

**European Trend Chart on Innovation  
Policy Review Workshop:**

*“Ensuring policy coherence by improving  
the governance of innovation policy”*

**Analysis of Country Templates**

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# **European Trend Chart on Innovation Policy Review Workshop:**

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## **Analysis of Country Templates**

### **1. Introduction**

This report forms an input to the first Trend Chart Innovation Policy Review Workshop for 2004. It addresses the theme of “governance of innovation policy” and examines the mechanisms adopted by the EU Member States, Accession Countries and Associate Countries towards ensuring the coherence of innovation policy making at the national level. To this end, it presents an analysis of a set of structured questionnaires that were designed to elicit information from the various countries covered by the Trend Chart on Innovation. These have been completed by members of a network of national ‘correspondents’ located in each of the represented countries.

#### **1.1 Conceptual issues**

First, it should be recognised that innovation policy, understandably given the wide definition of innovation itself, takes many forms. In its most basic form innovation policy may concern little more than science and technology policy on the one hand and policy for industry on the other; mechanisms such as technology transfer from the science base to business then form a relatively simple linkage between the two. In more complex governance systems, science and technology policy and industrial policy is more integrated

In addition, these policies may be set and/or implemented at local, regional, national, EU and even global levels. Moreover, innovation policy is implemented through and influenced by different policy domains such as industrial policy, policies for science and technology, education, health, ICT and so on. In order to develop coherent policies that reinforce each other in fostering innovation, effective coordination should take place between these policy levels (vertical coherence) and domains (horizontal coherence). In addition, innovation policy affects various stakeholder groups in the regional, national and EU innovation systems and it is clear that in order for these actors to develop a commitment to using and implementing innovation policies, their perspectives and interests need to be taken into account.

Given these variables, it follows that the coordination of innovation policy may also take many forms. For example, it coordination may be effected at the stage of policy design and strategy formulation, through the engagement of various stakeholder groups. Alternatively, such groups may be consulted in advance of any detailed strategic formulation and the results of such consultations used to inform the definition of policy. A further possibility is that the ‘high level group’ acts as a filter on a range of information sources and passes on its distilled advice to those responsible for the formulation of policy. Yet another situation occurs where high level

representatives develop advice in the absence of external information sources and base it on their personal and professional expertise.

Having developed strategic plans for innovation, by whatever means offered by the above selection, coordination may also be effected at the policy implementation stage through the engagement of those responsible for the operation of innovation support measures, which may encompass both direct (funding, service provision, research performance, etc.) and indirect (fiscal regimes, regulatory frameworks, etc.) support mechanisms, or may rely upon a much narrower range of coordinatory influences (for example, allocation of funding). Coordination may also be vested in the hands of a restricted group of individuals, or it may be a much more inclusive and devolved process.

As may be seen from the following analysis, almost all of these possibilities are employed within the sample of countries examined.

## **1.2 Methodological issues**

It was evident from the responses obtained that the questions posed by the questionnaire were open to a broad level of interpretation by the respondents. Although the Workshop Scoping Paper attempted to set the overall context of the questions and provided some clear examples of the types of response being sought, some confusion was evident. A frequent example was in the selection of ‘science and technology policy councils’ as examples of high level innovation policy coordination bodies. As the level of information provided in the questionnaires was relatively limited (by request), in some instances the degree to which such bodies really dealt with innovation concerns across all policy domains (rather than just ‘science and technology policy’ or ‘research policy’) was a matter of judgement. For this reason, the analysis concentrates on those bodies which appear to operate at a high level of policy coordination (i.e. reporting to Prime Minister’s Office or Cabinet, having ministerial representation) and which deal with a range of policy domains covering multiple aspects of innovation, rather than being restricted to the allocation of research funding or definition of S&T policy priorities.

In some cases it would have been interesting to obtain further information on the operation of agencies that received some mention but which were considered to be outside the terms of reference of the questionnaire<sup>1</sup>. However, the tight time frame for the questionnaire exercise and analysis precluded further investigation on a case-by-case basis.

