Summary

The aim of this document is to demonstrate the necessity of flexible, process-supportive, transparent and criteria-based standards in and for Forward Looking Activities (FLA) in the European Commission. This Policy Brief discusses the need for standards of quality and of good-practice for strategic intelligence and sense-making activities that the European Commission may wish to undertake in the context of Horizon 2020 and more generally in the context of Research and Innovation Policy. So this Policy Brief is addressed predominantly to the DGs of the Research Family and focuses on FLA/foresight to be used in the context of RDI policy. Its recommendations aim to help guide the approach taken in applying FLAs to the ECs programmes.

The practice of foresight in the Commission needs to position itself in relation to the existing impact assessment framework in a complementary manner.

The Foresight Hub in DG RTD should maintain an electronic list of Horizon Scanning data sources, with web links for each, and provide information on each as to the focus of the source.
In order to minimize cognitive bias in analysis, selection and interpretation of information, explicit tools and methodologies should be used.

The start of a sense making project should include a standard checklist focusing on clarifying the purpose.

The Commission should explore methods of stakeholder engagement that exploit social media technologies and behaviours.

The Foresight Hub in the EU Commission could serve as a first test-bed and the broker for sending Foresight information into the Commission so that the priority-setting and implementation in the EU Commission can take place on a more informed and structured (“standardized”) basis.

A too detailed set of regulations has to be avoided in order not to hamper the creativity needed in the processes. With time, the EU Commission Foresight Hub will then be able to build up its own methodological toolbox with minimum standard criteria to orient herself and improve the own knowledge management, e.g. in case of staff changes the knowledge remains in the Hub.

1. Background

a. Why Forward Looking Activities in the European Commission?

There are different reasons to perform Forward Looking Activities/ Foresight. For Horizon 2020 and more generally for Research and Innovation Policy some of the most relevant reasons are:

- To foster long-term thinking in the context of strategic policy-making. To raise awareness of different decision-makers about the consequences of non-activity, or the possibility and consequences of potential disruptive emergencies.
- To ensure that policies, their objectives and their targets operate within coherent temporal frameworks: policy objectives need to be up-to-date with the economic, social, political, scientific and technological conditions in which they are set and that in the long-term they may have to be adapted to changing conditions.
- To identify targets and new ways for policy interventions: “drivers”, causal relationships of different phenomena, specific research topics, (new) actors in the innovation systems, new structures, and the potential consequences of interventions.
- To identify potential sources of radical change and disruptions or to identify risks for high impact – low probability events (e.g. disasters).

b. Differences between Foresight / FLA and Ex ante Impact Assessment

As part of its policy for better regulation, the European Commission has integrated impact assessment in its regulatory practice to ensure the quality of its legislative proposals. Since 2002, Commission legislative proposals are accompanied by an “ex ante impact assessment” report. Commission guidelines on ex ante impact assessments have evolved in time into a rather
comprehensive framework\textsuperscript{1} that involves its own quality assessment procedure through an Impact Assessment Board.

Foresight is an action-oriented element of policy-making and has the intent to induce change (“shaping the future”). Foresight concerns variables that lie beyond the control of policy, but may influence policy outcomes. Thus, it has a different scope from impact assessment, and is a prerequisite for impact assessment. Foresight can, for example, contribute to the definition of policy objectives, and thus may take place at a stage prior to ex ante impact assessment to identify topics or different options and relate them to their context, not to assess existing ones.

The practice of foresight in the Commission needs to position itself in relation to the existing impact assessment framework in a complementary manner.

c. What do Foresight Processes include?

