

Final Report

## **Mid-Term Assessment of Foresight Activities**

**Report to Directorate General Research of the  
European Commission**

**By an Independent Expert Panel**

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## Executive Summary

The Foresight activities implemented by the EU indirect actions under FP5 and FP6 and managed by unit K2 in DG Research of the European Commission have been the subject of a Mid-Term Assessment (MTA) by a panel of independent experts. The task of this panel has been to evaluate the initial results and potential for impact of the expected outcomes of the Foresight activities.

The evaluation has taken place in the light of the following missions of the K2 unit:

- To promote co-operation and build networks in the field of Foresight between foresight actors and users in Europe with **relevance** to the strengthening of the foresight dimension of the European Research Area, in cooperation with other Directorates, with the Institute of Prospective Technological Studies of the JRC – with which it establishes close links – as well as with national and international foresight organisations.
- To monitor S&T foresight activities in Europe and elsewhere in order to contribute with high **quality** analyses to the reflections of the DG on the challenges and opportunities to take into account for the development of European research policy.
- To promote the **impact** of Foresight activities by dissemination of results and the exchange of expertise of experiences in these activities.

The panel has formulated three criteria, **relevance**, **quality** and **impact** to reflect these tasks, and against which the activities of the unit have been evaluated.

The MTA panel has been asked explicitly to assess the influence of the foresight activities so far on EU, national and regional RTD policy in Europe, and on related policies such as Enlargement, Sustainable Development, Regional Development and Governance.

The work of the MTA panel is embedded in the context of current developments and challenges to EU research policies, as framed by the following three major trends:

- Increased importance of accountability and evaluation programmes.
- The rising complexity and changing governance of S&T policy and the need for adequate instruments.
- The evolution of Foresight towards a key instrument of strategic intelligence.

The report of the MTA panel is based on two types of fact finding, the first an analysis of the documents produced by actions such as STRATA, High Level Expert Groups and by conferences, seminars, workshops, the newsletter and the website, and the second a large number of interviews of panel members with Foresight actors and users in Europe. Assessments were made against the three criteria relevance, quality and impact and more broadly in the light of RTD policy making in Europe and related policy areas such as Enlargement, Sustainable Development, Regional Development and Governance.

The MTA panel's discussion of the assessments has led to a number of conclusions. Most importantly:

- Over the past years the products and results of EC Foresight activities have been satisfactory to highly satisfactory. Response to the initiatives has generally been very positive. Networks of practitioners, users and stakeholders have been created at the European level where none were before.
- The foresight exercises show a strong potential to enhance the learning process based on experience sharing, on opening the constituency and building on a variety of competencies, on developing a European distributed strategic intelligence system for future oriented participative activities, linking technology assessment, foresight, evaluation, benchmarking sources, accessible to all relevant actors in a systemic vision.
- EU Foresight Activities were able to make a positive contribution to foster the effects on European, national and regional research and innovation policies to implement the Lisbon Strategy and the ERA. Such policy areas as Enlargement, Higher Education, and Regional Development were also positively affected. But the resources for European Foresight have not been equal to the potential. The policy areas of Environment, Sustainability and Security, of Sectoral Foresight and of Governance deserve more attention in the coming years.
- Direct impact on decision making on Science and Technology decision making in the member states and in the Commission cannot easily be identified. Impact on decision making is likely to have been indirect.
- Potential users in the Commission and in the member countries are insufficiently aware of the potential of Foresight as a policy tool. There is not enough efforts to achieve dissemination and reach out to all categories of S&T policymakers.
- There is concern about the ability of the community of Foresight in Europe to incorporate critical scientific debate, to include expertise from the private sector, and to continue the networks once they have been established. The community is not sufficiently open to new actors and to innovation.
- The methods and scope of S&T policy making in the EU have changed in past five years. Therefore Foresight faces new demands. Unless new and intensified activities are undertaken in the coming years, the contribution of Foresight to European S&T policy making will decline. A better option is to undertake a major upgrading of European Foresight in terms of mission, activities and resources.
- Competition, excellence and market forces have had little attention in most Foresight analyses. There is a bias toward the public sector. Changing this would make participation in EU Foresight actions more interesting to the private sector.

Based on its discussion of the assessments and conclusions, the MTA panel makes a number of recommendations. Most importantly:

- Faced with three options for the future of EC foresight, the panel recommends that the mission of the EC Foresight Activities Unit should be upgraded from co-ordination to the promotion, as a pro-active catalyst, of Foresight. Foresight should be made into an instrument integrated in the Science and Technology decision making process at different levels, namely in the European Commission services, in national governments and in independent RTD institutions, including private industry.

- If the evolution of resources does not allow this option, the EC must make critical choices about the type of tasks to be performed in the future, and about the reduction of tasks.
- For activities under the 7<sup>th</sup> Framework Programme, we recommend that the Foresight unit of the EC continue to strengthen the community of foresight experts, decision makers, and stakeholders by :
  - putting the network into action and organising a European Technology Foresight exercise ;
  - demanding that the experts involved in financed projects publish their results in refereed journals as well as in general public journals ;
  - participating in training activities on Foresight for present and future European policy makers (for example in the European University Institute of Florence or the European College of Bruges);
  - evaluating the actual uses and analysing costs and benefits of S&T foresight exercises;
  - the integration of quality assessment of European Foresight activities in the 7<sup>th</sup> Framework Programme.
- There should be a strengthening of the position of the European Foresight activities Unit, both internally and externally, by the creation of a Proactive European Foresight Platform and permanent Steering Committee on Foresight in Europe. (See annex.)
- Increase the promotion of Foresight as a policy tool; promotion of its relevance and benefits. Strengthen the communication of relevance and benefits of Foresight as a policy tool by providing practical examples, evidence of advantages and demonstrable improvement of decision-making.
- Create organizational measures to promote the continuity of networks resulting from Foresight. Foresight results should more often have a follow-up in developing more concrete policy options at the sectoral or national level. These can take the form of joint-ventures with national, regional or sectoral policy makers.
- Foresight actions aimed at emerging science, at sectors, regions and risks have been successful and should continue or expand. This is diffusion of Foresight experience. New and innovative types of Foresight, for example with a focus on the development of new or changing research disciplines, should be actively explored. The panel has produced a list of priorities for European Foresight activities for the near future.

## **Chapter 1. Introduction**

### **1.1 Objectives of the MTA**

The objective of this Mid-Term Assessment (MTA) is to evaluate if the Foresight activities implemented by the EU indirect actions under FP5 and FP6 (and managed by unit K2 in DG Research of the European Commission) are meeting their objectives, by analysing the impact of existing initial results and the potential for impact resulting from the expected outcomes.

Unit K2 in DG Research of the European Commission has been assigned the following missions:

- To promote co-operation in the field of Foresight between foresight actors and users in Europe in order to strengthen the foresight dimension of the European Research Area, in cooperation with other Directorates, with the Institute of Prospective Technological Studies of the JRC – with which it establishes close links – as well as with national and international foresight organisations.
- To monitor science and technology foresight activities in Europe and elsewhere in order to contribute to the reflections of the Directorate General on the challenges and opportunities to take into account for the development of European research policy.
- To promote the dissemination of results and the exchange of expertise of experiences in these activities.