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<sup>1</sup> One example is that of ANVAR, the French innovation agency. According to the questionnaire response, ANVAR provides coordination of innovation-related initiatives at the regional level, and acts as a *de facto* coordination platform at the national level. In the reported absence of a high-level strategic view of innovation, the activities of ANVAR in this regard would form an interesting topic for further consideration at the workshop.

## 2. Results

### 2.1 General analysis: Higher-level coordination bodies

Table 1 presents the overall results from the questionnaire exercise. The responses for all countries are summarised and provide the names of all main high-level coordination bodies identified, together with their specific names and a brief description of their roles and remit. It should be noted that this table makes no distinction between those bodies concerned with innovation policy and those dealing with a more restricted set of innovation-related policy domain. The table distinguishes between EU Member States, Associate Countries and Accession States. The ‘Response’ column indicates the response provided in the questionnaires (see Table Note for further explanation).

**Table 1. High level policy coordination bodies: general situation.**

Country	Response	Name/title	Role/Remit
AT	Y	Council for Research & Technology Development (Austrian Council)	Recommendations and implementation of initiatives concerning innovation and S&T
BE	Y (Y)	High Council for the 3% Target (planned) Federal Council for Science Policy Regional Science policy councils	Implementation of progress towards the 3% target Advisory on science policy issues
DE	(Y) (Y) (Y) (Y)	BLK (Bund-Länder-Kommission für Bildungsplanung und Forschungsförderung) Bund-Länder-Ausschuss für Forschung und Technologie Wissenschaftsrat Temporary <i>ad hoc</i> working groups	Regulation and funding of public education institutions and academic research Research and technology policy Advisory on science policy issues Focused on specific innovation issues
DK	(N)	Council for Technology and Innovation  Minister of Science, Technology and Innovation	Advice on strategy, analysis, evaluation, funding allocation (But no ministerial representation) Remit for coordination of matters related to innovation policy
EL	(Y)	General Secretariat of Research and Technology	Lead Government agency: remit includes coordination of innovation policy (advice, analysis and implementation)
ES	(Y)  Y	Ministry of Science and Technology (MCYT)  Science and Technology Inter-Departmental Commission (CICYT)	Lead agency: promotion and coordination of S&T research and telecommunications Planning, coordination and monitoring of National Plan for RDI
FI	Y	Science and Technology Policy Council	Advice on science, technology and education
FR	(N)	ANVAR	Coordination is via inter-ministerial approach, although ANVAR provides a de facto national coordination mechanism
IE	Y  Y	Forfás  Irish Council for Science, Technology & Innovation (ICSTI)	Policy advice on enterprise, trade, science, technology and innovation Advice on strategic direction of STI
IT	Y	4 <sup>th</sup> Commission of the Inter-Ministerial Committee for Economic Planning	Evaluation of priorities and approval of National Research Plan
LU	(N)	New Inter-Ministerial working group  Inter-ministerial steering committee for RTD	Achievement of Barcelona target and coherence of research and innovation policy Advice on research and technology transfer activities’ funding
NL	Y	Innovation Platform	Development of strategic planning advice on innovation to cabinet
PT	Y	Inter-Ministerial Commission on Innovation and Knowledge	Definition of strategic guidelines and targets for innovation, the information society and e-government
SE	N	(VINNOVA)	(No mandate to coordinate other agencies regarding innovation)
UK	Y  (Y)	Steering Group on Innovation in the Knowledge Economy Council for Science and Technology	To ensure the implementation of the strategy outlined in the DTI Innovation Challenge Report – across government Advice on S&T coordination
CH	(N) (N)	Swiss Science Agency Swiss University Conference	Coordination of university and research policy University policy

