office-commute
EEA	<i>Drivers of change of relevance for Europe's environment and sustainability</i>	https://www.eea.europa.eu/publications/drivers-of-change
EEA	<i>Horizon Scanning – Tips and tricks – A practical guide</i>	https://www.eea.europa.eu/publications/horizon-scanning-tips
EEA	Briefing: 'Reimagining the food system through social innovations'	https://www.eea.europa.eu/publications/reimagining-the-food-system-the
EFSA	'Climate change as a driver of emerging risks for food and feed safety, plant, animal health and nutritional quality'	https://www.efsa.europa.eu/en/supporting/pub/en-1881
EFSA	Foresight workshop on 'Circular Future: emerging feed sources, technologies and related risks'	https://www.efsa.europa.eu/en/events/foresight-workshop-circular-future-emerging-feed-sources-technologies-related-risks
EFSA	Stakeholder workshop on new food/feed sources and technologies	https://www.efsa.europa.eu/en/events/future-food-and-feed-lab-stakeholder-workshop-new-foodfeed-sources-and-technologies
EFSA	'Navigating tomorrow's tide: Exploring the future of ocean resources and their impact on food and feed safety'	https://www.efsa.europa.eu/en/supporting/pub/en-9058
EIGE	Strategic foresight workshops and public survey on gender equality to inform the internal EIGE planning strategy.	https://eige.europa.eu/about/our-work/strategic-foresight?language_content_entity=en

Agency	Name of activity or publication	Link (where applicable and supplied)
EIGE	Foresight youth visioning workshops: 'Co-creating positive future visions for gender equality'.	
EIGE	Foresight masterclass: 'Practical insights in trend-based foresight for gender equality'.	
EIGE	Gender-responsive strategic foresight in evaluation.	https://eige.europa.eu/gender-mainstreaming/toolkits/gender-responsive-evaluation-greena
EMA	'New approach methodologies – EU-IN horizon scanning report'	https://www.ema.europa.eu/en/committees/working-parties-other-groups/eu-innovation-network-eu#ongoing-activities-282
EMA	'Nanotechnology-based medicinal products for human use – EU-IN horizon scanning report'	These are confidential or restricted documents, but some reports are published. For additional information: Improving efficiency of approval process for new medicines in the EU European Medicines Agency.
EMA	'Alzheimer's disease – EU-IN horizon scanning report'	These are confidential or restricted documents, but some reports are published. For additional information: Improving efficiency of approval process for new medicines in the EU European Medicines Agency.
EMA	'Faecal microbiota transplantation – EU-IN horizon scanning report'	These are confidential or restricted documents, but some reports are published. For additional information: Improving efficiency of approval process for new medicines in the EU European Medicines Agency.
EMA	'Genome editing – EU-IN horizon scanning report'	These are confidential or restricted documents, but some reports are published. For additional information: Improving efficiency of approval process for new medicines in the EU European Medicines Agency.
EMA	Forecasting of initial marketing authorisation applications.	These are confidential or restricted documents, but some reports are published. For additional information: Improving efficiency of approval process for new medicines in the EU European Medicines Agency.
EUDA	Horizon scanning in view of creating a set of recommendations to keep the EUDA tools and methods fit for purpose in the context of the changing information environment and new information needs. A report from the first future exercise: <i>The Future of European Drug Monitoring by 2030 – A report summarising the findings and lessons learnt from the EMCDDA's 'futures study'.</i>	https://www.euda.europa.eu/publications/technical-reports/future-drug-monitoring-europe-until-2030_en
EUDA	Development of capacity-building materials, including trend cards and a toolkit for megatrend analysis.	