Particular aspects to consider are the dynamics, sustainability and leverage effects of the results achieved, such as the extent of adoption of reported “good and/or appropriate practice”, the increase in the knowledge base available to the policy making community, the adoption of new methods among the S&T policy stakeholders, and the input to the better definition and dialogue in the European Research Area.

The MTA should assess explicitly if the foresight activities carried out so far have already, or are likely to have a proportionate impact on EU, national and regional RTD policy in Europe and on other directly related policies such as:

- Enlargement
- Sustainable Development
- Regional Development
- Governance.

### **1.2 Implementation**

To implement the MTA, a panel of five experts was convened. This comprised a Chairperson, a Rapporteur and three additional experts in the field of Foresight. Each of the experts made an independent evaluation of a selection of the altogether 24 Foresight activities, actions and documents. Each of these activities were evaluated independently by at least two experts.

To capture the true effect of activities on the development of European networks of practitioners and users of Foresight a large number of interviews was held in five different member states. This resulted in a wealth of critical and positive comments, as well as concrete recommendations for improvements. At this point in time the panel has met

twice to discuss and calibrate the results of their evaluations and interviews. Conclusions and recommendations were discussed by panel members in these meetings.

The MTA panel has chosen the three assigned missions (section 1.1) of the European Foresight activities unit to be of particular importance at this time to be used as criteria for the assessment. They are related to criteria used by the earlier panel responsible for the MTA of STRATA and CBSTII projects. But they have been reformulated to allow the capture of wider effects on network building and policy making.

The three criteria are Relevance, Quality and Impact. In section 3.1 they are operationalised to rate the results of the Foresight activities.

## **Chapter 2. The context for the Mid-Term Assessment of Foresight activities**

The MTA panel understands its work not as an isolated task but as embedded in the context of current developments and challenges to EU research policies. In particular, this assessment is seen as framed by at least three major trends of direct relevance:

### **2.1. Increased importance of accountability and evaluation of programmes**

As underlined, e.g. by the White Paper on European Governance, European institutions attribute high importance to principles such as accountability, openness, transparency and effectiveness. The evaluation of programmes and policies is becoming a firmly rooted practice which contributes to these principles. They are equally important for a more efficient use of resources, more democratic governance and higher trust by citizens in EU policy-making.

At the same time evaluation procedures may serve two poles: the more past-oriented 'performance measurement' or the use as a 'learning medium', based on intelligent information gathering for the orientation of future activities. To demonstrate accountability is important but performance assessments also have their limits for guiding policy. The MTA panel is convinced that the present assessment should give priority to the learning function, i.e. to use evaluative information to improve understanding and inform future strategies.

### **2.2. The rising complexity and changing governance of research and technology policy and the need for adequate instruments**

The environment for research and innovation policy as well as the nature and governance of the research and innovation system are changing. They are changing in several respects and require the design and use of an appropriate set of instruments. Some of the main challenges in the environment are the emerging knowledge society, EU enlargement, the changing nature of technological innovation, and an increasing number of actors.

- The trends towards the network society and knowledge-based economy have given a big boost to research, technology and innovation policy. Globalisation has further raised the competition stakes regarding technological innovation. As a result, translating research results into successful commercial and industrial technological products is now a key element for competitiveness.

The speed at which knowledge is incorporated into products to serve society has made the time-to-market factor crucial.

- The advent of the knowledge-based economy has also highlighted a number of specifically European shortcomings compared to the rest of the world when it comes to combining scientific knowledge and enterprise culture in an interactive process of innovation backed by an economic and regulatory climate which encourages intangible investment – particularly in the private sector – and networking between the academic world, industry and research centres.
- With EU enlargement, the technological cohesion of the enlarged Union poses problems of worsening marginalisation caused by the structural and infrastructural shortcomings and holes in the economic and industrial fabric of the economies in transition, supplementing the existing social and economic disparities with even wider technological divergences. The EU must be able to maintain and enhance the considerable scientific potential of these countries, helping to incorporate it in the Community research system and focusing it on solving the economic, social and industrial problems of their economies.
- The volatility and level of obsolescence of current technological processes in the world context demand considerable ability to anticipate emerging challenges as well as flexible and fast decision-making, so as to ensure that political, scientific, technological and industrial management can face up to the new challenges and the new risks they bring.
- Political decision-making is more and more based on a large number of players and variety of levels (European, Community, national and regional) where choices can be made and action taken. The complexity of policy-shaping and policy-making increases. Joint strategic visions to choose the priorities for technological and scientific objectives centred on society's economic, social and industrial problems become essential.

Challenges within the research and innovation system add to the changes in the environment. They concern above all the new collective, multi-level governance model with its implications for the realisation of the ERA, and the frequently stated 'governance gap' associated with the multi-level coordination requirements.

- The model of shared governance stands for new ways of policymaking in the EU which are characterised by the participation of multiple stakeholders in the shaping and implementation of government decisions. It also reflects the complex task of articulating national and regional government policies into EU-level decision-making processes.
- The new collective governance includes the challenge of building up a European research identity and to combine for this end EC controlled research policy instruments such as those in FP6 with the 'open method of co-ordination'. The special challenge lies in finding effective answers to questions such as how to maintain direction and coherence of this way to achieve a truly

European research policy and how to make decision-making at regional, national and EU levels more synchronous.

- The governance gap stated by some analysts addresses the problem of the existing ill-coordinated ‘division of labour’ in R&D and innovation policy: the different government levels (regional, national, EU) need to find instruments for more systematically structured and determined modes of co-ordination. This situation calls for a set of instruments which are able to generate and support systemic perspectives, future-oriented strategic thinking and mutual policy learning in the field of research, technology and innovation policy.

### **2.3. The evolution of Foresight towards a key instrument of strategic intelligence**

Foresight has been aptly characterised to cover activities aiming at thinking the future, debating the future and shaping the future. During the past decade, it has evolved and established itself as a key policy instrument with a variety of potentials offering significant contributions to the challenges outlined above.

- Foresight allows identifying future opportunities and challenges as strategic information for decision-making. At the same time it can serve as a socio-economic mobilisation tool, capable of building solidarity, consensus and shared agendas, particularly at EU level, by providing opportunities for stakeholders to contribute to shaping EU policy.
- Starting from Technology Foresight, forward-looking activities have evolved towards the wider concept of Foresight to be applied in a variety of subject fields and forms. The analysis of impacts and potential risks has been introduced as an integral element, and increasing attention is being paid to the socio-economic embedding.
- The Foresight process with its stimulation of communication and future orientation among the actors of the innovation system can be as valuable as the outcomes in terms of, e.g. identified areas of strategic research and emerging generic technologies. Accordingly, the function of mobilising and ‘wiring up’ national innovation systems adds to the function of informing science and technology policy-making, e.g. for purposes of priority setting.
- The third generation of Foresight of today can play a significant role in combination with other instruments of strategic intelligence (such as monitoring, evaluation and benchmarking of policies). Particularly, it can contribute to closing the gap in the growing need for ‘systemic instruments’: e.g. by managing interfaces between users and producers of innovations, by bridging gaps between stakeholders with diverse backgrounds and institutional positions, or by providing a platform for learning, experimenting, stimulating demand articulation, and strategy and vision development. This is underlined by the extending scope of application and the established use of Foresight by a number of international organisations, e.g. UN, UNIDO, OECD.