	(N)	Steering Committee of Research in Swiss Government Departments	Stimulation of quality of departmental research
IL	N		
IS	Y	Science and Technology Policy Council (based on Finnish model)	Advice and setting of guidelines on public S&T policies
NO	Y	Government Research Board	Advice on cross sectoral research issues for improved coordination, including innovation
	Y	Government Board for Innovation	Follow up of implementation of Government holistic plan for innovation and contribute to government/industry dialogue
BG	(Y)	National Council for Scientific Research	Provision of advice and development of strategy for scientific research
CY	N		
CZ	(N)	R&D Council	Provision of advice on research policy
EE	Y	Research and Development Council	Advice on research, development and innovation policy
HU	Y	Science and Technology Policy Council	STI policy advice, discussion and strategy development – but in absence of explicit government innovation policy
LT	Y	Science and Technology Commission	Advice on policy and strategic development
LV	Y	Council for Science, Technology and Innovation to be established	To lead prospective ministry in this field
	(Y)	Work force for the elaboration of the national Innovation Programme	To implement National Innovation Programme
	(Y)	Innovation Division of the Industrial department of the Ministry of the Economy	Lead agency on innovation
	(Y)	Administrative Council of the National Innovation Programme	Administration of measures and development of future strategy
MT	(N)	Malta Council for Science and Technology	Advice on formulation of a National S&T Policy
PL	(N)	Council for Innovation proposed	(Coordination and formulation of strategic goals)
RO	Y	National Council for Science and Technology Policy	Advice on development of National S&T strategy
SI	(N)	Technology Agency (not yet established)	Implementation of innovation support measures
SK	Y	Slovak Government Council for Science and Technology	Advice on science and technology policy
TR	Y	Supreme Council of Science and Technology (BTYK)	Determines, directs and coordinates innovation policy

Note: The question “Does a higher-level policy coordination body for innovation exist in your country?” invited a simple ‘Yes’ or ‘No’ response. However, subsequent interpretation of the descriptions provided indicated that some ‘Yes’ responses referred to bodies with limited remits (i.e. not strictly concerned with innovation) – these are presented as (Y) in the above table. Similarly, some ‘No’ responses contained details of bodies with limited remits, or of new or prospective bodies – these are presented as (N) in the above table.

The results of the questionnaire exercise present an interesting mix of bodies responsible for innovation policy. The first observation is that the interpretation of the questionnaire has varied amongst respondents, with several noting the existence of what are essentially advisory bodies for science or science and technology rather than those that are explicitly involved with innovation policy.

In addition, within the identified set of bodies significant variation exists with regards to their precise activities (advisory, coordination, implementation, etc.), structure and representation (ministers, industry, academia, etc.), mandate and location (intra-, inter- or extra-ministerial, PM’s office, etc.). These variations are explored in more detail later.

Based on the information provided in the responses, and summarised in Table 1, it is evident that several countries do possess some form of high-level coordination bodies for innovation, which may be considered further. These are given in List 1:

#### **List 1: High-level innovation policy coordination**

- Austria: Austrian Council (Council for Research and Technology Development). Established 2000. <http://www.rat.fte.at>