Agency	Name of activity or publication	Link (where applicable and supplied)
EUDA	Piloting Delphi to define future research priorities for the drugs area with the EUDA Scientific Committee and the EUDA staff. The Delphi theses were based on the result of the horizon-scanning activities.	
EUDA	Scenarios development for the drugs area by 2040.	https://www.euda.europa.eu/publications/manuals-and-guidelines/foresights-framework-scenarios-2040_en
ETF	Future of skills in sectors such as crafts and agri-food	
ETF	Future of skills and jobs (future of work methodology)	
ETF	New forms of work and platform economy	
ETF	Skills for smart specialisation	
ETF	Systemic trends in partner countries and their implications for jobs and skills	
ETF	STEEPV (social, technological, economic, ecological, political and values) trends and weak signals, implications for EU positioning and for human capital development players and their positioning	
ETF	Future of education and work in light of AI and digital evolution (with Skills Lab Network of researchers)	
EU-OSHA	The consequences of the digital transition and green transition (circular economy) at work specifically for safety and health at work	https://osha.europa.eu/en/emerging-risks/circular-economy
EUAA	Main topic: international protection <i>The future of international protection in the EU+ in the next 10 years – Summary report</i>	Summary report: https://euaa.europa.eu/publications/future-international-protection-eu-next-10-years-summary-report Comprehensive version: https://euaa.europa.eu/publications/future-international-protection-eu-next-10-years-comprehensive-report
Eurofound	Green transition Hybrid work	https://www.eurofound.europa.eu/en/publications/2023/future-telework-and-hybrid-work
Eurofound	Platform work	https://www.eurofound.europa.eu/en/publications/2020/back-future-policy-pointers-platform-work-scenarios
FRA	Workshop and report on foresight methodology and fundamental rights	https://fra.europa.eu/en/project/2024/strategic-foresight-area-fundamental-rights
FRA	Foresight on environmental protection and fundamental rights	

Agency	Name of activity or publication	Link (where applicable and supplied)
FRA	Foresight process feeding the internal FRA planning strategy	
Frontex	<i>Technology foresight on biometrics for the future of travel</i> , 2021.	https://www.frontex.europa.eu/innovation/eu-research/news-and-events/frontex-publishes-technology-foresight-on-biometrics-for-the-future-of-travel-us6C6v
Frontex	JRC technical report on <i>Weak Signals in Border Management and Surveillance Technologies</i> , 2022.	https://data.europa.eu/doi/10.2760/784388
Frontex	Research study on 'Research Support Service on Technology Horizon Scanning', 2023.	https://www.frontex.europa.eu/innovation/eu-research/news-and-events/frontex-technology-horizon-scanning-project-closure-Vg6Kd5
Frontex	Research study on 'Key Enabling Technologies and Privacy Enhancement in Justice and Home Affairs', which included the study and report on 'Privacy enhancement and autonomous platforms and edge computing', 2023.	
Frontex	Report on <i>Extended Reality (XR): Horizon scanning report</i> , 2023.	https://www.frontex.europa.eu/innovation/eu-research/news-and-events/assessing-the-use-of-extended-reality-oRp5KX
Frontex	Research study on 'Emerging Training Technologies and Concepts for the European Border and Coast Guard (EBCG)', 2023–2024.	https://www.frontex.europa.eu/innovation/announcements/new-research-study-on-emerging-training-technologies-for-the-european-border-and-coast-guard-concludes-uBKS6Z

Annex III: Overview of capacity-building materials from the agencies' foresight activities

This list is composed of the work shared by the agencies themselves when answering the survey; thus, it encompasses unpublished work and does not necessarily feature all activities of the agencies during the time in question (2018 to spring 2024).

Agency	Name of activity or publication	Link (where applicable and supplied)
Cedefop	Using labour market information	https://www.cedefop.europa.eu/en/publications/2215
Cedefop	Developing skills foresights, scenarios and forecasts	https://www.cedefop.europa.eu/en/publications/2216
Cedefop	Working at sectoral level	https://www.cedefop.europa.eu/en/publications/2217
Cedefop	The role of employment service providers	https://www.cedefop.europa.eu/en/publications/2214
Cedefop	Developing and running an establishment skills survey	https://www.cedefop.europa.eu/en/publications/2219
Cedefop	Carrying out tracer studies	https://www.cedefop.europa.eu/en/publications/2218
Cedefop	Understanding technological change and skill needs: technology and skills foresight	https://www.cedefop.europa.eu/en/publications/4199
Cedefop	Understanding technological change and skill needs: big data and artificial intelligence methods	https://www.cedefop.europa.eu/en/publications/4198
Cedefop	Understanding technological change and skill needs: skills surveys and skills forecasting	https://www.cedefop.europa.eu/en/publications/4197
ECDC	Internal training videos, presentations, exercise sheets, quick reference sheets, further reading list. It should be possible to make these available to other agencies as well, and many are on the foresight methods in general, so they could be used in other contexts easily. Topics covered are listed below. – Horizon scanning for weak signals – Foresight sense-making (from discovery to implications) – Scenario development – Operational environment scanning (STEEP, PESTLE, etc.) – Addressing cognitive biases – Wind-tunnelling – Road-mapping – Institutionalising/embedding foresight into an organisation	No public link available
EEA	<i>Horizon Scanning – Tips and tricks – A practical guide</i>	https://www.eea.europa.eu/publications/horizon-scanning-tips