## Chapter 3. Fact finding I: Assessment of the Foresight documents

### 3.1. rating of results against three criteria

The panel members made an independent assessment, based on documentation, of the three types of Foresight activities, STRATA projects, High Level Expert Groups, and conferences/seminars/workshops. Each action was rated against the three criteria Relevance, Quality and Impact.

- **Relevance** to the objective of building networks of specialized communities of practitioners.
- **Quality** of the results of the activities, effects on decision making and reflection on S&T policy.
- **Impact** of the activities in terms of visibility and political recognition.

Scores of High, Medium and Low were assessed. Where the two panel members assigned to each activity differed in their scores discussion between them resulted in an agreed final score. There was a very high level of agreement on the scores between evaluators. If there were initial differences, it was not difficult to come to an agreed final score. A number of projects were incomplete at the time of evaluation and were therefore more difficult or impossible to score.

Table 1. Performance rating of STRATA projects (n=8)

The criteria:	High	Medium	Low
Relevance	6	2	0
Quality	4	4	0
Impact	2	3	3

Six of the eight STRATA projects score high on Relevance. The success in creating networks of Foresight practitioners is clear.

Half of the these projects also score high on Quality, the effect on decision making and reflection on S&T policy.

STRATA projects more often score low than high on Impact. Foresight is far from being an established, visible policy instrument.

Table 2. Performance rating of the High Level Expert Groups (n=6)

The criteria:	High	Medium	Low
Relevance	4	2	0
Quality	4	1	1
Impact	2	3	1

High Level Expert Groups have been relatively effective in influencing decision making and reflection on S&T policy.

Table 3. Performance rating of Conferences, seminars and workshops (n=7)

The criteria:	High	Medium	Low
Relevance	4	3	0
Quality	2	5	0
Impact	1	5	1

The pattern of success of this group of actions is similar to the STRATA projects. The greatest impact is on creating European networks.

Of the total group of Foresight actions assessed by the panel it can be said that the performance is quite satisfactory. Low scores are rare on any of the criteria that have been set. The panel has grouped the evaluation comments according to group of activities in section 3.2 below, but has chosen not to pursue the comparison of positive and negative point of assessment according to group of actions. The positive and negative points that were reported are similar and, in fact, generally apply equally to actions in each of the groups.

The visibility and effect of all these activities on decision making and reflection on S&T policy were generally much lower than their relevance to network building. This should be seen as a reflection of the limited power base and limited resources of European Foresight activities in an otherwise highly political and very decentralized system of S&T decision making. Direct and visible influence is difficult to achieve. At the same time, this is a weakness which should continue to be addressed in the design, planning and organization of Foresight activities in the coming years.

### **3.2 Further findings from the evaluation of the Foresight actions**

The assessment of activities by the panel members went beyond grading high, medium or low on the basis of the three criteria. We report the following selection of comments on the Foresight documents that were written by the panel members. The comments (in italics) are a representative selection from a very large number of similar observations by the panel members in the evaluation reports.

We have chosen not to focus the evaluation on specific projects due to obvious constraints on time and resources. The most important comments moreover relate to points of assessment that are not specific to particular projects. They generally relate to generic points of assessment applicable to many of the projects.

### The panel on the STRATA projects:

#### Building networks of practitioners and users:

*Aimed at creating a structured dialogue between TA-experts and decision-makers in S&T, and given the strong overlap between TA and Foresight, the project is of high relevance to key objectives behind EU Foresight activities: for promoting cooperation between Foresight actors and users as well as to promoting the dissemination of results and exchange of expertise.*

*The project has a clear value for regions by offering instrumental support, but utilising it effectively depends on the availability of people with Foresight knowledge in the respective policy field.*

*The overall experience from the project was very positive for participants. Six partner teams was the ideal size. Dissemination and visibility were limited. Synthesis work and co-operation with other STRATA-projects is missing. ERA issues were not planned but were quickly included in the project. Follow-up is not included and this is a clear drawback.*

#### The lack of follow-up:

*Clearer goals and closer interaction on objectives and expectations between K2 and project team could have improved the utilisation of outcomes. The need for adequate resources to cover both parts of a project like this should be acknowledged: the required analytical, more 'basic research oriented' work and the work of extracting more practical, policy oriented results/guidelines.*

*In the Recommendations for actions, it is important to forge a link between "bottom-up" activities in local initiatives and "top-down" activity of the EU: Foresight activities should place more emphasis on sponsoring and facilitating Europe-wide activities to develop and test methods, approaches and processes to conduct regional Foresight activities and to evaluate their effects. The Report underlines the need for the establishment of a European Foresight Platform to remedy to the lack of comparison and benchmarking, to identify what constitutes good practise in the application, and promote stronger networking Foresight activities to build synergies and learning effects between different regional efforts. The Report is even in favour of the establishment of "1 or 2" European Future Trends Observatories.*

*This project is a core activity as measured by K2's mission which prepared the ground for Foresight adoption at regional levels. Sustained diffusion and application would profit from follow-up activity. Connections and cooperation with DG Regions and regional policy institutions need to be strengthened.*

#### Not enough links between projects:

*Relations with other future oriented instruments should have been treated more systematically.*

*Very interesting and innovative project and results. But there is a lack of linkages between this project and other projects, HE/R for example.*

The panel on the High Level Expert Groups:

The quality of the results:

*To what extent have differences (sectoral, cultural and economic) in background and views of the experts sufficiently contributed to the discussion in this project?*

*The High Level Expert Group on the future of Foresight produced a high quality document. Some recommendations, such as supporting networks of excellence on Foresight in Europe under FP6 have been partially followed. Other recommendations, such as creating a foresight internet portal are not yet really implemented.*

*The recommendations on improving Higher Education and Research relations of this group of High Level Experts are more concrete than the earlier group. The seven recommendations of the group are interesting. But what action has been taken to make them known?*

Relevance:

*Lessons learned: The problems of predicting outcomes of disruptive technologies and potential impact assessments are crucial and EU initiatives to explore them are highly relevant.*

*This project is not aimed at building networks. But the contribution to the setting of a European policy agenda for higher education and research contributes to this objective indirectly.*

The panel on the results of the Conferences, Workshops and Seminars:

The participants:

*Such regular meetings and workshops organised by the Unit seem very appropriate and useful to maintain a close relationship with national representatives of ministries and authorities in charge of Foresight activities. They allow for an exchange of orientation for ongoing and future common activities at regional, national and EU level.*

Activities are sometimes seen to be too narrow:

*This was a very relevant initiative and the recommendations were equally relevant. But more place should be given to decision-makers and stakeholders.*

*Interesting study but too unilateral view. Perhaps it is necessary to compare these ideas with other ones from other political orientation.*

### 3.3 Main points of assessment from the actions

From the scoring and evaluation of the actions the panel has drawn the following main points of assessment.

