How to design a European foresight process that contributes to a European challenge driven R&I strategy process

In its first policy brief EFFLA outlined three recommendations to strengthen the role of forward looking activities in the Commission’s processes of preparing, designing and implementing European research and innovation policy. The underlying rationale for these recommendations was the realization that while there are numerous forward looking activities both at European and Member state levels, these activities are uncoordinated and their results have a very limited impact on the actual preparation of policies and policy measures. We also need a shift from the thematic approach to challenge driven approach.

In order to benefit from this valuable existing capacity and move towards a truly evidence-based and forward-looking policy making at the European level, it is vital that the Commission establishes a systematic overall strategy process.

**Better Integration of Forward Looking and Strategy Activities**

This process should provide a framework for a better integration of currently fragmented and isolated forward looking and strategy activities at the Commission and in the Member States. Furthermore, the framework should provide a clear link between forward looking activities and the processes where formal decisions regarding strategies, selection of priorities and design of their implementation are made. In doing so, the framework can also provide a platform for mutual learning, shared understanding of future European and national challenges and identification of promising areas where pooling resources and launching joint activities can make a real difference.

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1 Understood are all activities providing future oriented strategic intelligence, i.e. activities where the result of strategic intelligence are analysed, made sense of and based on which evidence-based options are created
EFFLA proposes a framework that builds on four main steps (Figure 1).

The different steps, from Strategic Intelligence to Implementation, will engage different stakeholders. Strategic Intelligence (step I) will mainly involve “knowledge” stakeholders such as academics, thought leaders and independent researchers. This step is mainly bottom-up. The sense-making (step II) will also engage the former stakeholders but the process is led by the Commission (n.b. the established ‘FLA-hub’). The first part of the third step (selecting priorities) engages a wide spectrum of more formal stakeholders in open consultations (including the public, NGOs and other lobby groups) including inside the Commission (‘thematic DGs’). The most important part of this step is the decision part, which is in the hands of the Council, European Parliament and the Commission. The implementation (step IV) is entrusted to the Commission which normally is assisted by Programme Committees with representatives from Member States. However, a well-functioning first and second step should be able to feed in also to the implementation, e.g. in detecting gaps and emerging needs.

This requires some degree of flexibility in order to be able to deal with such newly identified gaps and needs. In practical terms, it implies an enhancement to the current budgeting and contract management processes. The budgets need to be set to include a small percentage – say 15% - for “disruptive innovation”. This refers to the new elements that always occur. In order to fund these, contract management needs to allow for small feasibility studies to be awarded within days rather than months.

One of the most important steps in evidence-based policy making is a systematic process of collecting, analysing and making sense of all strategic intelligence in order to be able to provide the necessary evidence, future perspectives and options needed to make enlightened decisions about selection of priorities and design of implementation. Sense-making will also reveal any gaps there might be in strategic intelligence, thus providing further insight on how strategic intelligence activities can be further developed to better support evidence-based policy making.

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2 This approach is similar to the TEKES one: Foresight (I) > Insight (II) > Strategy (III) > Action (IV)
Reinforcement of sense-making

For all practical purposes, systematic sense-making is currently much too weak and detached from strategic intelligence. This applies especially to the Commission, but many Member States suffer from the same problem. Weaknesses in the sense-making processes (lack of systematic processes, no link to strategic intelligence, etc.) make both them and the activities where priorities are selected subject to lobbying. That is why processes for selecting priorities become battlefields where everyone is more interested in protecting their vested short term interests rather than rising above immediate concerns and making the necessary and sometimes even difficult decisions to select real priorities that can eventually make Europe stronger.

The last two steps, selecting priorities and implementation, are established processes both at European and at Member State levels. However, strengthening strategic intelligence and sense-making processes can significantly enrich the existing formal selection and implementation of priorities by providing a much stronger and truly evidence-based analyses of issues and options, as well as assessments of expected impacts. This will enhance the quality of decision-making and the design of implementation and monitoring.

Monitoring activities that can be linked to strategic intelligence through priority selection and sense-making can focus much better on identifying the real impacts and also provide further insight into impact mechanisms, as well as various barriers that can hinder or prevent desired impacts.

The importance of both formal and informal steps

Establishing and coordinating such an overall strategy framework is clearly a task for the Commission, for two main reasons. First, the Commission has the mandate and responsibility to prepare and implement research and innovation policy at the European level. Second, there is a clear European added value in providing a platform for better coordination, mutual learning and shared understanding between the Commission and Member State. Both arguments point to a need for designing and implementing systematic, integrated and consistent processes for strategic intelligence, sense-making, selecting priorities and implementation. The Commission should therefore establish a dedicated unit or a hub in DG Research and Innovation, according to what was already recommended in the first EFFLA policy brief.