Agency	Name of activity or publication	Link (where applicable and supplied)
EIGE	Policy brief aimed at integrating gender considerations into EU foresight initiatives, promoting gender-responsive and intersectional foresight practices.	https://eige.europa.eu/publications-resources/publications/fostering-gender-and-intersectional-perspective-eu-foresight
EIGE	GREENA step-by-step toolkit to implement gender-responsive evaluation for a sustainable future for all (Tool 7).	https://eige.europa.eu/gender-mainstreaming/toolkits/gender-responsive-evaluation-greena
EIGE	<i>Foresight on Futures of Gender Equality: A how-to guide</i>	
EUDA	EUDA Horizon scanning toolkit	https://www.euda.europa.eu/toolkit/foresight-toolkit-drugs-field_en
ETF	Foresight guide	https://www.etf.europa.eu/sites/default/files/m/D9315C30910DE6E8C1257D5E0036883A_FRAME_Foresight%20guide.pdf
EU-OSHA	First, support from our contractor, and making use of our built-up network of contacts. Second, we use JRC's serious game on scenario exploration as a means of interaction. Nevertheless, we are interested in more guidance, if available.	https://osha.europa.eu/en/emerging-risks/circular-economy
Frontex	<i>Technology Foresight Manual</i> , developed as part of the 'Technology foresight on biometrics for the future of travel' study (January–September 2021).	https://www.frontex.europa.eu/innovation/eu-research/news-and-events/frontex-publishes-technology-foresight-on-biometrics-for-the-future-of-travel-us6C6v
Frontex	The devised methodology can be used to conduct similar studies on different topics or to analyse newly identified technologies in a comparable manner.	Technology Foresight Manual: https://www.frontex.europa.eu/assets/Publications/Research/Technology_Foresight_on_Biometrics_for_the_Future_of_Travel_Annex_I.pdf

Annex IV: EU-ANSA Futures Cluster questionnaire – Mapping exercise: overview of foresight and futures activities

1. Please kindly provide the name of your agency or institution:
2. Since when foresight/futures studies have been implemented in your agency?
 - ☐ Less than 1 year ago
 - ☐ 1-5 years ago
 - ☐ More than 5 years ago
3. Have you conducted any futures/foresight studies since the beginning of 2019?
 - ☐ Yes
 - ☐ No
4. What are the main topics/areas of the work covered in futures/foresight studies conducted in your agency since the beginning 2019? Can you provide a list? (title, year, any internal documents, external outputs – please provide a link)
5. Which futures/foresight methods have been conducted in your agency since the beginning of 2019?
 - ☐ Scenarios planning
 - ☐ Horizon scanning
 - ☐ Using a Delphi method/approach
 - ☐ Identifying drivers of change
 - ☐ Conducting technology foresight exercise
 - ☐ Qualitative participatory methods (workshops/ focus groups or interviews)
 - ☐ Quantitative surveys (expert or public)
 - ☐ Quantitative forecasting /modelling
 - ☐ Other
6. If you selected scenarios planning in the previous question, what time horizon do you typically use?
7. If you selected other in the previous question, please kindly specify:

8. Of these methods, which ones would you describe as the main approach adopted by your agency? Select up to three:
- ☐ Scenarios planning
 - ☐ Horizon scanning
 - ☐ Using a Delphi method/approach
 - ☐ Identifying drivers of change
 - ☐ Conducting technology foresight exercise
 - ☐ Qualitative participatory methods (workshops/ focus groups or interviews)
 - ☐ Quantitative surveys (expert or public)
 - ☐ Quantitative forecasting /modelling
 - ☐ Other
9. If you selected scenarios planning in the previous question, what time horizon do you typically use?
- ☐ Scenarios planning
 - ☐ Horizon scanning
 - ☐ Using a Delphi method/approach
 - ☐ Identifying drivers of change
 - ☐ Conducting technology foresight exercise
 - ☐ Qualitative participatory methods (workshops/ focus groups or interviews)
 - ☐ Quantitative surveys (expert or public)
 - ☐ Quantitative forecasting /modelling
 - ☐ Other
10. If you selected other in the previous question, please kindly specify:
11. Of these futures/foresight methods, which ones would you say you have the technical competency within your agency to use them?
- ☐ Scenarios planning
 - ☐ Horizon scanning
 - ☐ Using a Delphi method/approach
 - ☐ Identifying drivers of change
 - ☐ Conducting technology foresight exercise
 - ☐ Qualitative participatory methods (workshops/ focus groups or interviews)
 - ☐ Quantitative surveys (expert or public)
 - ☐ Quantitative forecasting /modelling
 - ☐ Other