1. Evaluation of the EC foresight activities, as reflected in the end-products of STRATA projects, High Level Expert Groups, conferences, and seminars, generally produces high scores in terms of number and quality of participants, relevance to policy issues and innovation.
2. The results of the Foresight actions in terms of criteria such as the direct effects on S&T decision making and visibility, admittedly more difficult to achieve, are lower.
3. Further efforts should be made, building on the network of Foresight actors in national ministries, but in addition to the established meetings, to get other decision-makers more involved, to increase visibility and awareness of Foresight and to demonstrate its problem-oriented application, in order to facilitate the integration into policy-making.
4. Many valuable and productive networks have been created, but these are not sufficiently linked. Sometimes the selection of participants as well as the selection of the audience is too narrow. The cumulative effect of the related projects over a period of time is lower than desired.
5. Innovative and targeted combinations of measures such as the stepwise sequence of activities in the area of regional foresight and particularly the direct combination of high level expert groups and decision-makers in projects, turned out to be promising approaches.
6. In some other cases the panel sees, perhaps for lack of resources, insufficient follow-up of successful projects and networks. In these cases this leads to the non-satisfactory situation that relevant initial investments have been made in terms of resources, effort and learning, but that these end half-way because the nature of tasks is either too complex or requires a step-wise approach. A typical example is coming to successful practical solutions of the demand for integrating technical and social elements in foresight.
7. The quality and distribution of the publications of the Unit is high. In particular the Newsletter "Perspectives" and the website, including the regular newsletter "Foresighting Europe", contribute to the visibility of the European Foresight activities and serve as an initial knowledge platform for actors interested in foresight.
8. Partly due to limited resources, some topics of strategic importance seem to have received insufficient attention up to now, for example subject fields such as: environment, health, education systems, water and water management, the labour market for scientists in Europe, future of the research system in Europe (the new division of labour in research: east/west, basic/mode 2).  
The panel also feels that opportunities have been missed to link up with Foresight activities outside the EU.

**Chapter 4. Fact finding II: Interviews with European Foresight experts**

**4.1 The interviews**

Each of the panel members has interviewed a number of Foresight users and practitioners in their own country and in the EC. The interviewees are drawn from three categories, government, academic and private sector. In addition background interviews have been done with a number of EC officials. All interviews were done based on a single prepared format. This nevertheless was sufficiently open to allow widely differing inputs from interviewees based on difference in position and experience.

Table 4. Interviews contributing to the Mid Term Assessment

<b>Interviews:</b>	34
Government, national and regional	16
Academic/research	14
Private sector, consultants and independents	4

With each person interviewed the panel members discussed the degree to which the European Foresight activities with which they were familiar were contributing to the objectives of relevance, quality and impact as they were defined above. Some had first hand experience with only one project, others with as many as 6. Each was asked to contribute comments, lessons learned and recommendations for future Foresight activities.

**4.2 Findings from the interviews**

The experts that were interviewed offered a large number of valuable insights and recommendations on the Foresight activities of the EC. All interviewees were asked to relate specific lessons learned and recommendations for improvement based on their experience with the EC Foresight activities. Not all comments can be reported due to editorial constraints. We reproduce here a representative selection of the most typical or noteworthy comments from the experts.

On the success of the network building:

*The European Foresight Activities Unit is quite effective in forging many kinds of relations. It is open and adventurous compared to others.*

*There is a very high regard for the efforts of the EC unit to promote coordination of European Foresight activities. It is very important, very useful, to hear who is doing what in Foresight in the other countries. It helps us do our job better.*

*The network building of K2 is especially relevant for the new member states. Participation of member states in the European networks depends on specific policy needs. This differs per country and changes over time.*

On the lack of follow-up efforts:

*There is a danger that the interest in Foresight raised at regional levels could get lost without closer interaction with regional development institutions and adequate follow-up activities. Whereas up to now EU Foresight activities were usually based on contacts at national level, regions should be addressed directly.*

*Unit K2 should continue this networking of European government officials. It is interesting to know what others in Europe are doing. But they should put more substance into it ; we should work together on a topic, the agenda should be more precise. For example : how do we see the future of a technology ?*

*Unit K2 should do more to diffuse information.*

*As far as regional foresight is concerned, unit K2 should continue what it has launched.*

The impact on decision making and reflection on S&T policy:

*Foresight is an important, but only one policy instrument among several. At some point it has to be connected with other policy instruments. FS should not be done in isolation from other policy instruments and actors in established policy fields.*

*Foresight proved to be a useful instrument for decision-makers on regional policies because it complements the rather short term horizon of RIS (up to three years) with a more long term strategic orientation.*

*Foresight in general and the activities of DG Research are very important also at regional government level.*

*The circle of experts organized is more impressive and attractive than the policy effects of the Foresight reports.*

*The impact of Unit K2's projects on the European Commission and on political levels is quite low because it does not report to a high level within the Commission.*

On visibility:

*K2 certainly had an impact on the diffusion of FS, less by their website but by lobbying in EU programmes as well as at national levels. This has also raised the visibility of FS. However, these efforts must be sustained. Will that be possible?*

*Although the project is for many the very first contact with Foresight, it has already clear impacts at least in some of the participating regions. Foresight is getting ever more relevant for regions. It plays a key role in the growing importance of R&D as a strategic factor for regional development, especially in a situation where regional subsidies are expiring.*

### Suggestions for increasing the impact on policy and visibility

*To increase the recognition of FS as a relevant policy tool, the approach of a HLEG in cooperation with regions and subsequent dissemination of practical results is most fruitful.*

*The requests for foresight work should come more from the EC budget holders than just from unit K2 internally. Their impact would be largely increased.  
Unit K2 should make choices. They cannot do everything.*

*Think more about what can be done to diffuse and help the assimilation and appropriation of the work that is done.*

### The European Foresight community is not strong enough:

*In general the visibility and academic status of Technology Assessment and Science Policy at universities in Europe has not been high the past decade. .... The EC should also take responsibility in this direction. The academic and policy participants in Foresight have been insufficiently open to new developments after 1990.*

*K2 should increase its contribution to strengthen the necessary scientific framework for FS.*

*The recent Foresight Seminar in Seville is a step in the right direction. The exchange between US and EU as begun with this seminar in Seville is very useful. Such contacts and exchange should be extended, e.g. with FS activities in Canada, FS bureaus at UN and OECD.  
Horizontal connections on all dimensions should be developed.*

### European Foresight is dependent on a pro-active role of the Commission

*Putting foresight specialists together facilitates foresight evaluation, quality and self-control. No other unit of the EC does that type of work which is extremely important for people involved in foresight and policy makers in European countries.*

*Unit K2 is a meeting point for policy makers and foresight specialists in Europe to share results, methodology and improve quality and impact.*

#### Suggestion for new Foresight activities at the EC:

*Scientific foresight / observatory of disciplines : There is very little knowledge on disciplines, how they are practised, how they evolve. There should be an observatory on how disciplines are practised, with an analysis of their strengths and weaknesses (quality, structure, organisation, selection of priorities, teams, mobility, etc.) and futures. Ex : what are the disciplines that are developed in Poland ? How could they evolve ? There is the problem of “viscosité” that complicates evolutions. This could be done at national level but there is need to develop a common methodology that will allow comparison of results and conclusions. Unit K2 should launch reflection on the methodology of foresight on scientific disciplines.*

*With the disappearing of the Forward Studies Unit, the Foresight activities unit at DG Research could act as the Foresight promoter within the Commission. There would be plenty of relevant themes, e.g. water and water management, health and pension systems, the labour market for scientists, etc.*

*Unit K2 should look at foresight aspects in networks of excellence and integrated projects. This could help the definition of the 7<sup>th</sup> framework programme.*

*This Ministry might be less interested in traditional Foresight studies than in analytical studies to answer policy questions. Example: what is the return on investment of public expenditures on R&D?*

#### Recommendations for strengthening the Foresight community:

*Foresight units of the EC should get linked up with schools such as the European University Institute of Florence and the European College of Bruges to diffuse the reports that are prepared to the students and future European policy-makers.*

*A network of excellence, PRIME, Policies for Research and Innovation on the move to the ERA will be active in the next five years. Unit K2 should be closely linked to it.*

*Unit K2 should finance projects and expert groups on work on methodology. There should be a data base on national exercises with annual synthesis. Unit K2 should facilitate linkages between national exercises.*

#### Improve the effectiveness of the management of outside experts:

*EC Foresight should mobilise people more selectively, but give them the means to work. It is contrary to the general orientations of the EC, but it would be more efficient. When setting up the expert groups, unit K2 should involve more diverse types of persons to avoid the appearance of a closed shop.*

*The staff of Unit K2 seems too much tied down by detailed and bothersome rules of financial administration. Experts complain of too much financial bureaucracy. This limits flexibility and effectiveness. .... . Organising travels, etc. takes a lot of time. Should there be a general convention to ease procedures ?*

### 4.3 The main points of assessment from the interviews

1. The EC Foresight activities unit has been very effective in creating European networks of practitioners and users of Foresight in established and in new areas. There is a very high regard for the unit in its promotion of European Foresight activities.
2. The network building is especially relevant for the new member states and for smaller countries. Other members states participate more on the basis of critical self-interest. They need to be won over for each new action based on the quality and leadership of the EC unit. The ability of the unit to launch innovative actions is crucial to future success.
3. A number of participants in the networks complain of a lack of diffusion and follow-up of Foresight actions. Follow-up needs to be better organized, possibly in the form of systematic joint ventures with target groups, ministries, regional authorities, universities, etc..
4. Impact on decision making and reflection on S&T in a directly measurable way has been difficult to achieve.
5. Particularly, the explorative foresight activities collaborations in the fields as higher education to strength the ERA basis, or emerging challenges facing the S&T policies, the technologies new wave and converging technologies have been very useful in the context of the present and future EU Framework Programme decision making process and of its possible impact on societal issues, providing relevant information, future intelligence gathering and medium-to-long term visions.
6. As far as the Enlargement policy is concerned, participatory national, regional and sectoral foresight exercises supported by the European Commission demonstrate – as it is the case of the Foretech or eForesee foresight activities – the positive role that these exercises can play to enhance coordination capability of national and local systems to cope with internal and external challenges of Enlarged Union.
7. In the field of EU regional and cohesion policy, the foresight exercises show a strong potentiality on enhancing the learning process based on experiences sharing, on opening the constituency and building on a variety of competencies, on developing an European distributed strategic intelligence system for future oriented participative activities, linking technology assessment, foresight, evaluation, benchmarking sources, accessible to all relevant actors in a systemic vision.
8. Lacking, at least at EU overall level, are the sectoral foresight exercise for European industries. The MTA Panel sees the emergence of a strong need for a common medium-to-long term strategic visions to reach the objectives of the Lisbon Strategy of sustainable competitiveness in the new dynamic global market. For effective EU, national and regional policies, decision-makers, stakeholders, public authorities and the economic and social actors will more and more need participative foresight exercises for industries like Biochemical, Steel, Textile, and Aerospace.
9. The European Foresight community is still weak in terms of a sustained critical debate about the results of research projects, linkages between practitioners, in Europe and elsewhere, and dealing with methodological issues. Isolation has led to too much introspection and conservatism, according to some respondents. Actions should be taken at the European level to improve the academic status as well as the recognition among diverse policy makers.
10. The EC Foresight unit needs to improve the organization of its actions in terms of the quality and diversity of participants in projects and in terms of the administrative management (bureaucratic hindrances) of contracts with outside experts.

## Chapter 5. Conclusions

- 5.1 Over the past years the products and results of EC Foresight activities have been satisfactory to highly satisfactory. Response to the initiatives has generally been very positive. Networks of practitioners, users and stakeholders have been created at the European level where none were before. EC Foresight activities have raised attention for the need for more holistic and long-term strategic thinking in various RTD related policy fields.
- 5.2 The foresight exercises show a strong potential to enhance the learning process based on experience sharing, on opening the constituency and building on a variety of competencies, on developing a European distributed strategic intelligence system for future oriented participative activities, linking technology assessment, foresight, evaluation, benchmarking sources, accessible to all relevant actors in a systemic vision.
- 5.3 Foresight exercises have succeeded in putting together different actors and organisations linking them to stakeholders arenas and building up a broader mutual understanding and a common strategic vision towards the development of a stronger knowledge society. EU Foresight Activities were able to make a positive contribution to foster the effects of these exercises on European, national and regional research and innovation policies to implement the Lisbon Strategy and the ERA. Positive contributions have also been made with these exercises in the areas of Enlargement policy, Higher Education, and Regional Development. But the resources for European Foresight have not been equal to the potential. The policy areas of Environment, Sustainability and Security, of Sectoral Foresight and of Governance deserve more attention in the coming years.
- 5.4 Direct impact on decision making on Science and Technology decision making in the member states and in the Commission cannot easily be identified. Impact on decision making is likely to have been indirect. While difficult to measure such impact, a number of respondents report that Foresight activities by the Unit have contributed to the quality of reflection and discussion in preparation of decisions on Science and Technology.
- 5.5 Potential users in the Commission and in the member countries are insufficiently aware of the potential of Foresight as a policy tool. There is not enough efforts to achieve dissemination and reach out to all categories of S&T policymakers.
- 5.6 There is concern about the weakness of the community of Foresight in Europe in terms of its capacity to incorporate critical scientific debate, its capacity to include expertise from the private sector, and in the continuity of the networks once they have been established. The community is not sufficiently open to new actors and to innovation. These shortcomings form a considerable challenge to the EC Foresight Activities Unit in the coming years. A major upgrading of European Foresight should be undertaken to improve this situation.

- 5.7 The methods and scope of S&T policy making in the EU have changed in past five years. See also 5.3. Therefore Foresight faces new demands. The present resources and organization of Foresight in the EC are not equal to the increased task. Unless new and intensified activities are undertaken in the coming years, the contribution of Foresight to European S&T policy making will decline. A better option is to undertake a major upgrading of European Foresight in terms of mission, activities and resources.
- 5.8 Competition, excellence and market forces have had less attention than public policy issues in many Foresight analyses. There is a certain bias toward the public sector. Changing this might make Foresight more interesting to the private sector.

## **Chapter 6. Recommendations**

- 6.1 Faced with three options for the future of EC foresight (see annex 1), the panel recommends that the mission of the EC Foresight Activities Unit should be upgraded from the co-ordination to the promotion, as a pro-active catalyst, of Foresight. Foresight should be made into an instrument integrated in the Science and Technology decision making process at different levels, namely in the European Commission services, in national governments and in independent RTD institutions, including private industry.
- 6.2 If the evolution of resources does not allow this option, the EC must make critical choices about the type of tasks to be performed in the future, and about the reduction of tasks.
- 6.3 For activities under the 7<sup>th</sup> Framework Programme, we recommend that the Foresight unit of the EC continue to strengthen the community of foresight experts, decision makers and stakeholders by :
- putting the network into action and organising a European Technology Foresight exercise ;
  - demanding that the experts involved in financed projects publish their results in refereed journals as well as in general public journals ;
  - participating in training activities on Foresight for present and future European policy makers (for example in the European University Institute of Florence or the European College of Bruges);
  - evaluating the actual uses and analysing costs and benefits of S&T foresight exercises;
  - the integration of quality assessment of European Foresight activities in the 7<sup>th</sup> Framework Programme.
- 6.4 There should be a strengthening of the position of the European Foresight activities Unit, both internally and externally, by the creation of a Proactive European Foresight Platform and permanent Steering Committee on Foresight in Europe. (See annex 2.)

- 6.5 Increase the promotion of Foresight as a policy tool; promotion of its relevance and benefits. Strengthen the communication of relevance and benefits of Foresight as a policy tool by providing practical examples, evidence of advantages and demonstrable improvement of decision-making.
- 6.6 Create organizational measures to promote the continuity of networks resulting from Foresight. Foresight results should more often have a follow-up in developing more concrete policy options at the sectoral or national level. These can take the form of joint-ventures with national, regional or sectoral policy makers.
- 6.7 Foresight aimed at emerging science, at sectors, regions and risks has been successful and should continue in new activities. This is diffusion of Foresight experience. New types of Foresight, for example with a focus on the development of new or changing research disciplines, should be actively explored. For example, there has been no foresight activities on the futures of a scientific discipline, including the changing educational needs of researchers, nor has there been impact studies of the consequences of the evolution of certain disciplines and technologies. This is an example of innovation in Foresight and should be pursued by the EC.
- 6.8 The following list of priorities for European Foresight activities should be taken under consideration:
- Foresight aimed at the future development of scientific disciplines, including the education of researchers;
  - RTD policy for energy and sustainable development;
  - Foresight studies for the New Neighbour Area
  - The new division of labour in research in the ERA;
  - Sectoral Foresight with the participation of branch organizations;
  - Innovation and employment in SME;
  - Economic aspects of investment in R&D;
  - The development of databases for Foresight research at the European level.

## Annex 1

### Three options for Foresight activities in Europe

Given the present objectives, the EC foresight activity unit is expected to have an impact on :

- reflections and policies of the Research Directorate General of the EC,
- reflections and policies of national government,
- reflections and policies at regional level,
- practices and practitioners of foresight.

For the future of the EC foresight activity unit, the panel sees three contrasted options.

#### **Option 1:**

As happened to the “cellule de prospective” which was dismantled at the end of the 1990s, the present EC foresight activity unit (K2) could be dismantled and IPTS could be the only EC foresight activity unit in charge of foresight.

The advantages of such an option could be increased clarity from the view of external actors (within the EC, there would be only one place primarily devoted to prospective analysis and foresight activities being carried out); an associated advantage could be a concentration of resources.

The major drawbacks of such an option, however, would be a lesser role for the EC on policies of national and regional government, less creativity in foresight exercises, less networking of foresight practitioners, and less diffusion of the foresight role in decision making in Europe. Since the EC foresight activity unit is the main agency for developing foresight in the political space rather than being concentrated on operational functions, this would cause a significant gap. It would certainly hamper the advancement of a more future-oriented, forward-looking culture in policy-making, the formation of more long-term strategies and the sustainability of problem solutions. Prevalent tendencies of short- to mid-term views related to election periods in policy-making would remain without major counterweight and hence be reinforced.

#### **Option 2:**

The second option for the EC foresight activity unit (K2) is the status quo in terms of (a) mission, (b) activities, and (c) resources. This option has to be regarded as a sub-optimal strategy given the limited resources, the rising challenges to RTD policy-making and the need for adjustment of strategies and activities as indicated in the foregoing parts of this report.

#### **Option 3:**

The third option for the EC foresight activity unit (K2) is a better adjustment to the changing environment for RTD policy-making and the associated challenges, in terms of (a) mission, and/or (b) activities, and/or (c) resources.

As far as mission is concerned, the EC foresight activity unit (K2) has been assigned the following tasks: to contribute to the reflections of the Directorate General on challenges and opportunities to be taken into account in the development of European research policies, and to strengthen the foresight dimension of the European Research Area, in cooperation with other directorates, with IPTS as well as with national and international foresight organisations.

An evolution in the mission would be for the unit to put more attention to two aspects: (a) the role of foresight in policy making at European, national and regional level (and not only the diffusion of the foresight dimension), and (b) the role of the unit as a catalyst.

Foresight scholars and policy makers often make a distinction between the output of the foresight (information) and the process of foresight. The new information produced is supposed to be a crucial input for policy decision makers. This implies a very ideal view of the decision making process which is probably far from reality. If, as this option proposes it, the EC foresight activity unit (K2) tries to insert more foresight in S&T policy planning at European and national level, it should pay more attention to policy making decision processes. Foresight should both become a legitimate and key requirement of the competencies of policy makers and lead to substantive contributions to decisions. This would imply that the quality control of foresight processes and products should be increased in order to make foresight really a legitimate and credible instrument.

As far as activities are concerned, the EC foresight activity unit (K2) has been undertaking the following activities: monitoring of science and technology foresight activities in Europe and elsewhere and communication of this monitoring through newsletters, an intranet space, meetings, conferences, etc; organisation of foresight exercises and expert groups on various subjects (e.g. regional foresight, higher education and research, evolution of European S&T policies, technology assessment, foresight methodology) and dissemination through documents and conferences; organisation of meetings of persons involved in foresight at ministerial levels in European countries; participation to national foresight exercises.

An evolution in the activities would be to concentrate less on monitoring of S&T foresight activities (which is also done by IPTS) and more on integration of foresight into policies within the EC, at national and regional policy levels, and on organisation of foresight exercises and expert groups with great attention paid to the quality control of the processes (including the choice of participants) and the results. Special attention should also be paid to the means of dissemination of the results.

As far as experts and participants to conferences are concerned, the EC foresight activity unit (K2) works primarily with European scholars. It organises meetings of national foresight specialists in ministries, but these meetings are twice a year and attendance varies so much that there is insufficient continuity in participation.

Representatives of the private sector, the industrial associations, the members of parliaments, the policy makers are not very much involved.

An evolution in the composition of groups would be to invite representatives of industrial associations, to make presentations to members of parliaments, to be in contact with policy makers. On a more practical level, this evolution should be facilitated by an evolution of incentives such as honoraria and number of days allocated to experts; fewer experts would be consulted but as they would be better paid, the scope of origin could be enlarged and their commitment to high work quality increased.

As far as resources are concerned, the EC foresight activity unit (K2) has very limited staff and funds for projects. An evolution in funding would be required to set up a European Foresight Platform to achieve the necessary knowledge sharing.

## **Annex 2**

### **A program for a European Proactive Foresight Platform**

To give prominence to Foresight in the European Union and to increase the timeliness and effectiveness of European Foresight activities the creation of a European Proactive Foresight Platform might be considered.

This Platform would provide a nucleus of activities, to achieve the following objectives:

- to open up the closed circle of foresight practitioners and of the hortus clausus self referential foresight community to the civil society multiple organisations and to the general public of the European citizen
- ensure a greater visibility and credibility of the foresight exercises integrating technological, economic and social aspects as well as a global evaluation of the potential of innovation for the actors involved, particularly the stakeholders and the civil society
- ensure that the various levels and operators are interconnectable and coherent, providing common evaluation standards, common background of education and training in foresight for high level professional skills and expertise, harmonised methodologies, permanent networks, clearer parameters to assure feedbacks of the impacts of the exercises, and disclosed users-friendly information on these impacts and feedbacks
- help in recognising the manifold objectives of RTD at company, regional, national, Community and European levels, the need for mutual respect of their areas of action, and the importance of synergy and complementarity,
- explore new fields of application of the foresight exercises on horizontal issues as ethic in science, risk assessment and precautionary principle, safety and security, as well as in exercises on specific sectors or industry, and new approaches from the consensus building to the critical challenge and confrontation
- demonstrate the utility and usability of the foresight exercise for a better Governance of a competitive European Research and Innovation Area, within the Lisbon strategy, and stratify the cumulative knowledge achieved in a more systemic way.

To make all of this possible it would be necessary to achieve the optimum level of overall financial resources in FP7 to strengthen EU Foresight Actions with regard to its main partners, taking account of the cumulative effect of these actions if promoted and coordinated by a unitary pole of action – and of funding/co-funding – at European level.

In addition it is necessary to establish a Proactive European Foresight Platform, to promote co-operation in foresight in the European Research and Innovation Area to mobilize broad

sets of stakeholders to give collective thought on priorities, and thus to engage in societal debate and alignment of strategies within a coherent supporting framework.

The Proactive European Foresight Platform should provide not only an informal forum of foresight managers and practitioners where good practices may be exchanged and information founded and diffused, but also:

- new initiatives of foresight exercise for specific European industries and sectors, where such an action is needed in relation to the creation of technological platforms as in Bio-chemistry, Steel, Aerospace, Textile..., as well as for gender participation and new disciplines;
- new foresight exercises for scouting future European options in new technology fields, anticipating potential developments;
- new typologies of foresight exercises in sensitive fields like health, social security, education, childhood and old age, ethic, risk assessment, safety and security;
- actions for Strategic Capacity Building in old and new member States, with particular attention to categories of stakeholders like NGO, SMEs, consumers, gender, and environmental organisations to improve the quality of participation in democratic process of choice and governance;
- new trans-national and interregional foresight exercises on standardised and systemic basis in order to create a solid background for the European Research and Innovation Area in the enlarged Union, with clear and comparable impact measurements and feedbacks in order to stratify cumulative knowledge;
- common training activities jointly for decision-makers, practitioners, and stakeholders organisations on foresight good practises, standardized methodologies, common measurements and evaluation of impacts and feedbacks to improve common ways and quality of the distributed strategic intelligence of the S&T, social and economic dynamics in relation to society to the actors themselves and build up a dynamic learning community;
- creation of Jean Monnet Chairs in Foresight Activities and a European Foresight Prize for the best integration and impact of foresight exercises in the cooperation at European level
- creation of International Fellowships for Foresight, in order to attract the best researchers on the world market and improve the quality and the performance of European foresight activities;
- strong communication actions, at a more open and larger level that the foresight community itself, on the advantages of a permanent insertion of foresight tools in the decision-making process at all the different levels on a common reference framework basis for European cooperation with economy of scale, cost efficiency and shared knowledge;
- full exploitation the EC RTD&D Framework Programme opportunities, participating systematically with scientific officers in foresight exercises taking place in different priorities actions and specific programmes projects;
- activating internal and external coordination responsibilities for programmes and projects with a view to strengthening mid-term assessment of foresight activities at European level,

in order to group and stratify in a coherent way the results and give regularly an overall panorama of the learning process realised to the European Parliament and to the Council  
° inclusion of foresight activities needs in the new FP rules of participation for new instruments – i.e. integrated projects and networks of excellence – and in the criteria of selection and evaluation of proposals, in order to improve the results and concrete follow up of funded projects;

The establishment of an Foresight Steering Committee - with representatives of foresight community, general stakeholders organisations, the European Commission, the Crest, the European Parliament, the Committee of Regions and the European Economic and Social Committee – in order to assist and to support permanently the European Foresight Activity Unit in developing the Proactive Platform, advising on current activities and new needs, and in communicating effectiveness and benefits of foresight to the top decision-makers and media as well as to the general public.

## Annex 3

### List of Activities under assessment

<i>Order</i>	<i>Action</i>	<i>Document</i>	<i>Allocated to:</i>
<b><u>Strata Projects</u></b>			
<b>1</b>	DFFN - <i>Design for Future Needs</i>	Final report Final report - short version	GA, KS
<b>2</b>	ITSAFE - <i>Integrating Technological and Social Aspects of Foresight in Europe</i>	Final report Annexes 1 to 6	GA, MG
<b>3</b>	TAMI - <i>Technology Assessment in Europe; Between Method and Impact</i>	Final report Annexes I and II	GA, KS
<b>4</b>	EUROPOLIS - <i>Scenarios for the evolution of the European science and technology policy</i>	Final report	MG, FP
<b>5</b>	FOREN - <i>Foresight for Regional Development Network</i>	Final report A practical Guide to Regional Foresight	GA, MG
<b>6</b>	FOMOFO - <i>Four Motors Foresight Initiative</i>	Final report	FP, KS
<b>7</b>	FORETECH - <i>Technology and Innovation Foresight for Bulgaria and Romania (1/11/02 – 31/07/04)</i>	Technical Annex of the contract	FP, GB
<b>8</b>	e-FORESEE - <i>Exchange of Foresight Relevant Experiences for Small European and Enlargement Countries (1/01/02 – 31/12/03)</i>	Technical Annex of the contract	FP, GB

### **High Level Expert Groups**

<b>9</b>	<i>Developing Foresight to strengthen the strategic basis of the ERA</i>	Report: Thinking, debating and shaping the future: Foresight for Europe (Apr/02), DE, EN, FR	MG, KS
<b>10</b>	<i>Mobilising the regional Foresight potential for an enlarged EU – an essential contribution to strengthen the strategic basis of the ERA</i>	Report: The Potential of Regional Foresight (Dec/02), EN, FR, DE	GA, GB
<b>11</b>	<i>Foresight for the development of Higher Education / Research relations</i>	Report: Higher Education and Research for the ERA: current trends and challenges for the near future (Oct/02), EN, DE, FR	MG, FP
<b>12</b>	<i>Examining measures to improve Higher Education/Research relations in order to strengthen the strategic basis of the ERA.</i>	Report: Measures to improve Higher Education/Research Relations in order to strengthen the strategic basis of the ERA (Nov/03), EN	MG, FP

<b>13</b>	<i>New Technology Wave</i> (2003/4)	Objectives, organisation, experts	GB, KS
<b>14</b>	<i>Blueprints for Foresight Actions in the Regions</i> (2003/4)	- Objectives and Structure; - Slides of Presentation; - Kick-off meeting ; - List of Participants.	GA, FP

**Conferences, Workshops, Seminars**

<b>15</b>	Swedish Presidency Seminar on “ <i>Foresight for a competitive and sustainable Europe</i> ”, and workshop “ <i>Towards a Strengthened Co-operation in Foresight</i> ” with the CE/JRC/IPTS (Mar/2001), Stockholm	Invitation, Programme, Agenda, Background Note, List of participants	GA, GB
<b>16</b>	Seminar “ <i>Science and Technology Foresight and government decision-making in the European Research Area</i> ” (Nov/01), Brussels	Agenda and presentations live on the web site <a href="http://www.cordis.lu/foresight/news.htm">http://www.cordis.lu/foresight/news.htm</a>	MG, KS
<b>17</b>	Spanish Presidency conference on “ <i>The role of Foresight in the selection of Research policy priorities</i> ” (May/2002), Seville	Proceedings published by the EC/JRC/IPTS	MG, GB
<b>18</b>	STRATA <i>clustering workshop</i> (Apr/2002), Brussels	"European perspectives on Science and Technology Policy - preliminary outcomes from policy research and debates generated by the STRATA projects (1999-2002)	GA, MG
<b>19</b>	Conference “ <i>Europe’s Regions Shaping the Future – the role of Foresight</i> ” jointly organised with the Center of Technology Assessment of Baden-Württemberg (Sep/02), Brussels	Conference report (also downloadable from <a href="http://www.regional-foresight.de/">http://www.regional-foresight.de/</a> )	FP, GB
<b>20</b>	Workshop on “ <i>Corporate Foresight in Europe</i> ”, with business Foresight practitioners, (Nov/02), Brussels	- See “Working paper” from P. Becker (26 B) - List of industrial experts: Corporate Foresight activities	FP, KS
<b>21</b>	Round Table on the “ <i>Future of S&amp;T policies in Europe</i> ” in the framework of the 6th FP launch, (Nov/02), Brussels Exhibition Centre (Heysel).	Agenda and papers on the web page <a href="http://www.cordis.lu/foresight/news.htm">http://www.cordis.lu/foresight/news.htm</a>	MG, KS
<b>22</b>	Greek Presidency conference on “ <i>Foresight in the Enlarged European Research and Innovation Area</i> ”, (May/2003),	Manifesto, participants and papers, from <a href="http://medlab.cs.uoi.gr/conf2003/forum_se_e.asp">http://medlab.cs.uoi.gr/conf2003/forum_se_e.asp</a>	GB, KS

	Ioannina		
<b>23</b>	STRATA workshop on “ <i>Scenarios for the Future of European Research and Innovation Policy</i> ” (Dec/2003), Brussels	<ul style="list-style-type: none"> <li>- Agenda;</li> <li>- Outline, scenarios, rationale;</li> <li>- Presentation “<i>Innovation Studies and Policies in 21st Century - Skirmishes on the science – policy interface</i>” by Ruud Smits;</li> <li>- Participants list.</li> </ul>	GA, FP
<b>24</b>	European Co-operation in Foresight	<p>Description</p> <p>List of national experts;</p> <p><u>1<sup>st</sup> Workshop</u> (Oct/02):</p> <ul style="list-style-type: none"> <li>- Rationale;</li> <li>- Overview &amp; conclusions;</li> <li>- An ERA-Net suggested.</li> </ul> <p><u>2<sup>nd</sup> Workshop</u> (Mar/03):</p> <ul style="list-style-type: none"> <li>- Conclusions;</li> </ul> <p><u>3<sup>rd</sup> meeting</u> (Dec/03):</p> <ul style="list-style-type: none"> <li>- Minutes;</li> <li>- Follow-up message.</li> </ul>	GA, GB

### Other Actions

<b>25</b>	Country Specific Practical Guides to Regional Foresight	<ul style="list-style-type: none"> <li>- 16 specific country/language guides for 15 MS</li> <li>- Note to the file: Country Specific Guides to Regional Foresight (CGRF)</li> <li>- Contract data CGRF (Practical guide)</li> </ul>	
<b>26</b>	Working papers published	<p>A - "The objective of Sustainable Development: are we coming closer?", by René Von Schomberg</p> <p>B - "Corporate Foresight in Europe: a first overview" by Patrick Becker (October 02)</p>	MG, GB  KS, FP
<b>27</b>	Newsletter “Perspectives” (internal to EC)	10 issues, 2001-2002	All
<b>28</b>	Newsletter “Foresighting Europe”	4 issues, 2003, <a href="http://www.cordis.lu/foresight/newsletter.htm">http://www.cordis.lu/foresight/newsletter.htm</a>	All
<b>29</b>	Call for Ideas from Foresight practitioners (Mar/04)	<ul style="list-style-type: none"> <li>- Message + questionnaire;</li> <li>- Lists of addressees</li> </ul>	

pm CD-ROM of Norway 2030 and

Workshop of Foresight to Scenarios

All

### General

<b>30</b>	List of Experts: Independent Reviewers and others used by Foresight Actions	
<b>31</b>	Roadmap Foresight in FP6	All
<b>32</b>	Published notices of calls for tender: Pre-information, Call of Jul/03, Call of Jan/04.	All
<b>33</b>	Mid-Term Assessment report of STRATA/CBSTII	All