Foresight is always a process that integrates Strategic Intelligence, Sense-Making activities and their links to the Policy Cycle (see Figure 1).

d. Planning a Foresight Activity

When planning for foresight/ FLA and considering how to activate internal or external expertise and practitioners, the following questions need to be answered as a standard prerequisite by the EU Commission as well as the organizers of the specific process:

a) What is the \textbf{objective} of the whole activity? Are there hidden agendas?

b) What \textbf{type of activity} has to be considered for what type of issues /time spans/knowledge?

c) What is the \textbf{scope} of foresight? What is the scope of relevant intelligence and sense-making? Are there specific strategic intelligence or sense-making projects to be launched? How focused or wide should their scope be?

d) What is an appropriate set of/ combination of/ \textbf{methods} to make use of the strategic intelligence of the specific actors? And how can this be organized?

e) What are the intended \textbf{outcomes} of the different stages in the process? In general, reports are written but often, the activity as such is an outcome. How are the results presented?

\textsuperscript{1} http://ec.europa.eu/governance/impact/commission_guidelines/docs/iag_2009_en.pdf
2. Strategic Intelligence Standards

Strategic intelligence activities encompass all the activities that organizations perform to stay informed about the state of affairs, and the knowledge, intentions and activities of the different actors in the innovation system. In the context of strategic intelligence, the structured evidence-gathering process of “Horizon Scanning” is becoming established in institutions, e.g. the Netherlands have performed Horizon Scanning Projects on a national scale and the UK Government Office of Science and Engineering (GOSE) has a Horizon Scanning Centre. Horizon Scanning includes scouting and interview processes as well as bibliometrics, data-mining and automatized screening and searching processes. They are used for neutral outlooks as well as for early warning. The improvements in “Big Data” processing also improved strategic intelligence in foresight. For a taxonomy, see the EFFLA report “Horizon Scanning: A Comparative Analysis” by Huw Williams.

Meanwhile, there are many reports in the EC gathering knowledge, trends and strategic intelligence information. But there is no overall database of trends, developments, signals – although there have been some European level attempts e.g. in the European Foresight Platform, the iKNOW or AUGUR and other meta-projects. If there is the intention to provide such a Meta data pool, quality criteria (“standards”) have to be developed. The EFLA report by Stephan de Spiegeleire on Metafore describes a meta data standard used in the security and defence arena.

a. Strategic Intelligence Sources

An important source of strategic intelligence is the review of existing forward looking material produced by specialized agencies, think-tanks and research groups. The www provides an important means of sourcing information, as does the relevant scientific literature. Meta-analyses, for example making use of bibliometrics, new pattern recognition and big data
handling, opens up new sources. Nevertheless, in this early stage of information, the informal intelligence through personal contacts and interviews of actors in the communities is a major, and very important, source of information. Here, clear criteria have to be set to evaluate the relevance and quality of information and select material accordingly. Proper mechanisms for capturing the intelligence of the different members of staff as well as the other participants like external experts (knowledge management issues in intelligence) have to be planned for.

**Recommendation:** The Foresight Hub in DG RTD should maintain an electronic list of sources, with web links for each, and provide information on each as to the scope, coverage and focus of the source.

**b. Methods and processes to provide absorbable information from the scans**

Reviewing sources and crystallizing intelligence in terms of trends, drivers, weak signals and wild cards, into information that can be absorbed by the organization is an important step, which needs quality standards. Organizing and documenting internal policy knowledge and information (formal and informal) is a key challenge for policy organizations. Questions of confidentiality and quality of information become important, especially as external parties are also involved in the process. The balance between internal expertise and contracting out functions of information reviewing and reporting as well as the assessment of the material selected is a very important part in any foresight process. Ideally the internal knowledge of the organization will form part of the background of strategic intelligence efforts using external parties, and will be used to assess the relevance and implications of the results of studies using external experts.

A balance needs to be kept between the role of internal knowledge and external expertise to prevent biases such as the "not-invented here syndrome" from capturing the intelligence process.

**Recommendation:** In order to minimize cognitive bias in analysis, selection and interpretation of information, explicit tools and methodologies should be used.