It is important to make a clear distinction in the overall strategy process between formal and informal steps. The first two – strategic intelligence and sense-making – are predominantly informal processes. This implies that they must rely on intelligence and participation on a personal level. The last two steps are formal where intelligent stakeholders can further support the process, but where formal stakeholders control and govern the processes. The informal stakeholders can be seen as ‘supply’ stakeholders whereas the formal stakeholders (Member States/Council, European Parliament, Commission) can be seen as ‘demand’ stakeholders.

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3 These are referred to as “knowledge stakeholders”, which highlights the fact that these participants are selected because of their ability to contribute to these processes through their personal insight and competence and are only representing themselves in these processes and not any background organisation with vested interests to influence the outcome of the process. Sometimes the same persons might later participate in the formal processes as representatives of “formal stakeholders” with vested interests, but at this stage they are not bound by their affiliation and only represent themselves as individuals. A “knowledge stakeholder” can also be an organisation engaged solely or mainly in strategic intelligence and/or sense-making activities, as long as it is fully independent from any “formal stakeholders”.
While openness and transparency are valuable and desirable during all steps, it can have different forms during the informal and formal steps.

During the informal steps – strategic intelligence and sense-making – the discussions and analyses should attempt to reach and engage as many knowledge stakeholders as possible, including knowledge stakeholders (academies, research performing organisations) both from formal stakeholders (e.g. MEPs), or the wider European public (e.g. by using social media). This kind of wide reach and openness calls for a well-designed and well-governed systematic process that can make best use of the various contributions. These informal steps are also places where it is possible to experiment with new ideas and approaches, ranging from smaller and more limited areas to joint global initiatives. One should also draw on STOA (Science and Technology Options Assessment) within the European Parliament for this purpose.

During the formal processes openness and transparency have much more established forms, e.g. consultations and decision meetings. However, these can be better structured and better focused when they are enriched with stronger strategic intelligence and sense-making based rationales, options, expected impacts, etc. helping both decision makers and the wider public better understand the implications of selected priorities and other decisions.

**Working with Three Timelines**

Another key feature of an overall framework is to integrate strategy processes between different timelines. In this context, there are three relevant timelines: the long term, mid-term and annual.

The long term refers to the Horizon 2020 and similar future programmes. The complete timeline here extends to 15-17 years, beginning from the strategic intelligence and sense-making leading to the first ideas for the next programming period (Horizon 2030?) to the end of its implementation stage. This is the most important timeline for many of the key forward looking activities, especially foresight. It is actually very important to start planning the more long term forward looking activities very soon if they are to have a real impact on the next programming period. This would also be in accordance with the 3rd recommendation presented in the first EFFLA policy brief (Figure 3).

Mid-term refers to a 3-5 year timeline, which can be based on the long term strategic intelligence and sense-making, complement it with more focused intelligence and sense-making as well as experiences drawn from implementation and monitoring. The main purpose of this timeline is to verify progress to a desired direction or identify and implement changes when necessary.

Well-functioning longer term and mid-term processes are a prerequisite for a successful annual process. The annual process is closely related the Commission annual budget cycle and the European semester. In view of strategic intelligence, its role is mainly to identify gaps in the necessary intelligence and provide monitoring. Sense-making has a role also in the annual timeline, but it should focus on more practical implementation and identifying potential concerns in view of the mid-term processes.

The strategy processes related to the long and the mid-term timelines should be governed by the Commission’s Strategic Unit or hub referred to earlier, supported by, for instance, the JRC and other relevant actors. The annual process should however, be governed mainly by leaders of “thematic” areas, such as Societal challenges, KETs, etc., with the support of the Commission’s Strategic Unit or hub to ensure consistency and coordination across different areas.
Better Use of European Competencies

Member States have a key role in the process, but it varies according to the different steps. The first two informal steps draw from the competences and experiences of strategic intelligence and sense-making processes on-going in Member States. At the same time, similar processes on-going in Member States can benefit from the strategic intelligence and sense-making taking place in the Commission processes.

During the more formal steps, Member States are contributing to the Commission processes for selecting priorities and designing implementation through consultation and in the formal decision processes. On the other hand, the formal Commission processes will provide Member States a possibility of designing their own processes for selecting their priorities and implementation to benefit from Commission activities and identify how best complement them with national activities.