12. If you selected other in the previous question, please kindly specify:
13. Of these futures/foresight methods, which ones would you say there is a need to improve the technical competency within your agency to use them?
- ☐ Scenarios planning
 - ☐ Horizon scanning
 - ☐ Using a Delphi method/approach
 - ☐ Identifying drivers of change
 - ☐ Conducting technology foresight exercise
 - ☐ Qualitative participatory methods (workshops/ focus groups or interviews)
 - ☐ Quantitative surveys (expert or public)
 - ☐ Quantitative forecasting /modelling
 - ☐ Other
14. If you selected other in the previous question, please kindly specify:
15. In your opinion, what were the key outcomes and benefits of the futures work conducted by your agency?
16. Which of the following statements would you agree with regarding futures/foresight studies in your agency?
- ☐ Foresight makes our staff more sensitive to external drivers of change.
 - ☐ Foresight allows us to engage with our main stakeholders
 - ☐ Foresight informs our internal decision-making process
 - ☐ Foresight informs the external decision-making process
Foresight is embedded into the existing work processes of our agency
17. Please describe briefly the methods and communication channels applied to disseminate and promote the outcomes of the futures/ foresight studies:
18. How is the work on foresight/ futures organized in your agency?
- ☐ Specialized unit / sector that works on the topic
 - ☐ Internal working group of colleagues (e.g., champions)
 - ☐ Each unit / sector implements foresight at their own discretion
 - ☐ Other
19. If you selected other in the previous question, please kindly specify:
20. How many staff members are dedicated to foresight/futures in your agency, and what percentage of their time is dedicated to such activities?

21. Have you organized any capacity-building activities to increase foresight literacy?
 - ☐ Internally within the organization
 - ☐ Externally with the main stakeholders
 - ☐ Other
 - ☐ No
22. If you selected internally within the organization in the previous question, please kindly specify:
23. If you selected externally with the main stakeholders in the previous question, please kindly specify:
24. If you selected other in the previous question, please kindly specify:
25. Do you have any capacity-building manuals, toolkits available for potential use by other agencies, or any other tools (such as glossaries, guidelines, horizon scanning platforms etc.) in place?
 - ☐ Yes
 - ☐ No
26. If you selected yes in the previous question, please specify and add a link if possible. Would some of them be of potential use to other agencies and shared?
27. Have you ever conducted the foresight/futures work in cooperation with other EU agencies (or other external regional or international organisations, networks, etc.)?
 - ☐ Yes
 - ☐ No
28. If you selected yes in the previous question, please kindly specify:
29. If you selected no in the previous question, please kindly specify why:
30. Do you consider any areas of your foresight work (current or planned) potentially relevant to the work of other cluster members or implemented as a joint project(s)?
 - ☐ Yes
 - ☐ No
31. If you selected yes in the previous question, please kindly specify which ones:
32. If you selected no in the previous question, please kindly specify why:
33. Please provide input on some of the lessons learned in conducting futures/foresight studies and areas for improvement in your agency:
34. Please provide a case study – an activity or an output that you are particularly proud of and/or extremely impactful that we could use as a case study for the future EU-ANSA report:

GETTING IN TOUCH WITH THE EU

In person

All over the European Union there are hundreds of Europe Direct centres. You can find the address of the centre nearest you online (european-union.europa.eu/contact-eu/meet-us_en).

On the phone or in writing

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls);
- at the following standard number: +32 22999696;
- via the following form: european-union.europa.eu/contact-eu/write-us_en.

FINDING INFORMATION ABOUT THE EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website (european-union.europa.eu).

EU publications

You can view or order EU publications at op.europa.eu/en/publications. Multiple copies of free publications can be obtained by contacting Europe Direct or your local documentation centre (european-union.europa.eu/contact-eu/meet-us_en).

EU law and related documents

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex (eur-lex.europa.eu).

EU open data

The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.



Publications Office
of the European Union