**3. Sense-making Standards**

Sense-making activities
- link to Strategic Intelligence and select and deepen the content (analyse the trends and drivers), see discussion above
- formulate alternatives (explore different visions), build in scenarios,
- assess the issues and data found in the light of specific criteria with a view to building strategic options: link to Selecting Priorities.

The role and stages of sense-making were covered in Policy Brief 11. Here we address specifically parts of sense making where observation of standards has most impact.
a. Before undertaking sense-making

Key questions to be addressed in this stage of the processes are:

- What do the findings (or the results of the strategic intelligence) mean for the Commission (according to the aim of the initiative)?
- What are the strategic, operational and practical implications? What do they mean for further programming?

As a first step in answering these questions, methods for exposing underlying assumptions and examining them on the basis of the intelligence of different participants are important. Overt and hidden objectives and agendas are important. Underlying assumptions and criteria have to be made explicit and come into the judgment process. A clear process/protocol is needed for scoping the issue (breadth and focus) – exploring different visions - drafting the questions (formulating):

Recommendation: The start of a sense making project should include a standard checklist focusing on clarifying the purpose.

b. Experts and stakeholders

The roles of experts and stakeholders need to be differentiated, and well defined and understood methods need to be deployed for their engagement. For example, a method often used involves expert groups focusing on specific policy issues that produce “issues and options reports” which are then debated in broader audiences involving stakeholders. It would be useful to have, in addition to the existing databases of experts, some guidance on stakeholder selection and methods for engagement. Some key questions to be addressed are:

- What methods best avoid lobbyism and one-sidedness?
- How to ensure an open consultation considerate of the expertise of all participants?
- How to take advantage of social media without disregarding important communities that do not use them?
- How to address subsidiarity?

Recommendation: The Commission should explore methods of stakeholder engagement especially new ones which exploit social media technologies and behaviours.

c. Drawing conclusions (formulating of findings and recommendations), and reporting:

Recommendation: The Foresight Hub in the EU Commission could serve as a first test-bed and the broker for sending Foresight information into the Commission so that the priority-setting and implementation in the EU Commission can take place on a more informed and structured (“standardized”) basis.

In all steps, transparency and reliability on the methods for sense-making have to be taken into account. Evidence-base in forward-looking activities does not mean that when a process is repeated, exactly the same results come out but that the process as such is transparent for all
actors and the methodology combination is rigorous in itself (scientific approach). When these standards are met, the credibility and understanding of the foresight results will improve for preparations during Horizon 2020 and later programmes.

4. EC Forward-Looking-Cycle

A cycle of information flow and quality-assessed projects thus support the EU Commission; especially via the Foresight Hub (see Figure 3).

For the EU Commission Foresight Hub, it is important to evaluate the quality of a foresight, its base and validity (what are the sources, are they reliable?), the methodology (is it evidence-based or just noise?) and its practical procedure (is it processed properly?) in order to be able to interpret the results and base decisions on it, e.g. to propose new project strands for future programmes. Therefore a standard set of basic criteria is needed for the evaluation: This also helps to work out objectives and expected results that guide the processes – and it helps to recognize if it is a “good Foresight”.

![Standard-Cycle for FLA-Projects and Processes](image)

Figure 2: Forward-Looking-Cycle

The Foresight Hub in the commission needs some criteria to judge about a “potentially good and trustful” proposal to make a selection. A set of standard criteria like the promise for transparency, a clear methodological procedure and a target-orientation have to be the standard minimum requirement for orientation. This is necessary for the concept of the FLA/Foresight, for monitoring the process, for impact assessments in larger programmes like Horizon 2020, and for assessing the validity, especially in order to implement results further in the Commission work (topics, system changes, identification of problems, workflows).

**Recommendation:** A too detailed set of regulations has to be avoided in order not to hamper the creativity needed in the processes. With time, the EU Commission Foresight Hub will then be able to build up its own methodological toolbox with minimum standard criteria to orient herself and improve the own knowledge management, e.g. in case of staff changes the knowledge remains in the Hub.