There are clear benefits of a more systematic, interactive and actively involving overall strategy framework for both the Member states and the Commission. These benefits include the ability to share resources and achieve better additionality between national and European activities, better commitment of the Member States to European added value through better involvement in the strategy processes and shared understanding of the European challenges and opportunities, support to strategy competence building in the Member States, and establishment of various rewarding processes. Furthermore, a coherent predictable process would allow a much better use of existing excellent European competencies and visionary thinking.

Integration or rather coordination between Commission and Member State strategy processes may not be simple but benefits are clear and definitely worth the effort.

The biggest challenges are related to coordination, being able to bypass vested interests especially during sense-making and getting the right participants involved, especially during strategic intelligence and sense-making. Furthermore, every actor will try to assess whether it will gain or lose influence when the Commission’s strategy process is changed. Those actors who perceive they currently have lots of influence and believe that they might lose some of their bargaining power, will most likely oppose a more open, evidence-based and integrated process. Overcoming this type of resistance will require that the Commission takes this approach seriously, really commits to it across different services and DGs, and finally once launched follows it through fully.
While many may see several challenges in this proposed approach, it would represent a real advance towards evidence-based policy making. Furthermore, in the months to come, EFFLA will add to this brief to demonstrate that this approach can be implemented and integrated into existing processes – not by replacing them or introducing complex new processes or organisations, but redirecting, integrating and enriching existing activities. Finally, the process described above will also enable the Commission to take it into account and to feed into the decision making process connected to the EU2020 strategy, notably the Innovation Union and the completion of ERA.
How to integrate the process* into real life?
Example – preparing H2030

*It should be noted that the process is NOT a linear process but cycles with constant feedback (Ref. Slide No 3).

Figure 3. An example of a long term process

Summary

While there are numerous forward looking activities both at EU and MS levels, these activities are uncoordinated and their results have a limited impact on the actual preparation of policies and policy measure. The suggested remedies include:
- A shift from the thematic approach to a challenge driven approach
- An establishment of a systematic overall strategy process in the European Commission. For this there should be a dedicated unit of a hub in DG R&I (this recommendation is already part of the First Policy Brief).

The process should be composed of 4 parts:
I. Gathering Strategic Intelligence
II. Sense-making (this will reveal any gaps there might be in strategic intelligence)
III. Selecting Priorities
IV: Implementation.

During the process, involvement of knowledge stakeholders in strategic intelligence (part I) and sense making (part II) is needed. Formal stakeholders should be involved later, during parts III and IV. Being able to bypass vested interests especially during sense-making and getting right participants involved is the biggest challenge for coordination.

A key feature is to integrate strategy processes between different timelines:
- Long-term (15-17 years), e.g. Horizon 2020
- Mid-term (4-5 years), e.g. focused intelligence and sense-making as well as experiences drawn from implementation and monitoring
- Annual timeline, the most immediate one.
A background note

- Case studies –

Case study - Consequences of converging technologies for the knowledge driven economy

A Strategic Foresight study was initiated by the Minister for Industry after a visit to the US. He asked for evidence – Strategic Intelligence – on the current and predicted evolution of the knowledge economy and the status of the UK. A report analysing the data, the future trends and the drivers, was written by two senior civil servants working over 3-4 months. This covered the technology issues, e.g. copyright, IP, e-business and the policy implications. This led to the publication of a White Paper, and the setting up of Office of the E-Envoy and the Prime Minister. For more information contact: john.reynolds@toursbw.com.

Case study – Higher Education in Romania

European funds were used for strategic foresight in connection with Higher Education. The approach was two-pronged. On the one hand, a large, participative, systemic foresight exercise was designed to generate a vision on the future of Romanian Higher Education in 2025. On the other, a series of consultative futures workshops under the umbrella of the Bucharest Dialogues invited international experts to join academics, industrialists, and civil servants from Romania, in an effort to expand futures expertise and inform the first prong of the process. A group of higher education decision-makers, experts and civil society stakeholders, aided by an international team, then worked on a Green (discussion) paper, and then a White Paper for 2015 with policy actions for Higher Education in Romania. For more information contact: adrian.curaj@uefiscdi.ro.

Case study – the Strategic Foresight Process to anticipate disruptive emergencies

ICL undertook a strategic foresight exercise, which started with interviewing stakeholders on their views of the issues facing the company and the long term trends affecting the computer industry. The foresight exercise led to insights into the customer offer and how to represent it, with a major rethink of all marketing material. However a side remark during one of the interviews was about the nature of the supply chain and potential exposure to disruption from earthquakes in Japan. The team followed this up and found that about 30% of our revenue was dependent on components made in a single factory in Japan. When this was flagged to procurement, they set up trial arrangements with a potential second source and route proved this alternative. This was needed about 18 months later when the Japanese factory was taken out of action by an earthquake. For more information contact: gill.ringland@samiconsulting.co.uk.

