

Looking back on European Foresight¹

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Introduction

What is happening in European Foresight and where is it likely to go? First, Foresight continues to spread out. Each year, it seems, there are new national exercises, even in countries that have undertaken foresight type exercises in the past. At the same time there is increased activity at other levels most notably at regional, sectorial and European levels. With this increasing foresight activity there is both an opportunity and indeed a necessity to start to formalise the lessons we have learned from the growing body of experience. In fact one of the emerging roles of IPTS and Commission colleagues in DG Research has been to collate and draw out these lessons. One of the actions we have begun to tackle is to start to catalogue the main dimensions of foresight in Europe in terms of start dates, time horizons, main issues, methods and clients. The paper provides some preliminary and very crude results from these efforts. Of course the pay-off from the cataloguing of foresight comes when we can develop analytical insights from the comparisons. This is rather hard. Each foresight is very dependent on its context and timing. However, the paper suggests that there appears to be an underlying trend towards attempts at both increasing the participation in foresight and a greater thematic concentration in order to make the results more directly targeted on factors that have been identified as strategic or in other ways highly important.

An ever rising tide?

The IPTS has been keeping a track of the development of foresight activities in Europe over several years. The latest version of our attempts to trace these developments shows that there continues to be a lively growth and regeneration of foresight exercises in Europe. In the past few years there have been new exercises launched at national level in ‘old hands’ such as the UK, France and Germany. In each case the new exercises show interesting developments over the previous efforts. At the same time, some new countries such as Greece have started up a national foresight for the first time. At the moment only two EU15 countries have never launched some kind of national Foresight (Luxembourg and Finland). In Finland’s case there are many prospective exercises that fulfil (e.g. by VTT or the Parliamentary Committee for Future) the role of a foresight (Table 1).

¹ The views expressed in this paper are not necessarily those of the European Commission.

Alongside the EU15 we see a recent flowering of candidate country foresight exercises. Some of these, such as the Hungarian example, have been full-scale national foresights already of some year's vintage. Others are rather modest efforts that are more about capacity building such as those undertaken by the triumvirate of Malta, Cyprus and Estonia with European Commission support under the flag of small country foresight.

Table 1 – A rough review of recent EU15 foresights		
Country	Project	Horizon (years)
Austria	• 1998 – Ministry of Science and Transport	15
Belgium	• 2000-2001 – Federal Ministry of Science	15
Danmark	• 2001 – New programme launched – results arriving now	4
France	• 1995 - Technologies clés 2000 – Ministry of Industry	5
	• 2000 - Technologies clés 2005 – Ministry of Industry / CM International	5
	• 2003 – Research & Innovation Strategy for France in Europe - ANRT	10-20
Germany	• 1995 & 1998 2 Delphi Exercises - BMBF/ISI Fraunhofer	30
	• 1999+ FUTUR1	
	• 2001 Futur – BMBF/IFOK/VDI/Z-Punkt/ISI-Fraunhofer	
Greece	• 2001 – General Secretariat for Research and Tech/ Logotech	>15
Ireland	• 1998 - Irish Council for Science, Technology and Innovation, Forfas,	15
Italy	• 1994-1996 – National Research Priorities– Fondazione Rosselli-CNR/ENEA	10
	• 2000/2001 - 2e rapport in progress- Fondazione Rosselli-Ministry of Research-	10
Netherlands	• 1998 - Technology Radar – Ministry of Economic Affairs	10
	• 2000 –'AWT (Council on S&T Policy) and NRLO (Agricultural Research.)	
Portugal	• 2000 Technology Foresight 2000-2020 ("Engineering and Technology 2000")	20
Spain	• 1999-2001- Industrial Technology Prospective	15
Sweden	• 2000 Technology Foresight – Academy of Engineering Sciences – Nutek	10-20
United Kingdom	• 1995 Technology Foresight ("Partnership for Progress") - Office of Science & Technology	10-20
	• 2000 Foresight - Office of Science & Technology	10-20
	• 2002 Foresight – OST	

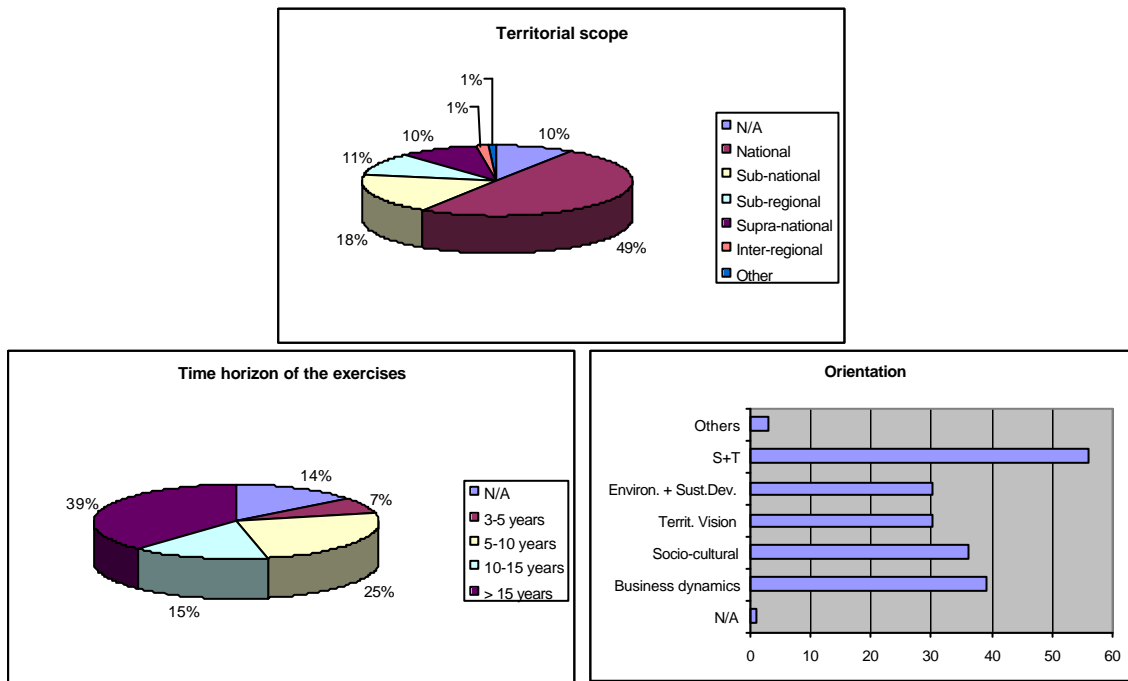
However, mapping foresight is not as straightforward as it at first appears. The basic problem is that the diversity of exercises described here under the common label of foresight is wide. Many of the exercises are very different one from another, leading to considerable problems to identify definitive list of foresights in Europe. IPTS has recently begun an attempt to formalise this mapping of foresights with the co-operation of its ESTO network of co-operating S&T policy institutions. This project, called Eurofore, has recently completed a pilot exercise in which the issues of identifying foresight activities and actors were tackled. The results of this pilot - with all the technical faults and omissions of a pilot – are available through a searchable interface on <http://les.man.ac.uk/eurofore>.

This exercise, although a pilot, was undertaken on a serious scale that documented in unprecedented depth 84 foresights from across Europe. Eurofore was put together by an international team from Austria (ARCS); Belgium (VITO), Czech Republic (TCP),

Finland (VTT), France (Futuribles), Germany (FhG-ISI and VDI), Hungary (UNU-INTECH), Italy (Fondazione Rosselli), Netherlands (TNO) and Turkey (TUBITAK)). As can be expected from a pilot although it is already yielding useful results, the survey still has some notable omissions from the database, and the database itself still has to be migrated from its prototype state into a final version.

These caveats made, the survey already provides some indicative insights that provide a clearer picture of the shape of the European foresight scene than has been possible before (Figure 1). First, it gives greater credence to the impression from our surveillance of national foresight there is still an upward trend in foresight in Europe. Our data implies that in 2001 the launch of exercises reached a new peak. The overall balance of the exercises we were able to identify and document was still heavily coloured by the national exercises (around 50%). The time horizon for most exercises is medium to longer term with over half being orientated towards 10 years or more and only a few on the short term of less than 5 years. Science and Technology themes seem to be still the most important focus of foresight, at least the ones we have been able to identify. However, there seems also to be significant amount of attention to wide environmental and socio-economic issues in many foresights. This is consistent with our overall impression that the focus of foresight has tended to move from looking directly at S&T identifying critical technologies to looking at S&T in their societal context (i.e. in keeping with the shift to problem driven research).

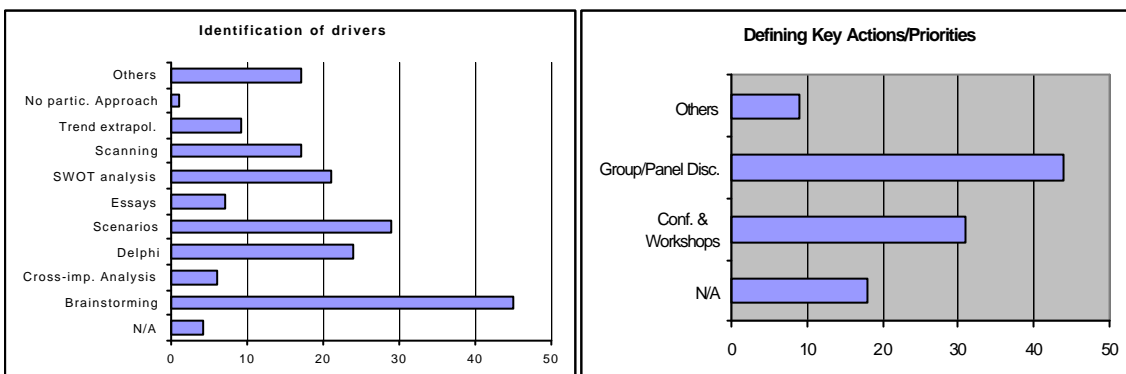
Figure 1: Preliminary results from Eurofore - approach



Amongst the other interesting results that can be extracted from this preliminary work, which is more indicative of the type of analytical result that might be derived in the future is a dynamic mapping of the methods that are currently in popular use in

European Foresight (Figure 2). For example, for selection of main drivers brainstorming is by far the most common technique, probably due to its relative ease of use in the context of panel-based activities. More technically demanding approaches such as Formal Scenario methods, Delphi and SWOT analysis are less commonly applied, but still seem very popular. While other long-standing techniques such as cross-impact and trend extrapolation, which again can be very demanding to do properly are the least frequently used. This may imply something that the state of the field in terms of its sophistication and the methodological level of its practitioners still require some development. There are many more thought provoking initial results in the report of this pilot project.² Such thoughts however require a lot of further investigation before they become conclusions. We hope that we will be able to continue further develop the project further in the coming months.

Figure 2: Preliminary results from Eurofore: Observed Methods



I turn now to look at recent developments in national level foresight. A number of national programmes have recently come to a close or are on-going. They are quite varied but the dynamism of the area is unmistakable. At the same time activities we also see a strong growth in European level actions. This has been affirmed and catalysed by the establishment in 2001 of a Foresight Unit in DG Research that has a specific and complementary role to IPTS in developing Open Co-ordination of Foresight activities across the European Research Area (<http://www.cordis.lu-/rtd2002/foresight/home.html>). In particular it has been promoting international co-operation on foresight through projects on small country foresight (eForesee), foresight in Romania and Bulgaria (Foretech) and regional foresight (FOREN and FOMOFO). Running alongside these activities are the international foresight comparison work led by the IPTS (<http://www.jrc.es>), such as the comparison of industrially orientated foresight (IOFCO) and the direct foresight exercises such as foresight on the implications of EU enlargement from candidate country perspective (Enlargement Futures).

As the issue of European level action and policy is covered by another presentation I will not deal with the issue in depth, however, one of the key actions of DG Research

² Keenan, M. (forthcoming 2003) Eurofore: A Mapping of European Foresight Competences, JRC/IPTS, Seville.

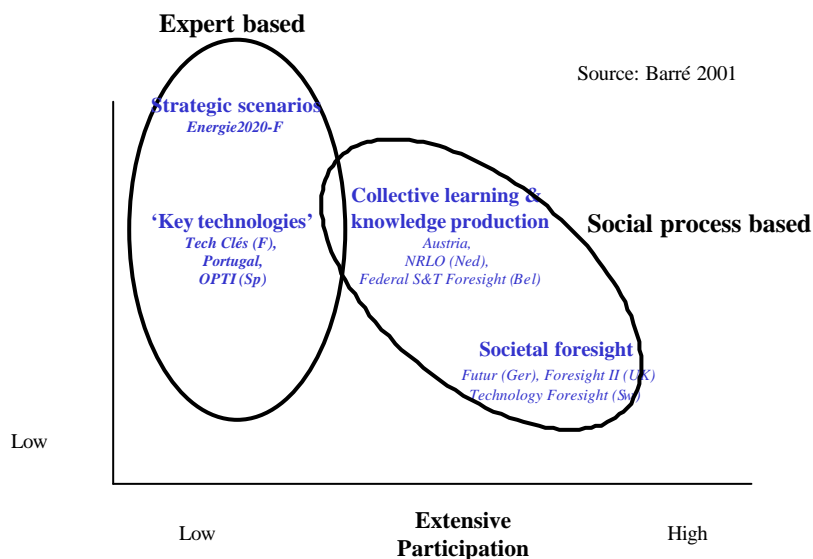
has been to stimulate and bring together regional level foresight activities and expertise. The IPTS also played a key role in this process at the start, through our scientific leadership of the DG Research ‘Foren’ project, which brought together the two worlds of regional innovation and development strategies with foresight (<http://foren.jrc.es>). One of the main results of that work was a practical guide for regional users and practitioners on the why and how of foresight. An updated version of this guide has been (or is being) translated into all community languages in a cut down and targeted version. It was also a key starting point for a recent similar guide on ‘Knowledge Society Foresight’ produced under the auspices of the European Foundation for the Improvement of Living and Working Conditions (<http://www.eurofound.ie>).

Comparing Foresight in Europe

All this activity across Europe at regional, sectoral, national and European level begs the question what lessons are being learnt and what best practices are emerging. Unfortunately there is no complete answer to this issue yet. The Eurofore project is a first attempt to put together the information needed to answer this question.

So on a more impressionistic basis, we can look at the results we have been able to deduce from analysis of trends in foresight from our direct knowledge of national level exercises. One attempt to provide such analysis emerges from the work of Rémi Barré in a recent IPTS-ESTO study on Strategic Policy Intelligence (Figure 3).³ Here Barré identifies as the ‘expert based’ some of the more traditional modalities of foresight that

Figure 3: One approach to classifying foresights



Source: Barré 2001

³ See Remi Barré ‘Technology Foresight’ in Tübke et al. (2001) *Strategic Policy Intelligence: Current Trends, the State of Play and Perspectives*, JRC/IPTS, Seville.

rely on expert judgement and intensive engagement in panels or rounds of foresight or key technology analysis. Examples include the French Key Technologies exercises and strategic scenario types exercises. On the other hand there has been a strong development in recent years of more open ‘social process’ based exercises such as the second main round of UK foresight or the Swedish foresight. Here he raises an important question about the extent to which foresight is part of a new governance model that somehow contributes to meeting the greater demand for transparency and participation in the selection of S&T priorities. In particular, in this more networked knowledge economy it is arguably no longer the case that the repository of knowledge lies with a few (reputed) scientific experts, but that knowledge is distributed. Foresight processes if nothing else can help to create a more legitimate and credible system for identifying possible priorities for S&T.

Barré certainly captures an important dichotomy in his classification, because it strikes at the centre of one of the key features that we have identified in recent developments in foresight. There is on the one hand a greater emphasis on clear and open processes of selection of foresight topics, and on the other hand of increased targeting of foresight efforts onto a few very highly important themes. This is very clearly indicated in the case of the recently completed German Futur process, which is one of the most sophisticated foresight processes ever attempted. It involved 1500 participants in an open process of brainstorming, scenario creation and vision building, but which eventually led to a limited set of 4 lead visions that can be implemented as research programmes. Similarly, the latest UK foresight round was based on a wide call for consultation on the selection of the key topics, but then extremely tightly focused topics being implemented as foresight themes, using traditional expert based processes. Another example of this type of approach can be seen in the Danish foresight.

The reason for this type of highly targeted approach emerging may relate to an increased demand that we have noted for the evaluation and demonstration of impact of foresight. For some years foresight practitioners have tended to answer the request to show impact with anecdotal evidence or by saying the benefits are more in the process or indirect and tacit developments (e.g. ‘wiring up the innovation system’) than in direct and tangible impacts. This unfortunately does not completely satisfy the decision-makers that are eventually asked to fund foresights. Thus perhaps we can explain the increased emphasis on processes that end with implementation and that are very focused in order to increase the chances that some results that can be used will be produced.

Such concerns for proof of value for money and relevance are also behind the drive for increased attention to rigorous methods. Again we see a rising emphasis on evaluation, quality and development of professional competence building.

However, the paradoxical common lesson it is that foresights are all different. This is because each country needs a different result from its foresight. The way it implements a foresight can be based on common principles but there will never be a one best way to do foresight. Foresight design is likely to remain a craft, based upon what the institutional context, the previous experiences that need to be built upon, the clients and the key challenges that the country faces.