

Mobilizing Regional Foresight Actors to Strengthen the Strategic Basis of the European Research Area

European initiatives complementing and networking national and regional Foresight exercises can help ensure that all levels of governance can benefit from the added value such activities can provide.

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Issue: The recent rise of national and regional Foresight is adding value to traditional research and innovation planning activities. European initiatives complementing and networking such Foresight exercises can help to ensure that all governance levels (European, national, sub-national) in an enlarged EU can benefit optimally from this rise.

Relevance: A coherent supportive framework at European level, with instruments and programmes which mobilize and support a networked European Foresight landscape is called for. This will enable social and economic actors to anticipate and adapt in a proactive fashion to accelerated technological change and globalization.

Introduction

Keeping regional innovation systems competitive, and thus maintaining the quality of life in the societies in which they are embedded, is a major challenge in fast changing, globalized markets. Generating, diffusing and adopting knowledge in regional economies through active networking and partnership between public and private actors has thus become a critical task for policy makers. In meeting the globalized 'new' economy challenge, it has also become crucial to link enterprises, and other users of knowledge, to both the regional **and** the global 'knowledge base'. To remain feasible and sustainable decision making has had to become a more complex process integrating an ever larger number of societal actors.

Therefore, policy makers in the public and private domain require more reliable methods to detect relevant signals early, and evaluate risks and opportunities of Science and Technology developments comprehensively. They require methods which are also

capable of integrating the values and priorities of the societal actors in the responses they provide. In this regard, Foresight type activities can deliver more reliable strategic directions for policy making, as their results are the outcomes of a broad societal debate. This can be **particularly advantageous at sub-national level, where the true impact of the European integration processes** on the one hand, **and of the preservation of Europe's cultural diversity** on the other, **have to be made compatible and synergetic.**

Foresight activities can be particularly advantageous at sub-national level where the impact of the European integration process has to be made compatible with preservation of Europe's cultural diversity

The Broader Context: the on-going Governance debate, the 'Lisbon Strategy', and the European Research Area (ERA)

In February 2000, taking into account the emergence of knowledge-based economies, the challenges of enlargement and European integration, and the emergence of new societal patterns, the European Commission launched a debate on governance, one of its four strategic priorities¹.

As part of the overall discussion on enlargement and integration, the European Commission has launched a debate on governance which aims to improve, accountability, transparency and efficiency of decision making in Europe

This became necessary in the light of the overall discussion of the future of the European Union. The governance debate aims to improve accountability, transparency and efficiency of decision making in Europe. It seeks to provide new insights on how European societies can make their way through the on-going integration process, including the levels and nature of participation. The regional level is particularly concerned, firstly because it forms a privileged focal point for understanding, shaping and implementing the policies of the Union. Secondly, because regional actors can influence several of the choices that may be made in the field of the society and the economy.

Thus, the future development of Foresight and related activities at regional level is strongly linked to the further evolution of the governance debate.

Focusing on the long and medium term priorities of the Union, the Heads of State or Government agreed in the context of the extraordinary European Council (Lisbon, March 2000) on a *common vision for economic and social development in Europe*, the so-called **Lisbon Strategy**. This aims to make the European Union by 2010 "*the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*" through 'open methods of coordination and benchmarking'. To move towards this ambitious target effectively, actions have been proposed in a broad range of policy fields, with goals concerning employment, economic reforms, social cohesion, and others. Europe's lagging behind in various research and innovation aspects –with adverse cross-impacts for other policy fields– means **Research and Innovation Policy is set to become one of the key instruments for achieving these goals**. Thus, stepping up efforts to **develop and consolidate a European Research and Innovation Area (ERA)** has been made one of the key areas for action in the 'Lisbon Strategy':

- identifying and networking scientific excellence in Europe;
- strengthening pan-European collaboration;
- establishing clearer and more consistent priorities for public research.²

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Seeking to develop 'economic intelligence-type' systems capable of identifying and assessing potential impacts of technological and scientific breakthroughs is a particularly cost-effective way of advancing towards the Lisbon goal of strengthening the knowledge-based economy in the Union. The key question is **how** to establish and connect future oriented systems all over Europe in ways which respond efficiently to the economic and social needs of countries and regions, drawing on good practice and capabilities existing in the Union in this field, and making them widely available for policy development.

Developing Foresight to strengthen the strategic basis of the European Research Area

As market opportunities appear and disappear rapidly it becomes increasingly difficult to predict trends using traditional instruments in traditional ways. In this context of uncertainty and volatility, it is all the more necessary to invest successfully in Science and Technology (S&T), and make the industrial and societal choices that turn these investments into innovations and lasting improvements in terms of quality of life. But these investments have become extremely costly and at the same time resources have become scarce. It is central for policy makers to use more reliable systems identifying new S&T developments, evaluating their risks and opportunities, and putting it all in a systems perspective.

One of the merits of the Technology Foresight/Technology Assessment methodology is its ability to mobilize broad sections of all stakeholders to give collective thought to priorities and thus to prompt broad debate

One of the acknowledged merits of the type of Technology Foresight/Technology Assessment methodology (TF/TA), which has been developed in the last decade, is its ability to mobilize broad sections of all stakeholders to give collective thought to priorities, and thus to prompt a broad societal debate. This is why governments, and other relevant actors in innovation systems, have become increasingly interested in TF/TA methods (based on scientific panels, Delphi method, scenario development, general research, technological development, and innovation (RTDI) surveys, targeted working groups, scientific seminars, benchmarking techniques, etc.). Sometimes, they have even established specialized TF/TA organizations, be it with a national, regional or sectoral focus. In other cases, strategic capabilities have been built, to adequately react to and shape technological and societal change ('embedded Foresight').

Foresight exercises have proven useful as policy tools because of their value in providing strategic information and of their role in raising awareness and building consensus

Thus, Foresight exercises have been successfully used as policy tools:

- because of their intrinsic value of providing difficult-to-acquire strategic information for decision-making,
- but also as socio-economic mobilization tools to raise awareness and to create consensus around promising ways to exploit the opportunities and diminish the risks associated with new S&T developments.

Nevertheless, **in spite of the increased importance of Foresight for policy making, Foresight activities and Foresight supporting policies have not yet reached the same state of integration, or complementarity and interrelation, at EU level**, as many other policy fields have achieved during the last decades. The following examples might be given:

- Foresight activities are non-existent or remain relatively weak in some Member States;
- important players often network only loosely at EU level, if at all;
- European policies and issues are not systematically taken into account in national and regional Foresight studies.

Despite the increased importance given to foresight there has been a lack of integration and coordination, often resulting in efforts being duplicated rather than exploiting possible synergies

In fact, many Foresight exercises are simply repeating and duplicating efforts already made by others, more advanced in the Foresight process, without exploiting possible synergies. Thus, they are missing the advantages of cooperation at European level, e.g. in the form of economies of scale, cost-efficiency and shared knowledge gains.

In the medium to long term, this situation could **impact negatively on the implementation of the 'Lisbon Strategy'**. Therefore, a consensus is growing that the implementation of common EU policies and the creation of the European Research Area (ERA) imply an urgent need to network and possibly share and exchange the knowledge base on which national and sub-national research and innovation policy decisions are made, and to complement Foresight activities undertaken by national and regional actors.

This theme is taken up by *Science, Society and the Citizen in Europe*, published by the European Commission in November 2000³. There, the importance of Science and Technology Foresight for the ERA implementation strategy is underlined: In order to systematically provide relevant information for the process of 'open coordination' of national and EU research policies, Foresight initiatives and institutions might be better interconnected at trans-national, inter-regional or European level, and also increasingly geared towards European policies and issues.

These general suggestions to intensify Foresight type activities in Europe have been further developed in the proposal of the European Commission for the next Research Framework Programme, aiming to **strengthen the ability to anticipate and develop shared views on RTDI-related issues at stake for Europe**. This would finally contribute to better informed decisions regarding the prioritization and implementation of public and private policies, and greater consistency between EU, national and regional/local policy levels. The risks and opportunities Foresight processes identify are often of a similar nature to those in different countries and regions, while the solutions Foresight can provide may well identify complementarities and reveal the advantages of cooperation at national or inter-regional levels.

The regional dimension of the European Research and Innovation Area

The final translation of knowledge into economically relevant activities very often takes place at the sub-national level. It is also at this level where 'learning' capacities can be best organized through networks and public-private partnerships, so as to ensure that knowledge flows irrigate the economy, and RTDI resources are most efficiently used for tackling specific economic development objectives.

The pervasiveness of S&T has made it vital for policy makers in all policy fields to deal with S&T developments in an integrated and multidisciplinary way in order to exploit the opportunities and control the risks

The pervasiveness of Science and Technology has increased in a way that they now impact even core government functions (witness, for example, the debate on 'e-government'). Therefore, it has become vital for policy makers in all policy fields to deal with S&T developments in an integrated and multidisciplinary way in order to exploit the opportunities and diminish any associated risks. Policy makers are faced with a number of challenges:

- to ensure that the different innovation-related regional actors (e.g. universities, technology centres, business consultants, business clusters, financial institutions, development agencies) coordinate effectively,
- and to 'co-develop' policies (e.g. regional policy, research policy, industrial policy, education and training) in a coherent and systemic way.

Although it might seem surprising at first sight in an era of globalization, these developments have increased instead of decreased the importance of informed decisions and management capacities of regional actors. Their initiatives to foster innovation through competition, cooperation and networking are the basis for success in the global economy - the success of their regions and, ultimately, of Europe.

Global forces have increased rather than diminished the importance of informed decision making and management capabilities at the regional level

In this respect, regionally based agents will have to play their role as dynamic actors in structuring the ERA through:

- developing the necessary infrastructures, equipment and human resources to conduct high level research and to increase innovation-related problem solving capabilities;
- fostering partnerships between the public and private sector to stimulate knowledge creation and diffusion, and a better uptake of research results into the local socio-economic fabric;
- encouraging entrepreneurship and creativity through economic innovations based on exploiting regional diversity and endogenous potential;
- fostering an environment conducive to research and innovation through legal, financial and fiscal measures, including public procurement policies;
- stimulating inter-regional exchanges of ideas, good practice and human resources, including technology transfer between regions.

That this need is felt all over Europe has been recently underlined by the number of innovation programmes submitted by regional governments in response to the Commission's Communication *The regions and the new economy* of July 2000⁴. More than half of the proposals received from over 100 (out of nearly 160) European regions aimed at developing new policy actions in the field of the knowledge economy and technological innovation.

Geographical proximity remains a powerful factor in fostering the intellectual, commercial and financial exchanges conducive to innovation and regional efforts aimed at local innovation actors are major determinants for successful economic and social performance

Geographical proximity remains a powerful factor in fostering the intellectual, commercial and financial exchanges conducive to innovation. Regional efforts to stimulate them and to exploit synergies among local innovation actors are major determinants for successful economic and social performance. Therefore, the design of research and innovation policies has to take into account the specific local economic, socio-cultural and institutional conditions of the regions in which they are going to be implemented.

This was highlighted in particular in *Towards a European Research Area*⁵, in January 2000, when the European Commission called for "a reinforced role for the regions in the European research effort", a point further strengthened in subsequent statements of other policy actors in Europe.⁶ Later in 2000, this point was fully integrated in the guidelines for Community research for the period 2002-2006⁷. In these guidelines, the Commission presented its objectives to be pursued in research and innovation policy, as well as the three aspects to be taken into account with regard to future measures in all EU priority areas:

- coherence of European scientific and technological cooperation;
- **the regional dimension:** EU measures should be designed to encourage:

- full use of the dynamic and potential of the regions by networking their capacities and activities with regard to research, innovation, and technology transfer, especially where they are confronted with common problems,
- the taking into account of specific regional, geographical or economic characteristics when carrying-out research activities in Europe;
- the international dimension.

Consequently, the importance of regional aspects has also been emphasized in the proposal for the next Research Framework Programme (2002-2006).⁸

In addition, the Commission has published a Communication on *The Regional Dimension of the European Research Area*, where the importance of regional actors in forward structured thinking is further highlighted.⁹ It is emphasized there that, together with innovation and education and training, research brings a new message to regional economies, allowing for new forms of advancement, keeping pace with both local and international developments. Regional research and innovation policies and initiatives may provide the key ingredients for the emergence of agglomeration economies and of successful industrial clusters.

Mobilizing regional Foresight actors: an essential contribution to an enlarged European Foresight Area

As mentioned, the implementation of the 'Lisbon Strategy' also implies an urgent need to use the full potential of Foresight type activities for policy development at affordable costs. This calls for a whole range of additional activities, e.g. more effective use of the resources available and progressive creation of a common knowledge base on Foresight results, methods and competencies in Europe. Moreover, it will be important to identify gaps in the competence structure (seen from a macro European perspective), and propose the necessary measures to fill them in order to arrive at a coherent, high-relevance and high-impact institutional landscape for Science and Technology Foresight in Europe.

To move towards an **enlarged and better networked institutional landscape**, the following initial steps have been identified:

- developing a coherent supportive framework at the European level to ensure systematic use and optimum benefit of Foresight, and
- identifying and mobilize all relevant actors (at whatever governance level), to enable efficient and effective EU-wide networking, and institutional development and capacity building.

Development of a support network at the European level for the systematic use of Foresight, and identifying and mobilizing all relevant actors to enable effective EU-wide networking have been identified as key initial steps

It is in this context of the mobilization of all actors involved in Foresight type activities, that complementary initiatives aiming at regionally based actors are suggested. This field seems to be the fastest developing and most innovative one, and at the same time the largest 'unknown and unexplored territory'.

Activities focusing on the regional level could draw heavily on experience from successfully implemented initiatives

Activities focusing on the regional level could draw heavily on experience from successfully implemented initiatives, e.g. in the framework of the Regional Innovation Strategies (RIS), the Regional Information Society Initiatives (RISI), the INTERREG cross-border regional cooperation under the European Regional Development Fund (ERDF), and the Regional Innovation and Technology Transfer Strategies (RITTS) under the Fourth and Fifth Research Framework Programmes (FP4, FP5). Examples include:

- IRE, a network involving over 100 European regions, undertaking the design and the implementation of a regional innovation strategy, funded by either Regional Policy DG or Enterprise DG: It has been designed to serve, among other things, as an open forum for discussion of RTDI policy options in which regions share and exchange knowledge in areas such as methods for technology auditing, RTDI strategic planning, RTDI impact indicators, etc.
- RINNO¹⁰, a joint initiative by Regional Policy DG, Enterprise DG and Research DG providing a central resource for regions to obtain information about good practice in regional innovation, particularly with respect to SMEs, integrating:

- the 'Information layer', factual information on all large regional innovation schemes in member states regions;
- the 'Knowledge layer', case studies selected through a process of peer review by expert working groups to illustrate good practice in regional innovation schemes;
- the 'Wisdom layer', practical help on a range of issues concerning the implementation of regional innovation schemes.

In both schemes, the advantages for regions of co-operation at European level in the RTDI field have been shown.

More specifically focused on both the need for and the potential of regional Foresight is the Thematic Network (comprising 13 European regions) and its Accompanying Measure (directed at the 'Four Motors for Europe' regions¹¹), which are supported by the STRATA programme (under FP5) uniting regional policy makers and Foresight experts from all over Europe. As these projects are currently in their final phase, information is already available on:

- the opportunities of regional Foresight, and
- ways of overcoming the obstacles that still hamper the diverse regions of Europe to benefit fully from those opportunities.¹²

As well as **benefiting from past experience**, future activities –intended to mobilize the potential of regional Foresight actors and to develop a dynamic, well-networked European institutional landscape can at the same time **influence and take advantage of the new Innovative Actions under ERDF** (2002-2006), where three priority themes are particularly significant for developing the ERA:

- regional economies based on knowledge and technological innovation;
- eEurope-Regio: the information society at the service of regional development;
- regional identity and sustainable development.

A number of the priority themes of ERDF are also particularly significant for development of the European Research Area

Last, but not least, regional actors could orient the development of their Foresight exercises against the background of the opportunities emerging from the new instruments of the **next Research Framework Programme** (2002-2006), e.g.:

- 'Networks of Excellence' intending to reinforce scientific and technological excellence through a progressive and long-lasting integration of research capacities existing in Europe pooling a critical mass of competencies and skills. Bearing a strong programming character, they are expected to be particularly well adapted to regional research and innovation actors. They allow better connectivity between central and peripheral hubs of scientific competence, thus offering increased opportunities for collaboration, staff mobility, information and knowledge exchange as well as positive spillovers to the local and regional economies.
- 'Integrated Projects' aiming at reinforcing European competitiveness or at contributing to the solution of important social problems through the mobilization of a critical mass of a broad variety of RTDI resources and skills existing in Europe. Regional bodies may be associated here in transnational partnerships to develop specific projects, of a substantial scale, aiming at integrating scientific and technological efforts.

Regional actors can use the opportunities presented by the next Research Framework Programme, such as 'Networks of Excellence' and 'Integrated Projects' to orient development of their foresight activities

Conclusion

Foresight type activities have proven to be able to make a valuable contribution to the efficient development of research and innovation policies, and other activities essential for the success of integrated strategies for economic and social development. They can improve policy making in a broad range of policy areas, both at national and regional/local levels. Nevertheless, such activities have not yet been developed and implemented systematically all over Europe, nor are the relevant actors networked and profiting from each other's experience to the necessary extent. The odds are good, however, that this situation will improve considerably in the near future. There are both successful field experiences to draw upon, and opportunities evolving in the framework of implementing the European Research Area.

For regionally based actors, two important schemes to consider for support of such activities are the next Research Framework Programme (2002-2006) and the Innovative Actions under the European Regional Development Funds (2001-2006). Additional Foresight supporting measures at European level could facilitate a coherent development and an efficient use of resources. These measures might pursue both short-term objectives (e.g. supporting mapping activities, development of options for further actions and networking) and medium-term objectives (e.g. developing dissemination strategies for broadening the spectrum of users, network expansion activities, capacity building and institutional development). Making optimal use of all these elements together will smooth the way forward to a dynamic and enlarged institutional European Foresight landscape, and thus to a strengthened strategic basis for the European Research Area.

Keywords

foresight, changing governance, Lisbon strategy, European research area, regional policy, RTDI policy, innovation systems

Notes

¹ SEC (2000) 1547/7 (October 2000): White Paper on European Governance: *Enhancing democracy in the European Union*; COM (2001) 428 (July 2001): *European Governance: A White Paper*

² COM (2001) 79 final (March 2001): *Realising the European Union's potential: Consolidating and extending the Lisbon Strategy*. Contribution of the European Commission to the Spring European Council, Stockholm 23-24th March 2001

³ SEC(2000) 1973 (November 2000)

⁴ COM (2001) 60 (January 2001): The regions in the new economy - Guidelines for Innovative Measures under the ERDF in the period 2000-06.

⁵ COM (2000) 6 (January 2000): Towards a European Research Area

⁶ <http://europa.eu.int/comm/research/area.html>: contributions to the debate

⁷ COM (2000) 612 (October 2000): Making a reality of the European Research Area: Guidelines for EU research activities (2002-2006)

⁸ COM (2001) 94 (February 2001): Proposal for a decision of the European Parliament and of the Council concerning the multiannual Framework Programme 2002-2006 of the

European Community for research, technological development and demonstration activities aimed at contributing towards the creation of the European Research Area

⁹ COM (2001) 549 (October 2001): *The regional dimension of the European Research Area*

¹⁰ <http://www.rinno.com>

¹¹ See the Four Motors for Europe web page at: <http://194.140.228.131/4motori.nsf/framesweb/index>

¹² FOREN: Foresight for Regional Development Network (HPV1-CT-1999-00009), <http://foren.jrc.es>; FOMOFO: Four Motors Foresight Initiative (HPV1-CT-2001-00006), <http://www.foresight.it> : il progetto FoMoFo; <http://www.cordis.lu/improving/strata/selected.htm>); Gavigan, J.P. and F. Scapolo. *Foresight and the Long-Term View for Regional Development*. IPTS Report 56, July 2001, p 19-29.

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