- Denmark: Council for Technology and Innovation<sup>2</sup>. Established 2002. No English URL.
- Spain: Comisión Inter-ministerial de Ciencia y Tecnología (CICYT). Established 1986. [http://www.mcyt.es/grupos/grupo\\_pcitec.htm](http://www.mcyt.es/grupos/grupo_pcitec.htm)
- Finland: Science and Technology Policy Council<sup>3</sup>. Established 1987. [http://www.minedu.fi/tiede\\_ja\\_teknologianeuvosto/eng/index.html](http://www.minedu.fi/tiede_ja_teknologianeuvosto/eng/index.html)
- Ireland: Forfás (established early 1990s) and Irish Council for Science, Technology and Innovation (ICSTI). Established 1997. <http://www.forfas.ie>
- Italy: Fourth Commission of the Inter-ministerial Committee for Economic Planning (CIPE) “research and training”. Established 1998. <http://www.cipecomitao.it>
- The Netherlands: Innovation Platform. Established 2003. <http://www.innovatieplatform.nl>
- Portugal: Inter-ministerial Commission on Innovation and Knowledge. Established 2002. <http://www.unic.gov.pt>
- United Kingdom: Steering Group on Innovation in the Knowledge Economy. Established 2003. No URL.
- Iceland: Science and Technology Policy Council<sup>4</sup>. Established 2003. No English URL.
- Norway: Government Board for Innovation. Established 2003. No URL.
- Estonia: Research and Development Council. Established 1991, reorganised 2001. <http://www.tan.ee/en/>
- Hungary: Science and Technology Policy Council. Most recent form established 2003. No URL.
- Lithuania: Science and Technology Commission. Established 2002. No URL.
- Latvia: Administrative Council for the National Administration Programme. No URL.
- Malta: Malta Council for Science and Technology<sup>5</sup>. Established 1988, reconstituted 1997. <http://www.mcst.org.mt>
- Romania: National Council for Science and Technology Policy. Established 2002. <http://www.mct.ro/web/2/default.htm> (Romanian only).
- Slovak Republic: Slovak Government Council for Science and Technology. Restructured 1999. <http://www.education.gov.sk> (Slovak only).
- Turkey: Supreme Council for Science and Technology. <http://tubitak.gov.tr/btpd/btyk/>

It should be noted that although France does not have a specific body tasked with the coordination of innovation at the national level, such coordination is effected at the inter-ministerial level (although the specific mechanism is not known). Moreover, ANVAR is very active at the regional level (coordinating initiatives from the two Ministries involved in innovation matters, the Ministry of Economy Finance and Industry and the Ministry of Research and New Technologies), and thus it provides a *de facto* coordination platform at the national level. Nevertheless, a high level policy strategy organisation is absent from the scene, and the concept of such a body is not on the agenda. One perceived weakness of the French innovation

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<sup>2</sup> No Ministerial representation, which poses question of definition of the term ‘high-level’..

<sup>3</sup> The questionnaire response for Finland does not actually refer to innovation in the mandate for this body although it is known that the body does focus on innovation policy matters. Similar omissions in other responses may have introduced some errors to this overall analysis.

<sup>4</sup> Based on the Finnish example.

<sup>5</sup> Not ‘high level’ and attached to Ministry of Education.

policy system is the difficulty to centralise information and to adopt an overall view on performance and the impact of policies (i.e. the linkage between policies and performance). Having said this, an overall ‘innovation approach’ to policy making (i.e., a systemic approach based on improved integration and synergies between distinct policy fields related to innovation) does exist and is promoted mainly at the instigation of the Ministry of Research and New Technologies.

In addition to those already noted above, the following countries are reported to be in the process of setting up coordination bodies for innovation policy, although information on these was somewhat restricted:

**List 2: Prospective high-level innovation coordination bodies**

- Belgium: High Council for the 3% Target. No URL.
- Luxembourg: Inter-ministerial Working Group on Research and Innovation. No URL.
- Latvia: Council for Science, Technology and Innovation. No URL.
- Poland: Council for Innovation (proposal stage only). No URL.
- Slovenia: Technology Agency. No URL.

More information on these is presented in Section 3.

As noted above, a number of countries also have coordination bodies which appear to be more restricted in their policy remit (for example, dealing with S&T, research, industry or higher education policy, or a mix of these):

**List 3: High-level coordination bodies with restricted policy remit:**

- Belgium: Federal Council for Science Policy (<http://www.belspo.be/belspo/council>); Flemish Science Policy Council (<http://vrwb.vlaanderen.be>); Walloon Council of Science Policy (<http://www.cesrw.be/cwps>); Brussels Science Policy Council (<http://www.bruxelles.irisnet.be>).
- Germany: BLK (Bund-Länder-Kommission für Bildungsplanung und Forschungsförderung) (<http://www.blk-bonn.de/englisch/contents.htm>), and the Bund-Länder-Ausschuss für Forschung und Technologie.
- Luxembourg: Inter-ministerial Steering Committee for Technological Research and Development. No URL.
- Sweden: Swedish Agency for the Innovation System -VINNOVA (although there is no mandate to coordinate other agencies). <http://www.vinnova.se>
- United Kingdom: Council for Science and Technology. <http://www.cst.gov.uk>
- Switzerland: Swiss Science Agency (GWF). <http://www.gwf-gsr.ch/englisch/frameset.htm>
- Norway: Government Research Board. No URL.
- Bulgaria: National Council for Scientific Research. No URL.
- Lithuania: Lithuanian Science Council. No URL.

Finally, the following countries have reported that, under the definitions provided in the questionnaire, no relevant high-level innovation policy coordination bodies exist at present:

#### **List 4: High-level coordination bodies absent:**

- France (but see under List 1).
- Greece (although it was noted that the General Secretariat for Research and Technology (GSRT) forms the lead agency for innovation matters).
- Israel.
- Cyprus.

## **2.2 Mandate**

The following section summarises the remit and mission of those bodies concerned with innovation (i.e. those presented in List 1, above.). Their legal basis is also presented where this information is known.

### ***2.2.1 Country cases***

#### ***Austria***

The **Austrian Council** (Council for Research and Technology Development) is an independent body with a secretariat provided by the Ministry of Transport, Innovation and Technology. Its membership consists of eight national and international members from the fields of science and industry, selected by the Ministry of Transport, Innovation and Technology and by the Ministry for Science, Education and Culture. In contrast to former advisory bodies it advises all ministries involved in science, research and development and comments on all major projects before the final decision is made. Up to now, the Council has published recommendations on the following topics:

- Special funds for Research and Technology Development (RTD): The overall goal of the Council's activities is to increase RTD investment in terms GDP from 1.8% in 2000 to 2.5% in 2005.
- To launch a broad campaign to raise public awareness for science, technology and innovation (commenced 2002).
- Recommendation on the international mobility of researchers, amending legislation concerning the residence and employment of foreigners in Austria (May 2002). Not implemented by the government.
- Recommendations on the promotion of women in science and technology and on the enhancement of fellowship programmes.
- Initiatives to promote emerging technology fields. Recommendations on biotechnology, nanotechnology and on information and communication technologies have been given.
- Initiatives on promoting innovative start-ups and seed financing, and on the non-university sector have been started.
- Concerning the European Research Area, in July 2002 the Council proposed measures to strengthen Austria's international R&D position, i.e.: develop a coherent strategy for internationalisation of the Austrian R&D system; improve quality and capacity of existing instruments for information and advice on EU-programmes at national and regional level; mobilise new participants in FP6; increase funds for programmes that promote participation in the FP; create more and better opportunities for Austrians (at the

scientific, technical and administrative level) to work in international institutions and to be well integrated into Austrian working structures.

- Comprehensive recommendations concerning intellectual property rights (February 2003).

### Denmark

The Danish **Council for Technology and Innovation** has been set up as a high-level body (with legal basis in Act nr. 419 of 6 June 2002) with the purpose of coordinating innovation policies. Although it has no representatives from specific policy domains or ministries, it may be said to be instrumental in coordinating at a higher level dealing with broader strategic choices for the innovation system, and various stakeholders (industrialists, labour organisations, SMEs and universities) are represented. Set up under the Ministry of Science, Technology and Innovation, the Council reports directly to the government. According to the Act the Council can develop strategies and perform analysis and evaluations relevant to its role and may also launch specific initiatives within its field. The Council also decides on the allocation of government funding.

Under the terms of the Act on Technology and Innovation the Minister of Science, Technology and Innovation has responsibility to strengthen technology development and innovation in business, including promotion of cooperation and exchange of knowledge among actors in the innovation system. Moreover, according to the inter-governmental foundation, the Minister also has a coordinating role in matters related to innovation policy has additionally delegated part of the authority to the Council for Technology and Innovation.

### Spain

The **Interdepartmental Commission for Science and Technology** (CICYT) has responsibility for the planning, coordination and monitoring of the National Plan for R&D and Innovation. Linked to CICYT is a General Council of Science and Technology, which handles coordination with the Comunidades Autónomas (Autonomous Regions), which it represents. It is located in the Department of Science and Technology (MCYT) and is chaired by the President of the Government.

### Finland

The **Finnish Science and Technology Policy Council** is responsible for the handling of central issues related to science, technology and scientific education. Linked to both the Ministry of Education, Science and Culture and the Ministry of Trade and Industry, the Council is chaired by the Prime Minister. The Council provides assistance to the Government and its ministries and has been assigned the following tasks:

- To direct Science and Technology policy and make it nationally coherent, and to prepare relevant plans and proposals for the Government.
- To deal with the overall development of scientific research and education, to prepare plans and reviews for the Government, and to monitor development and the need for research in related fields.
- To deal with, monitor and assess measures taken to develop and apply technology, and to prevent or solve any problems in this area.

- To deal with important issues relating to Finland's participation in international scientific and technological cooperation.
- To issue statements on the allocation of public science and technology funds to the ministries and the allocation of said funds to the various scientific fields and technological sectors.
- To handle the most important legislative initiatives pertaining to the research organisation and infrastructure and the promotion and implementation of technology.
- To take initiatives and make proposals to the Government and its ministries in matters under its competence.

The Council also publishes public statements on specific issues.

### Ireland

Forfás is the national board responsible for providing policy advice to government on enterprise, trade, science, technology and innovation in Ireland. Its mission is to lead the development of public policy for the promotion of enterprise and technological development in Ireland for the benefit of all by:

- advising on policy to sustain competitiveness and growth and
- supporting and maintaining cohesion among the development agencies of the Department of Enterprise, Trade and Employment (DETE).

Legal responsibility for the promotion and development of these sectors is vested by the State, through the DETE, in Forfás. The board fulfils its mandate either directly or by delegating responsibility to associated agencies with which it has a close working relationship. Forfás may also be requested to undertake new tasks, and it may of its own initiative make submissions to government such as budget submissions. It does this undertaking/commissioning public and private reports, making public statements/press releases and giving advice to government.

In addition, the Irish Council for Science, Technology & Innovation (ICSTI) was established in 1997 by the Irish Government to advise it on all aspects relating to the strategic direction of science, technology and innovation (STI) policy. Its role encompasses all aspects of STI policy including:

- primary, second and third level education
- scientific research, technology and research and development in industry
- prioritisation of state spending in STI
- public awareness of STI issues

The Council is chaired by Dr. Edward M. Walsh, President Emeritus, University of Limerick. The Secretariat is provided by Forfás. Its work programme is implemented through the establishment of Task Forces which bring forward draft recommendations on agreed priority topics for ratification by the Council. These are then passed on to the Minister. Many of its findings and recommendations are then published.

### Italy

As its full title suggests, the remit of the **4<sup>th</sup> Commission of the CIPE** (Inter-Ministerial Committee for Economic Planning) “Research and Training” does not quite extend to the full portfolio of innovation policy. However, its remit is:

- a) to evaluate, in advance of DPEF (Economic and Financial Planning Document) approval, the strategic priorities set out by the Government in the field of scientific and technological research;
- b) to approve the PNR (National Research Plan) and to evaluate its implementation. The financial provision for the Plan coordinates different instruments provided by various administrations: 1) ordinary funding to public research institutions determined on the basis of their relevant multi-annual plans; 2) Fund for the Support of Industrial Research (FAR); 3) Special Supplementary Fund for Research (FISR); 4) Fund for Technological Innovation (FIT- Ministry for Productive Activities); 5) Fund for Investments in Basic Research (FIRB); 6) Other financial sources from the Ministries of Infrastructures and Transports, Environment and Protection of the Territory, Productive Activities, Agriculture and Forestry Policy, for investments in R&D initiatives;
- c) to assure coordination between the PNR and the plans/programmes delivered by the public administrations;
- d) to examine the financial allocation for research made by the public administrations.

The Commission is chaired by the Secretary of CIPE and Deputy Minister for Economy and by the Deputy Minister for Research.

The Interministerial Committee for Economic Planning (CIPE) develops coordination functions in the field of planning and national economic policy, as well as coordination of the national economic policy with the community policies. It is chaired by the Prime Minister.

### The Netherlands

The new **Innovation Platform**, set up under the chairmanship of the current Prime Minister, will draw up plans and develop a vision that will give an impulse to innovation in the Netherlands. The Platform has the role of an advisory coordination body and “think tank”, and the cabinet expects it to deliver concrete recommendations to form a basis for input into policy formation and execution. It is also hoped that the establishment of the platform will provide a stimulus to businesses and research institutes to develop their own initiatives to strengthen the innovative ability of the Dutch economy. The starting point is, among others, the application of existing knowledge in order to obtain new products and processes.

Based on the assumption that The Netherlands is currently underutilising its economic potential, the platform is intended to provide ideas/proposals to develop this potential, covering a large number of policy areas, such as: stimulation of cooperation between research institutes and business, renewal in education, better climate for entrepreneurs and knowledge workers, an increase in the innovation strength of the public sector, and improving the international attractiveness of the Netherlands for foreign knowledge workers, researchers and students. The primary function is not to find immediate solutions for these complex problems, but act as an 'ice-breaker' - setting the direction and breaking through certain areas to create room for innovation. It is up to others to make use of this space created and to create results.

The platform is supported by a project bureau, which provides management for the various projects undertaken by the platform. The project bureau is also in charge of executing the workplans of the platform, which it does in communication with the various key players in the dutch innovation system by following the implementation of the various proposals from the platform and monitoring the position of the Netherlands in the areas of education, research and innovation. In addition the project bureau looks after the communication activities of the platform.

### Portugal

The **Inter-ministerial Commission on Innovation and Knowledge**, under the chairmanship of the Minister Assistant to the Prime, is in charge of defining strategic guidelines and the corresponding targets regarding innovation, the information society and e-government. Its mandate is legally formalised (Council of Ministers Resolution no. 135/2002). The Commission is assisted by UMIC - Unidade de Missão Inovação e Conhecimento (Innovation and Knowledge Society Mission Unit) in carrying out its tasks. It was established in 2002 (Council of Ministers Resolution no. 135/2002).

### United Kingdom

The **Steering Group on Innovation in the Knowledge Economy** was set up following the publication of the recent Innovation Review ("Competing in the Global Economy - The Innovation Challenge" - from the Department of Trade and Industry - see <http://www.dti.gov.uk/innovationreport/innovation-report-full.pdf>). Under instructions from the Prime Minister, the Secretary of State for Trade and Industry established a cross-departmental "Ministerial team to lead the innovation agenda across the whole of Government and drive forward the implementation" of the report. The Steering Group is chaired by the Secretary of State for Trade and Industry. As an inter-Ministerial body it is not located in any specific department.

It is intended that the Steering Group will meet on a quarterly basis. It does not operate within the public domain and is unlikely to publish a record of its activities, although there is an accompanying Implementation Plan to the Innovation Challenge Report through which progress against the report's recommended actions may be tracked.

### Iceland

Inspired by the Finnish example, Iceland has recently established a **Science and Technology Policy Council**. The Council can be regarded as a higher-level policy coordination body. Its mission, legally formalised in Law on the Science and Technology Policy Council, under the Office of the Prime Minister (of 28. January 2003), is to express the priorities set by the the government, and to guide policy implementing bodies in selecting the appropriate strategies. This will be achieved through the publication of tri-annual guidelines for public policies on science and technology. The Council is headed by the Prime Minister, and is located under the Prime Minister's office. It also provides for the permanent membership of four ministers, and all ministries with an interest in research and innovation policy and funding are represented. