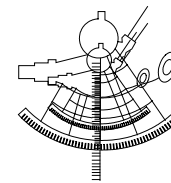


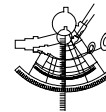
# European Trend Chart on Innovation



Thematic Report:

Public Debate on Innovation

Covering period: October 2002 – March 2003



Innovation is a priority of all Member States and of the European Commission. Throughout Europe, hundreds of policy measures and support schemes aimed at innovation have been implemented or are under preparation. The diversity of these measures and schemes reflects the diversity of the framework conditions, cultural preferences and political priorities in the Member States. The 'First Action Plan for Innovation in Europe', launched by the European Commission in 1996, provided for the first time a common analytical and political framework for innovation policy in Europe.

Building upon the Action Plan, the *Trend Chart on Innovation in Europe* is a practical tool for innovation organisation and scheme managers in Europe. Run by the Innovation Directorate of DG Enterprise, it pursues the collection, regular updating and analysis of information on innovation policies at national and Community level, with a focus on innovation finance; setting up and developing innovative businesses; the protection of intellectual property rights; and the transfer of technology between research and industry.

The Trend Chart serves the "open policy co-ordination approach" laid down by the Lisbon Council in March 2000. It supports organisation and scheme managers in Europe with summarised and concise information and statistics on innovation policies, performances and trends in the European Union. It is also a European forum for benchmarking and the exchange of good practices in the area of innovation policy.

### The Trend Chart products

The Trend Chart on Innovation has been running since January 2000. It tracks innovation policy developments in all EU Member States, plus Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Iceland, Israel, Latvia, Liechtenstein, Lithuania, Norway, Poland, Romania, Slovak Republic and Slovenia. The Trend Chart website ([www.cordis.lu/trendchart](http://www.cordis.lu/trendchart)) will provide access to the following services and publications, as they become available:

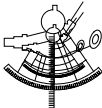
- a database of policy measures across Europe;
- a "who is who?" of agencies and government departments involved in innovation;
- a series of six-monthly country reports for all countries covered;
- a series of six-monthly trend reports covered on each of the four main themes;
- a number of benchmarking reports;
- the European Innovation Scoreboard and other statistical reports;
- a news service and thematic papers;
- the annual reports of the Trend Chart.

The present report was prepared by **Paul Cunningham and Marco Jaso, PREST, University of Manchester**. The information contained in this report has not been validated in detail by either the Member States or the European Commission.

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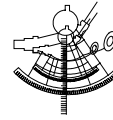
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### Executive Summary

This report sets out to identify general trends within the activities of the EU Member States and Accession Countries concerning the topic of a stakeholder debate on innovation.

In 2000, the European Commission issued a Communication *Innovation in a knowledge-driven economy*<sup>1</sup>. This set out the need for Member States to continue to address the European “innovation deficit” and reiterated the call of the Lisbon European Council for Member States to further increase their efforts to improve innovative capacities.

The Communication set out five objectives under which Member States could increase cohesion and reduce the fragmentation of the European innovation system. Each of these objectives contained a further set of specific actions aimed at strengthening Member State capacity to overcome obstacles to a more innovation-enhancing environment. The Fifth Objective aimed to develop “A society open to innovation” and recommended that Member State governments should “encourage comprehensive ‘stakeholder’ debates on innovation involving scientists, industry, consumers and public authorities”.

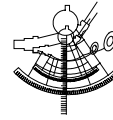
Due to the systemic nature of the innovation process, it is clear that a stakeholder debate on innovation is an important element of a thriving system of innovation, at all levels. Innovation affects all members of society, directly or indirectly. For this reason, society should be both aware of the importance of innovation and be part of the overall process which drives it forward. It is therefore the role of government to foster such awareness and to stimulate participation in any debate concerning innovation.

It is also clear that, in promoting such a debate, the subject of innovation encompasses a broad range of topics and extends into the general promotion of awareness of scientific and technological issues. Due to the pervasive nature of innovation and its connection with the broader field of science and technology, the range of initiatives that address stakeholder debate and awareness are necessarily diverse, ranging from activities such as ‘Science Weeks’, through debates on specific S&T topics, innovation prizes, dedicated web-based services, innovation workshops, and Foresight exercises, to high-level consultations on the formulation of regional or national innovation policy.

The results of this study indicate that most EU Member States appear to have some type of initiative aimed at the promotion of stakeholder discussion or at the broader objective of raising public awareness of innovation. There is some degree of variation in the level of this activity and also in the type of activity promoted. Activities in the Accession Countries are less developed, and often somewhat more formalised. Nevertheless, there is evidence that the promotion of a stakeholder debate on innovation is becoming more widespread as an element of national government policy.

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<sup>1</sup> COM(2000) 567 final



## Public Debate on Innovation

### 1. Introduction

In 2000, the European Commission issued a Communication *Innovation in a knowledge-driven economy*<sup>2</sup>. Whilst acknowledging that Member States had made significant progress in addressing the European “innovation deficit” identified in the 1995 *Green Paper on Innovation*<sup>3</sup> and addressed by the *First Action Plan for Innovation in Europe* (1996)<sup>4</sup>, the Communication states that: “In spite of these efforts, the overall innovation performance of the Union has not improved relative to our main competitors.”

In order to further address the “innovation divide” between high-performing regions and those lagging behind in Europe, *Innovation in a knowledge-driven economy* reiterated the call by the Lisbon European Council for Member States to further increase their efforts to improve innovative capacities. The strategy by which Member States could increase cohesion and reduce the fragmentation of the European innovation system was encapsulated within a set of five objectives. Each of these objectives contained a further set of specific actions aimed at strengthening Member State capacity to overcome obstacles to a more innovation-enhancing environment.

Under Objective 5, which aimed to develop “A society open to innovation”, Member State governments were recommended to “encourage comprehensive ‘stakeholder’ debates on innovation involving scientists, industry, consumers and public authorities”.

#### 1.1 Why stakeholder debate?

A stakeholder debate on innovation is an important element of a thriving system of innovation, be it at the regional, national or supra-national level, or even at the level of the firm. Innovation is a systemic process – each part of the system drives or pulls other parts in a complex chain of events and feedback loops. Interdependency is essential and the formulation of innovation support policies must recognise this. For this reason, innovation does not just affect the policy-maker or the company manager or the researcher in isolation – all are concerned with innovation, as too is the factory worker, the consumer, the student, and others.

For these reasons it is clear that the development of innovation policy has a huge constituency, some of its members being more directly concerned with the process than others. Nevertheless, it is the role of governments to ensure that the societies whose needs they are empowered to meet are both aware of the advantages that innovation can bring and are involved in endeavouring to drive the innovation process.

Under Objective 5: A Society Open to Innovation, *Innovation in a knowledge-driven economy* states:

“Society has often been reticent about innovation. The advantages, and disadvantages, of innovation are not always distributed equitably, especially when an innovation is first introduced. It may take time for the benefits of change and innovation to be appreciated. The media are important as a source of information on progress in research and innovation: they also draw attention to the balance of advantage and disadvantage.

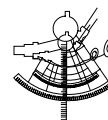
“We need to make both the opportunities and risks of new technologies as transparent as possible in a broad dialogue with science, business and the general public, taking account of the potential economic and social costs of ‘non-innovation’ (for example, in the area of technological innovations to reduce pollution and enhance eco-efficiency). That is the only way to boost public confidence in innovation.

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<sup>2</sup> COM(2000) 567 final

<sup>3</sup> COM(95) 688 final

<sup>4</sup> COM(96) 589 final



“The new generation must be taught how to thrive in a world becoming increasingly complex and subject to change. The challenge is for each Member State to face, notably through their education systems. Efforts must be made to ensure that the disadvantaged in society are not excluded.

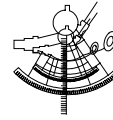
“Enterprises must play their part in ensuring that the knowledge and skills of their staff are regularly updated. The importance of working life means that particular attention should be given to innovation at the workplace and how it is introduced. Enterprises also have a major role to play in establishing confidence through consensus, self-regulation and quality standards.

“The aim must be a well-informed European society, capable of mature debate on innovative developments, and not handicapped in discussing innovation, or in applying innovative developments, by a weak understanding of science, technology and change.

“It is noticeable that countries with a strongly consensual approach, supporting quality debate on innovation issues, also produce strong figures for innovation-related indicators.”

It is important to recognise that the scope of these stakeholder debates may range from a general discussion on scientific and technological topics, through specific S&T issues (e.g. releases of genetically modified organisms), to relatively technical discussions on specific elements of the national system of innovation or innovation policy.

This report examines the actions that have been put in place by Member States in support of this objective. Two major sources are used in this study. In June 2002, also under the Trend Chart project, PREST produced a Thematic Report: *Progress towards the objectives set out in the European Commission Communication on “Innovation in a Knowledge-Driven Economy”*. This covered the period October 2001-April 2002 and was based on the reports provided by the Trend Chart national correspondents which were structured according to a set of targeted questions. One of the sections in these reports focused on recent developments in national policies towards encouraging stakeholder debate on innovation. Updated information on this topic was sought in a further series of Country Reports produced by the national correspondents covering the period October 2002-March 2003. Both sets of information have been used in the compilation of this self-standing report to produce a fuller picture of recent developments.



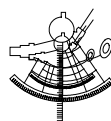
## 2. National activities in support of stakeholder debates on innovation

### 2.1 Overview

Most Member States appear to have some type of initiative aimed at the promotion of stakeholder discussion or at the broader objective of raising public awareness of innovation. Specific examples are provided below, although no overall trends or patterns can be detected other than some governments explicitly promote debate on innovation issues whilst others are less active. Several governments also sponsor or organise so-called 'Science Years' or 'Science Weeks', although these are less concerned with innovation, *per se*, and aim to foster greater public awareness of science and technology issues. Activities in the Accession Countries are less developed, and often somewhat more formalised. Nevertheless, there is evidence that the promotion of stakeholder debate on innovation is becoming more widespread as an element of national government policy.

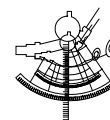
The following table provides examples of the types of initiative used by Member States' and Accession Countries' governments for the encouragement of stakeholder debates. The examples provided for each country are not intended to represent a comprehensive catalogue of all initiatives, but are merely illustrative.

## European Trend Chart on Innovation



**Table 1: Initiatives for the encouragement of 'stakeholder' debate in innovation (including the broader area of S&T debate and awareness)**

General S&T awareness, 'Science Weeks, Fairs', etc.	Debates on S&T topics	Benchmarking activities	Innovation awareness campaigns, events, lectures, events, etc.	Institutional structures, 'science councils', etc.	Innovation awards, prizes, etc.	Consultations on innovation policy development	Foresight activities	Innovation seminars, workshops, etc.	Entrepreneurship courses, training, etc.	Dedicated websites
Ireland Israel Spain UK	Austria France Germany Netherlands	(Italy) Luxembourg	France Portugal Spain UK	Belgium Finland Ireland Netherlands Portugal	Finland Ireland UK	Austria Belgium France Netherlands Norway Sweden UK	Denmark Germany Greece Sweden UK	Belgium France Portugal Spain	Austria Germany UK	Austria Luxembourg Spain UK
Hungary Slovenia			Cyprus Hungary	Latvia Lithuania Romania	(Slovenia)	Cyprus Estonia Hungary Romania Slovenia		Estonia		Bulgaria Romania



### 2.2 Country-specific activities: EU15+

#### **Austria**

In 2001-2002, the Austrian government devoted two of its Reform Dialogues to matters of innovation policy. These events bring together stakeholders from the fields of politics, science and business. The main issue concerns the presentation and discussion of strategies to achieve the government's goal of increasing R&D spending to 2.5% of GDP. As part of the debate, the Council for Research and Technology Development presented the 'Forschungsstrategie Austria' ('Research Strategy Austria') which outlines the proposed fields of action for achieving this ambitious objective in an on-line form.

More recently, the Ministry of Transport, Innovation and Technology has launched a new initiative to increase public awareness for research and innovation in Austria. This initiative was launched on 16 September 2002. The campaign, which is administered and organised by the Council for Research and Technology Development, is intended to run for about eight months and will cost about €5.91 million. Its main objective is to illustrate the societal and economic importance of research and innovation. At present, the following activities have been established:

- start of an advertising campaign accompanied by the website [www.innovatives-oesterreich.at](http://www.innovatives-oesterreich.at) which provides information on innovative ideas and products;
- support of the platform 'Dialog Gentechnik' ('Dialogue on Genetic Engineering')
- support of the exhibition *medien.welten* ('world of media'), in the Technical Museum Vienna, which presents a survey of storage and transmission media and their development with a view of the future;
- information on social sciences and humanities at a job information fair in Graz (Styria);
- establishment of centres of communication consulting universities in marketing and public relation matters; and
- institutionalisation of a postgraduate training course in science communication.

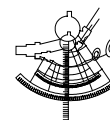
So far, however, this is the only initiative in broadening discussions about innovation and science.

#### **Belgium**

All the Belgian authorities have either institutional mechanisms (Science and Technology Councils) for delivering opinions on their science, technology and innovation policies, or have supported exercises such as RIS with a view to encouraging a broader debate. The Federal, Flemish and Walloon Science Policy Councils existed prior to 2000, while the Brussels-Capital region Science Policy Council was only created in 2000. Since September 2000, the Flemish and Walloon Councils have issued a number of opinions or commentaries on both EU level policies and regional level measures or policy documents. In **Flanders**, the Technopolis Science Centre is responsible, under a contract with the Science and Innovation Administration of the Flemish Government, for the majority of the awareness-raising events in Flanders as part of the combined 'Action plan on science information and innovation'. Also in Flanders, the new Science and Innovation Ministry includes in its structure a specific service for science popularisation, and plans for a Flemish Agency for Science Information have been announced.

The forthcoming 'Innovation Pact' (which was due to be approved by the Flemish government on 29 March 2003) is the result of a comprehensive stakeholder debate encouraged by the Flemish government. Having used the previous years to optimise its instruments for science and technological innovation policy, this exercise was considered as finalised in 2002. The Flemish government then took the initiative to bring together all stakeholders with a view to reflecting on the objectives of the innovation policy and in order to create a frame for the strengthening of innovation in Flanders.

This mainly involved the Flemish authorities, researchers and companies. The initiative resulted in the forthcoming Innovation Pact which will determine how the objective of achieving investment of 3% of the gross regional product for research and development can be reached. In order to reach this doubling of effort, all involved parties need to fulfil a number of commitments: the authorities should foresee an increase of means and an adaptation of instruments to a changing environment; Flemish companies should give more attention to innovation in products and services in their production process and supply; and the research community should develop quality control and enhance closer



co-operation among research institutes and with industry. The Pact will constitute the guideline of the science and technological innovation policy in Flanders.

In Wallonia, a DGTRE service is responsible for managing and coordinating a series of initiatives in favour of the diffusion of science and technologies (BE 54). Also, the PROMETHEE II strategy exercise includes a range of regional stakeholders involved in workshops on the various topics being examined. This is an ongoing exercise which is expected to last into 2004 and which is a follow-up to the first Regional Innovation Strategy (1999-2000).

### **Denmark**

Through the mechanism of the Technology Foresight Project (DK 12), the Ministry of Science, Technology and Innovation has carried out three Foresight studies within the following areas:

- environment
- bio and health care technologies
- ICT

The Ministry intends to carry out a total of eight Foresight exercises in the project period until 2004. The aim of these is also to create networks to stimulate dialogue between trade and business, the innovation system and stakeholders in general.

### **Finland**

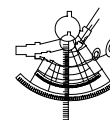
In Finland, parliamentary discussions on science and technology policy has been substantially reinforced by the establishment of the Parliamentary Committee for the Future. At a more general level, however, the need for promoting better awareness of inventive and innovation activity has been recognised through a number of recent evaluations.

One concrete measure aimed at raising the awareness of R&D and innovation among the public is the organisation of various competitions and prizes for successful new and fast-growing firms, inventors, or innovators. The most significant of these is the INNOSUOMI initiative – its basic mission is to promote an innovative culture, to promote innovations and the creation of new companies, and to improve co-operation between entrepreneurs, funding organisations and the public sector. The INNOSUOMI prize is awarded annually in recognition of exceptional innovation and entrepreneurship. The President of the Republic is the patron of the award, giving it high visibility and prestige (<http://www.innosuomi.fi>).

### **France**

Many different national forums on innovation take place regularly in France. Notable examples from 2001 and 2002 include:

- The AFAV (National Association for the Analysis of Value) Congress organised (together with ANVAR and CNES - the French Space Agency) on the topic of communications, with debates on themes such as valorisation and innovation management;
- The Regional Forum of Scientific and Technical Culture, organised by the National Assize of Scientific and Technological Culture. The forum consisted of workshop debates on: scientific and technical culture and daily life; science and technology in the citizen's debate; scientific, technical and industrial culture and the working environment; technical and industrial developments and the global economy; and scientific and technical culture in education and training;
- Workshops on Innovation: Managing Research and Innovation, organised by the National Association of Technical Research (ANRT);
- Second International Forum for the Management of Research, Innovation and Technologies: organised by the Ministry of the Economy, Finance and Industry, the Ministry of Research and the financial newspaper *Les Echos*;
- Capital IT, organised by ANVAR, was intended as a meeting point for SMEs, European venture capital investors, industrialists, IT and biotechnologies analysts, consulting companies and representatives of academia.



More recently there have been a number of large and extensive debates on the proposed new measures contained in the December 2002 Plan for Innovation. The conclusion of this consultation was expected to have been published in April 2003, with the final government project being adopted during the spring. The fact that the government has undertaken to organise such a debate, involving innovation actors (researchers, firms, etc.) and also the public at large, on the topic of innovation and R&D support, reflects the priority it has given to this subject. The government wants this priority to be shared amongst as many actors as possible.

In addition, several other debates have been organised recently. To give one example, the Ministry of Economy, Finance and Industry organised jointly with the US National Academy of Sciences, a symposium on 'Sustaining Innovation and Growth' on 24 March 2003.

### **Germany**

The German Federal Government actively encourages comprehensive stakeholder debates on innovation involving scientists, industry, consumers and public authorities. A significant instrument in this respect is the FUTUR project (DE 35) which is designed as a continuous foresight process involving actors from all parts of society. Its aim is to identify and discuss future themes for innovation and technology development in Germany.

There are also a number of other awareness measures that include stakeholder involvement and which should stimulate debate on innovation. Biotechnology and genetic engineering are areas of intense public discussion – the BMBF has initiated "Science live – science in dialogue" (DE 37) which provides a forum for discussing the future of these topics. Within the INSTI-network, two projects are aimed especially at raising students' awareness of innovation: the INSTI Inventors Clubs (DE 47), and the INSTI-School Action "Tour d'Innovation" (DE 39) which concentrates on teaching students about various aspects of innovation.

### **Greece**

In Greece, public debate on innovation takes place mainly on an *ad hoc* basis and within the framework of the Competitiveness Council. Currently, debate is lively in the framework of the National Foresight Exercise. However, it is mainly the employers' associations and scientists who take part in this debate, rather than the general public. Similarly, the Greek industrial federations (Countrywide FGI and the Federation of Industries of Northern Greece) participate actively in the debate on national competitiveness.

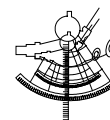
### **Ireland**

Debates on innovation in Ireland have typically involved government, industry and academia. This is typified by the composition of the Irish Council for Science, Technology and Innovation (ICSTI) with its membership drawn from state development agencies, industry and education. However, currently there is no forum by which other stakeholders such as trade unions and consumers can contribute to debates or consensus conferences on Irish innovation policies.

At a general level, the Irish government seeks to encourage the involvement of all stakeholders in debates on innovation. However, the reality indicates that debates on innovation policy have been confined to scientists, industry, third-level institutions and government agencies – as noted above, there has been no real involvement by consumer or trade union groups.

The Office of Science and Technology (OST) within the Department of Enterprise, Trade and Employment is responsible for the promotion of science awareness. The OST's main initiative in this area is the Science, Technology and Innovation Awareness Programme (IE 16) which is managed on its behalf by Forfás, the national policy and advisory board for enterprise, trade, science, technology and innovation. It should be noted, however, that the STI Awareness Programme is designed, as its name implies, to create awareness of S&T among stakeholders rather than debate on innovation. Thus, the Programme has a number of target audiences:

- decision-makers in both the public and private sectors;
- the business sector; and
- young people, their families and educators.



A number of activities are sponsored through the Programme such as the National Innovation Awards, the Science & Technology Journalism Awards, and Science Week Ireland.

### **Israel**

In general, in Israel it tends to be private organisations that organise debates on policy issues, with the active participation of government officials. The Office of the Chief Scientist holds an annual national meeting of people involved in industrial R&D for an update on the national policies and achievements by the national programmes.

At the broader public level, the government supports a Biotechnology Exhibition and Conference, Telecom Exhibition and Conference, and other technology events.

### **Italy**

In Italy, there is a general tendency for the government to act as a participant in comprehensive stakeholder debates on innovation, rather than encouraging such debates. However, on the other hand, stakeholders in the Italian system of innovation are very active in encouraging public discussion on the Italian system and, in particular, on its relevant needs and weaknesses. An example is provided by the Italian industrial association, Confindustria, which is currently undertaking a benchmarking exercise of the Italian system of innovation, particularly with regard to R&D expenditure, knowledge transfer, utilisation of the Internet, and publications. See:

[www.confindustria.it/DBImq.nsf/HTMLPages/Bench](http://www.confindustria.it/DBImq.nsf/HTMLPages/Bench)

### **Luxembourg**

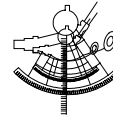
Luxembourg has a long tradition of consensus building between all stakeholders, a principle which is scrupulously applied in the field of innovation. Indeed, conscious of the necessary efforts which still have to be made to improve Luxembourg's performance in the innovation sector, the government has implemented the following direct and indirect measures to facilitate understanding of, the benefits of, and the demand for innovation.

The first measure concerns the National Research Fund. This fund gives financial support to researchers to lead research on specific themes defined to be of the greatest importance for the future development and prosperity of Luxembourg. Therefore it promotes research and innovation to scientific researchers first, but also to students who may be hesitant to pursue their studies in research, by indicating the availability of financing in specific areas.

Second, the e-Luxembourg project comprises a collection of projects which all aim to facilitate and speed up Luxembourg's entry into the Information Society, and to contribute directly or indirectly to the emergence and stimulation of the innovation spirit. The two major targets for these initiatives are industry and the public. A selection of initiatives, categorised by main target group, are given below:

- **Target 1: companies**

- *The innovation portal:* This tool aims to 'democratise' the concept of innovation. It will first target the companies with information about science and technology in their field of activity. It also aims to supply them with information relevant to all stages of the innovation process (technological watch, buying of technology, identification of potential partners, recruitment, selling of technology, etc.). In addition, it will target research centres, public and private, to help them know each other better – what their fields of activity and current and future research activities are – with the ultimate objective of fostering co-operation. Researchers will also be involved as the portal will present information on the range of research activities being carried out in Luxembourg, and the available financial support. Finally, this tool will support the sensitisation effort to promote science, technology and innovation to the larger public.
- *The innovation observatory:* This will also target a very large public. First, it will offer benchmark studies to companies - on themes which will be of direct interest to those involved in the different steps comprising the innovation process, and technological state of the art in their field of activity. The public sector will also find interest in the benchmark studies which will present Luxembourg's innovation performances. It will



also endeavour to present a comprehensive view of existing applied measures in terms of innovation and of their relevance in relation to the real and latent expectations of the different actors in innovation. Finally, the larger public will find an interest in this new tool as the observatory will constitute a virtual library gathering publications on this subject; and events will be organised to boost awareness of innovation.

- *On-line registration of patents and copyrights*: To facilitate and speed-up the registration process of patents and copyrights, a project is being developed to allow for on-line registration and consultation.
- **Target 2: public sector**
  - *Efficient and consistent presence of the Luxembourg state on the internet*: This project concerns implementation of a Content Management System facilitating the management and increasing the consistence between all the different state websites.
  - *Circalux*: This is an electronic platform for the state working groups.
  - *E-mail RP*: The objective of the project is to enable information exchange between the permanent representation in Brussels, Luxembourg ministers and administrations, and the European Institutions.

### **The Netherlands**

Stakeholder debate is encouraged in the Netherlands: for example, in 2001, the Dutch government organised a discussion on 'the economy of the 21<sup>st</sup> century'. The debate raised three questions:

- What changes will the Dutch economy experience at the beginning of the 21<sup>st</sup> century?
- What opportunities and dilemmas do these changes entail?
- What are the requirements for government policy with regard to enabling companies and individuals to exploit these opportunities?

The outcomes of the discussions were presented in a final report composed of four separate documents dealing with: new consuming; new enterprise; new employment; and new government.

In 2001, the Cabinet of Ministers commissioned a special committee to organise a public debate on biotechnology and food. Since biotechnology has a large impact on society and many people have reservations about a number of biotechnology applications, the Cabinet was interested to know the opinion of the general public about (potential) developments in biotechnology and food. The results of the debate were published at the beginning of 2002. On the basis of all conversations and discussions, the committee made a number of recommendations. One of these concerned good communication with the public beforehand about policy and procedures. Moreover, freedom of choice for consumers should be guaranteed through clear labelling. In January 2002, parliament discussed biotechnology. In addition to the Integral Policy Document on Biotechnology and the public debate, parliament discussed the applications of genetics in health care and the strengthening of the knowledge infrastructure in genomics. Parliament largely agreed with the Cabinet's position and the recommendations. All parties were in agreement that a continuous dialogue with the public about the application of biotechnology is essential, in particular because there are so many social and economic interests at stake.

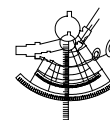
Further debates have been planned, as follows:

- In March/April 2003 – on the New Innovation Agenda, to be presented before summer 2003;
- On 12 March 2003 – yearly debate in the framework of the Dutch Innovation Oriented Research Programmes on the issue of "Innovation, more than Technology". This involved around 200 people from the extensive network of the ten current S&T research programmes;

It should also be noted that there is a special institute (Rathenau Instituut) with the responsibility for organising public debates on technology and technology fields.

### **Norway**

To a certain extent, the Norwegian government does encourage stakeholder debate on innovation. For example, when Technopolis presented its evaluation of the Research Council of Norway, the



Ministry of Education and Research arranged a special conference on the future of the Research Council.

The Ministry of Trade and Industry has started an internal evaluation of the structure of business-oriented policy instruments and institutions. Among the topics discussed is the future organisation of the Norwegian Industrial and Regional Development Fund, SND, the Industrial Development Corporation of Norway (SIVA), the Trade Council of Norway, the industry-oriented parts of the Research Council of Norway, and more. The policy-makers are also looking into the mix of indirect and direct policy instruments and measures. This is a so-called 'open process' whereby the Ministry has asked various relevant public institutions, counties, companies and industrial organisations to voice their opinion on the future of the Norwegian industry policy instruments. All these contributions have been published on the internet.

On 28 March 2003, the Norwegian Ministry of Industry and Trade presented a proposition to parliament entitled "Instruments for an innovative and creative industry" (St. prp. nr. 51 2002-2003, Virkemidler for et innovativt og nyskapende næringsliv).

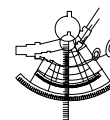
The government set out the following proposals in this document:

- The main goal for the innovation policy instrument system (virkemiddelapparatet) is to contribute to more innovation in industry all over the country.
- Innovation policy instruments are to focus on the following areas:
  - Research and competence development
  - The idea, development and commercialisation phases
  - Internationalisation
- The main target groups are to be:
  - Entrepreneurs
  - Young companies
  - The innovation system
  - Small and medium-sized enterprises with ambition and potential for growth.

Other objectives include:

- The policy instruments shall serve the users and be readily available.
- On 1 January 2004, a new organisation will be established with responsibility for the measures administered by the Norwegian Government Consultative Office for Inventors (SVO (Statens veiledningskontor for oppfinnere), the Norwegian Trade Council (Norges Eksportråd), and the Norwegian Industrial and Regional Development Fund (SND).
- The new organisation for innovation and internationalisation will have representatives abroad. These will be part of the Foreign Service.
- It will be set up as a "Special Law Company" (særlovsselskap, i.e. a state company with special authority).
- It will take over some of the innovation-oriented policy measures administered by the Research Council of Norway. These are not identified.
- The Norwegian Space Agency (Norsk Romsenter) will become a more independent state institution (forvaltningsorgan med særskilte fullmakter).
- The budget for regional funds will be expanded from NOK 500 mill to NOK 1 billion (€0.13 billion).

According to informed sources, the working title for the new organisation for innovation is Innovation Norway. Innovation Norway is clearly an attempt to unite the most important institutions targeting near market innovation and entrepreneurship. The only relevant organisation not included is the Industrial Development Corporation of Norway (SIVA, Selskapet for industrivekst), but the Minister of Industry and Trade has hinted elsewhere that this may be integrated in Innovation Norway at a later stage. Some policy measures that are currently administered by the Research Council of Norway will be transferred to the new organisation. They are not named, but this could be learning-oriented measures such as MOBI. This would lead to a clearer division of labour between the two organisations. The Research Council of Norway would be made responsible for industry-oriented



research and development, while Innovation Norway will take care of the rest, which may lead to a weaker integration of research into the overall innovation policies.

See Virkemiddelgjennomgangen (The Instrument Study) home page:  
<http://odin.dep.no/nhd/norsk/p30000694/index-b-n-a.html>

### **Portugal**

The President of the Republic, Mr Jorge Sampaio, has been one of the major stimulators of debate on innovation, stressing the need for innovation in his speeches, organising a conference on the topic in 2000 (the proceedings from which were published and widely diffused), and encouraging the creation of COTEC Portugal – Associação Empresarial para a Inovação (see below).

The coordination of public policy in innovation, information society and e-government has been assigned to the Minister Assistant to the Prime Minister, and a new body was created to support the analysis, definition, implementation and evaluation of policy initiatives – the UMIC, Unidade de Missão Inovação e Conhecimento (Innovation and Knowledge Society Union). Although UMIC is still too young, it is also expected to encourage public exchange of views on innovation policy. In fact, one of UMIC's tasks is "to promote the participation of a national system of innovation players, of agents concerned with the information society, and of representatives from the civil society and enterprises in the definition of policies concerned with innovation and the information society".

In the context of PROINOV, a host of actions was launched in 2001/early 2002 to encourage "stakeholder" debates on innovation. These have taken place within two main contexts: thematic workshops on issues relevant to innovation policy and competitiveness, and the development of clusters. Several thematic workshops have been held, providing fora for debate among companies, researchers, technology support organisations, industrial associations, regulatory bodies and policy-makers. Six workshops have taken place dealing with: Innovation policies and the digital economy; Financial innovation in the digital economy; Partnerships for innovation – fostering industry-science relationships; Innovation diffusion policies; The image of Portugal; and Design for innovation. The experience so far has been very positive.

Reference should also be made to two other initiatives which encourage public debate on innovation: Jornadas de Inovação (Innovation Journeys), organised by AdI in Oporto; and the INETI Week, promoted at INETI's premises in Lisbon.

### **Spain**

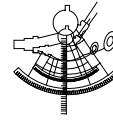
The Spanish government encourages debate on innovation in society through several initiatives. For example, the IV National R&D Plan incorporates some instruments devoted to the dissemination of scientific and technological advances throughout society (Special Actions scheme ES 20).

The Ministry of Science and Technology maintains its activities related to the *dissemination of S&T policy goals* (measure ES 26) and the promotion of *awareness on science and technology* (previous measures ES 20 and ES 21 reformulated in ES 31). The latter, managed by FECYT, (the Spanish Foundation for Science and Technology) is promoted by the Ministry, and addresses the scientific, business and educational sectors. It has recently published its first results.

Its main action lines were:

1. scientific dissemination, education and culture;
2. scientific communication and media;
3. museums, libraries and science centres;
4. diffusion of research results; and
5. S&T Week 2002.

About 460 proposals were submitted for the promotion measure. The programme budget was €1.8 million, providing financing for 53 projects. About 30% of the projects are related to activities developed in the S&T Week 2002 (See: <http://www.fecyt.es/semanadelaciencia2002>).



In order to encourage public interest in science and technology, the Ministry launched a new diffusion activity – the ‘Science Week’ initiative – at the end of 2001. *Science Week 2002* is developed by the regions and coordinated by FECYT. More than 1,200 activities have been developed at the national level, including meetings, conferences and round tables (37%), open-door days and guided visits to scientific and industrial facilities (34%), courses, workshops and seminars (6%), educational tours (3%), and expositions, multimedia and contests (20%).

The Ministry also continues to organise yearly fora and seminars related to S&T and innovation, as well as other ad hoc initiatives to allow citizens intervention and involvement. These include the ‘Patents and Innovation Forum’ promoted by the Spanish Office for Patents and Trademark (OEPM); the ‘Forum for industrial competitiveness and innovation’, an annual meeting for different agents and actors in the Spanish innovation system; and the new Commission for the Information Society’s website (see: <http://www.cdsi.es>) launched in January 2003. This website is intended to channel dialogue between the Commission and the general public who are invited to send comments, suggestions and opinions in order to enhance the implementation of the Information Society. There are four study themes: the degree of development of the Information Society in Spain; identification of main barriers; problems and specific needs of SMEs; and the communication infrastructure needed now and in the future.

Finally, a recent activity organised by FECYT to obtain a map of Spanish citizens’ opinion about science concerns a public opinion poll on the ‘Perception of Science by the Spanish Society’. This brings together the results of some 3,000 interviews carried out over the country in September and October 2002.

In addition to the efforts developed by the Science and Technology Ministry, a number of other bodies are attempting to encourage technological culture and public debate in Spain. Examples include the COTEC Foundation Supporting Technological Innovation and, as mentioned above, FECYT. The latter specifically aims to foster an innovation culture in Spain through its activities.

### **Sweden**

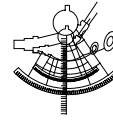
The Swedish government scheduled a number of meetings during the spring and summer of 2002. During these meetings policy-makers and representatives of science, industry and trade unions discussed how to promote innovation and economic growth. The innovation system approach was used when discussing these issues. This exercise was part of the process of creating and developing a new policy field within the ministries, i.e. the field of innovation policy.

A new foresight exercise is also being carried out during 2003. This is meant to stimulate stakeholder debate on innovation. The same holds true for the series of regional foresight exercises planned to take place over roughly the same period of time.

### **United Kingdom**

The UK government’s official policy is committed to consulting widely with stakeholders on matters within its areas of responsibility, including innovation. Thus, in the period under consideration, on 27 November 2002 the Department of Trade and Industry announced a review of the contribution that improving the UK’s relative innovation performance will make to closing the productivity gap. The work is forward looking and radical and not simply covering old ground. New interpretations and ideas are being actively sought. Direct input from business and a wide range of stakeholders is vital to its success, for not only do DTI’s stakeholders have knowledge that is essential to the analysis underpinning the review, but also many will have an important part to play in delivering the resulting strategy. The aim is to capture views through an interactive process making the process itself of value to those involved. The outcome of this review will be a new, forward-looking and focused strategy for increasing innovation in the UK, to be published by the summer of 2003. (See: <http://www.dti.gov.uk/innovation-group/action.htm>).

In addition, the government has asked Richard Lambert to convene a study in order to examine how the long-term links between business and British universities can be strengthened to the benefit of the UK’s economy. The review was announced by the Chancellor of the Exchequer in his Pre-Budget Report in November 2002. The review team will consult widely with business, universities and national



and regional administrations in the UK and overseas. It will focus on how business can best exploit the technologies and skills that are being developed in the university sector, and will complement and feed into the DTI Innovation Review<sup>5</sup>.

The UK also promotes stakeholder debate through an ongoing range of activities and events which are organised either annually or on an ad hoc basis with other bodies such as trades unions, scientific societies, and the Confederation of British Industry. Of particular note is the Annual Innovation Lecture, organised by the DTI, along with publications such as the R&D and Capex Scoreboards which are intended to stimulate debate and awareness of innovation issues at a broader level, and the organisation of the annual Science Week in collaboration with the British Association for the Advancement of Science. The annual Queens Awards for Industry also contains a category for innovation while the continuing Foresight process stimulates broad debate on innovation.

### 2.3 Country-specific activities: Accession Countries

#### ***Bulgaria***

In general, state policy is not oriented towards innovation. One of the main reasons for this is the lack of linkage between business policy and innovation strategy. Reports sponsored by the government do not tend to put innovation as a priority objective, and the large number of academic studies on innovation published in Bulgaria appear to have had little influence on policy-makers. Although these academic studies have recommended the use of external co-operation partners (for example, under EU Phare, other donors, pre-accession agreements, etc.) as a means of increasing the innovation activities of the local business sector, no actions have been implemented to develop or support innovation policy at the national level. The wider policy community (employers' federations, 'think-tanks', networks of expertise, quality management, technology centres, etc.) have also tended to focus on other priorities which considered more important.

Nevertheless, the government's website 'Dialogue 2001', which can be found on the government's home page, does offer the public and businesses an opportunity for public debate. Other websites provide details of ministries and structural and functional information on administrative bodies, together with information on services offered such as taxes, etc. However, periodicals, specialised magazines, bulletins, etc. are also important means of information.

#### ***Cyprus***

One example provided for Cyprus cites the RISC programme. A number of discussion presentations have been given concerning the introduction of the programme to innovation-related bodies. The programme's working groups are now organising debates in order to gather feedback for the design of innovation strategy in Cyprus.

#### ***Czech Republic***

As far as the available evidence suggests, there has been little debate on Czech innovation policy.

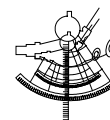
#### ***Estonia***

It is reported that there has been no special need for conceptual debates on the issue of innovation since resolutions made in 2001 which saw the placement of representatives of economic and business circles in the councils of the Research and Development Council (RDC) and ESTAG, the Technology Agency – the implementing agency for government innovation policy and one of the five agencies under the Business Development Foundation 'Enterprise Estonia'. Moreover, overall political direction and innovation-related activities have been coordinated and the agreement of various actors has been sought.

While there have been no further cases of public discussions regarding the theme of innovation in Estonia since the debates over creating an 'Estonian Nokia' in early 2001, there has been a programme of seminars concerning the topic of innovation policies in the context of EU accession, arranged by the Ministry of Economy. 'Guidelines for National Execution of Innovation Technology Policies in View of EU Accession' came to a conclusion in autumn 2001. These seminars were

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<sup>5</sup> See [http://www.hm-treasury.gov.uk/consultations\\_and\\_legislation/lambert/consult\\_lambert\\_index.cfm](http://www.hm-treasury.gov.uk/consultations_and_legislation/lambert/consult_lambert_index.cfm)



attended by approximately 40 individuals representing the political, business and research communities. They were policy-oriented and focused on discussion of the roles of all parties in the development of innovation policy. There are plans to organise more detailed seminars, for example, on foresight issues.

Such thematic debates and workshops are a regular occurrence, usually in the framework of the development of some programme or measure. For example, presently there are ongoing discussions on whether the Estonian government should foster the widespread use of local professional design in industry and how this could be achieved. This particular working group also includes international experts who are assessing the Estonian situation and will make recommendations.

Finally, there are regular inter-council meetings involving the SMEs Council, the ESTAG Council, and other Estonian agencies.

### ***Hungary***

The Hungarian National Development Plan is prepared by the government, with the coordination of the Office for the National Development Plan and EU Subsidies within the Prime Minister's Office. However, according to the principle of partnership, various economic and social partners, organisations, regional institutions and the public sector have to be involved in the preparation, implementation and financing of the NDP (HU 24).

At a broader level, the Mecenatura programme (HU 04), launched in August 2001, contains a sub-programme aimed at raising the awareness of the larger public (but particularly students) in respect of innovation activities. Mecenatura has supported R&D-related TV programmes, magazines and student competitions.

### ***Latvia***

Stakeholder debate on innovation appears to be organised on a formal basis in Estonia. One major advisory body concerned is the Experts Council at the Ministry of Economics<sup>6</sup>. Twice a year the Ministry of Economy publishes a report on economic development in Latvia. Among other applications, it is geared towards economists, entrepreneurs and actors interested in Latvia's economic development. Moreover, it aims to encourage an exchange of opinions between government institutions, interest groups, economists and other stakeholders. The report is available on the Internet<sup>7</sup>.

Efforts have also been made to standardise various industrial and legal procedures. Stakeholder participation is most visible in this area. Forty technical standardisation committees from various sections of the national economy have been established to carry out the development of national standards and the adaptation of international and regional standards. Stakeholders include manufacturers, consumers, organisations of consumer interest protection, certifying institutes, testing and accreditation agencies, control and supervision departments, and other actors whose work is connected with standards (see 'Report on Economic Development of Latvia', December 2002).

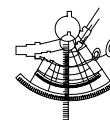
### ***Lithuania***

Over the years, scientists, industry and public authorities have communicated on various topics related to innovation. However, until very recently, the government did not tend to encourage this process. However, on 1 October 2002, the Ministry of Economy established the Commission on Science and Technology and approved the regulations for its operation. This commission comprises a number of representatives from government authorities (ministers, other governmental officials) representatives of science and research institutions and industry. It is a consultative body for the government, and its role is to consider and submit proposals to the government on the formation and implementation of policies and strategies on the development of applied sciences, technologies and innovations, designed for the needs of the state economy. The commission's first meeting took place

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<sup>6</sup> The structure and an overview of this body may be found in the December 2002 Report of the Ministry of Economics, section 5.11 (<http://www.lem.gov.lv/En/reports.stm>) and in the "European Trend Chart on Innovation Country Report for Latvia", covering the period from October 2001-September 2002.

<sup>7</sup> See (<http://www.lem.gov.lv/En/reports.stm>).



on 10 January 2003. The draft 'Concept on the Development of Science and Technology Parks', and the draft 'Programme on Innovation in Business' were actively discussed by members of the commission. It was also unilaterally decided to establish a Department of Innovations and Technologies under the Ministry of Economy. These recent developments indicate that the government is now intensively encouraging stakeholder debate in Lithuania.

On a slightly more peripheral topic, recent debate on licensing the telecommunications sector has been completed with the adoption of a new Law on Telecommunications, abolishing the requirement of prior licensing of telecommunications activity, and aiming to intensify competition in this sector.

### **Poland**

There appears to be little evidence for the active promotion of stakeholder debates on innovation in Poland. Instead, there seems to be a reactive process of debate and discussion in response to government actions. For example, 2002 witnessed an important decision related to innovation policy: the closure of two governmental agencies – the Technology Agency (AT) and the Polish Agency for Regional Development (PARR). Although the government promised enormous budget savings with no effect on innovation and regional policy as a result of the closures (both agencies have merged with the PARP [Polish Agency for Entrepreneurship Development]) the arguments to merge them were received with scepticism in professional circles, i.e. innovative companies, universities, institutes, etc. One of the main complaints from decision-makers, consultants and companies (mainly SMEs) is that the process by which PARP disburses funds is considered to be very bureaucratic. Various stakeholders, including business people, engineers, scientists and inventors, fear that the closure of the Technology Agency will cause irreparable damage to the development of innovation in Poland.

### **Romania**

Again, Romania tends to formalise the engagement of stakeholders in innovation debate. For example, in 2001, a sub-commission for Social Dialogue for Research was established by the Ministry of Education and Research (MER)<sup>8</sup>. This represents the interests of those involved in innovation policy and stimulates comprehensive "stakeholder" debates on innovation. It comprises:

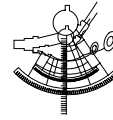
- Representatives of the MER, headed by the Secretary of State for Research and Relations with the Parliament;
- Representatives of the patronage, named by the Presidents of the Patronage Confederations at the national level; and
- Representatives of the syndicates, named by the presidents/leaders of the Trade Unions Confederation at the national level.

In order to improve its consultation mechanisms and the formulation of decisions in strategic fields, directions and priority objectives for R&D, as well as the annual updating of national R&D programmes, MER currently applies assistance practice. Thus, between 2001-2002, MER - Research initiated a vast process of debates and consulting including:

- repeated consultation of governmental authorities with the main economic ministries, as well as other bodies from the central administration and the Inter-ministerial Council for Science, Technology and Innovation;
- debates and consultation on activity fields with participation from research-development units, academic research centres and economic units, in order to establish orientations and realistic requirements concerning the strategic orientation for technological development on product categories and specific services;
- debates and consultation within scientific communities (at the institute level), within the Consultative RDI College and scientific conferences;
- rounds of consultations with programme managers and Strategic Orientation Councils, organised as scientific consultation fora; and
- debates and consultations with social partners (Commission for Social Communication, Employers' Association, and Trade Unions from the R&D field).

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<sup>8</sup> Order no. 7142 of May 2001.



In order to ensure adequate representation from the R&D institutes in the Consultative College for RDI, for the year 2003, the participation of R&D institutes will increase from 31% to 65%.

In addition, raising public awareness, albeit at a very broad level, has mainly been done through development of a website for the Ministry of Education and Research<sup>9</sup>. This presents information on new programmes, tenders, government strategy, etc.

### **Slovakia**

There is no evidence of stakeholder debates in Slovakia and no specific measures have been introduced under this action line.

### **Slovenia**

Stakeholder debates on innovation involving scientists, policy-makers and representatives of industry are quite common and supported by the Slovenian government. However, thus far, little attention from the general public or higher level government has been attracted to these debates. Anecdotally, as noticed by a participant at a recent innovation event (SLORITTS – a project conducted under the Fifth Framework Programme in order to establish regional innovation strategy for Slovenia) “the convinced are convincing the convinced”.

The recently approved new Law on Research and Development provides a good example of comprehensive ‘stakeholder’ debates. While heated and at times rather emotional debate was going on within the National Science and Technology Council, the general public hardly noticed these discussions. The Law will also bring some novel approaches in the field of stakeholder debates with regard to the structure of the Council, where a more equal representation of the science community and business is expected. The broadening of the debate has had an effect even within the ‘old’ council: during the deliberations on the Foundations of the National Research Programme, the Council consulted a number of different stakeholders, such as various professional associations (engineers, economists, etc...), Chambers of Commerce, etc.

While, admittedly, the general public seems relatively uninterested in innovation policies, it is worth noting a strong public engagement during the passing of the Law on Genetically Modified Organisms in the Slovene parliament last year. This serves to illustrate that the public, albeit somewhat phlegmatic *prima facie*, nevertheless remains responsive to certain sensitive issues.

In the broader field of science and technology, however, Slovenia appears to be a leading example in the promotion of public debates and fostering awareness, with the government providing a wide range of programmes. Examples include the annual award for achievement in science and technology, the annual Science Fair, business plan competitions, and sponsorship of television shows promoting entrepreneurship and innovation. One programme, the title of which translates as “Little Brain Cells”, is targeted at elementary school children and is intended to push children to think differently and inquisitively about science and innovation. However, such broad campaigns have not yet been undertaken for innovation. There is no evidence of any narrower awareness campaign strategies which would focus on companies.

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<sup>9</sup> <http://www.mct.ro>