Case study – a Global Law Firm

A global law firm’s Senior Partner, new into his term of office, felt that many of the assumptions which had underpinned their growth of the previous decades might not be valid over the next decade. But any strategic foresight needed to engage the partners, who were characteristically driven by the day-to-day demands of their clients. So a strategic foresight process was designed which asked for volunteers to work in regional task forces, to generate
images (20 seconds each) of how their business might be different in 2020. The images were shown to the partners’ conference, with voting on the most significant. Staff work was then used to create scenarios of 2020 and the regional task forces expanded these and used them as the basis for having broader and strategic conversations with clients in a way they had not done before. The short, colourful and powerful brochure pulling together the findings was discussed in depth by the firm's leadership team and the firm's strategy was adapted in light of the conclusions. The detailed information used to create the brochure is widely accessed on the firm's intranet. For more information contact michael.michaelides@AllenOvery.com.

Case study – An innovation system level approach Tekes/Finland

Embedding strategic foresight into a systematic and comprehensive strategy process can help in predicting the possible future and taking the right kind of actions in a timely manner. For more than 10 years this approach has helped Tekes in planning proactive programmes to be as optimal as possible in creating future competencies for innovations. For example, services appeared on the radar as early as 2000, first as knowledge intensive services, and later as more and more important component for all innovations, nowadays called Service Innovation. Today, services and industry are completely integrated. During this process, a human-centric approach has become very important. This means that different roles for people, such as employers, citizens, clients, consumers and end-users in the innovation process, have becomes more prominent. As a consequence, intangible assets has become a must. Research and innovation work has gained a strong need base, and most of the projects that get funding today have a strong end-user approach. For more information contact: rikka.heikinheimo@tekes.fi; tiina.tanninen-ahonen@tekes.fi.

Case study – Establishing government-wide capabilities in strategic anticipation in Singapore

In the late 1990ies, the government of Singapore recognised that it was operating in an increasingly complex, if not chaotic, environment requiring completely different capabilities. Before most problems and risks could be handled by simple “sense-categorize-respond” or “sense-analyse-respond” strategies, the new challenges – exemplified by the 1997 financial crisis or some years later the SARS crisis – required greater awareness of unexpected developments. Scenario planning, which had already been adopted a few years before, was complemented by Risk Assessment and Horizon Scanning (RAHS) and Whole-of-Government Integrated Risk Management approaches (WOG-IRM).

In 2009, these lines of activity were brought together in the Centre for Strategic Futures (CSF) in order to develop government-wide capabilities in strategic anticipation. CSF is part of the Strategic Policy Office at the Prime Minister’s Office and thus located at the heart of government. CSF has the freedom to act on issues of strategic importance, even if they are not perceived to be immediately urgent, i.e. it is expected to think well beyond the timeframe and concerns of day-to-day politics, while at the same time being of concrete relevance to strategic planning in different ministries. In order to achieve this, it draws extensively on its own networks as well as on those of the Strategic Policy Office. Its cross-departmental initiatives, which operate both within and outside tradition bureaucratic structures, may not always be embraced by the rest of the government, but they are tolerated, not the least due to its central position close to the Prime Minister. Striking this balance between bureaucratic effectiveness and out-of-the-box thinking is essential to achieving its unique role. For more information: Prime Minister’s Office (2011): Conversations for the Future. Volume 1: Singapore’s Experiences with Strategic Planning (1988-2011), Public Service Division, Singapore.
Case Study – The Korean foresight experience of mobilizing knowledge stakeholders

Korea has been conducting large-scale foresights such as the Korean Delphi and National Technology Roadmaps. Usually a very large number of scientists and engineers participate in Korean national foresight actions. A pool of wisdom is created, which reflects the state-of-the-art knowledge of the scientific, business and policy community. When a specific strategy or plan is being developed, several of those participants in the foresight will participate in that strategy process and make use of shared body of knowledge built up in the course of the foresight process. As they have been part of a large-scale process, in which everybody could make his or her voice heard, the inputs to the specific strategy process can draw on the collective result of those voices, transmitted by the individuals in their roles as knowledge stakeholders in the strategy process.

The influence of foresight on the decision-making process may be very difficult to trace but it is recognised as very important by participants. And as foresight is undertaken regularly in Korea, it has over the years acquired a high level of credibility and legitimacy as foundation of strategy formation. For more information: matthias.weber@ait.ac.at.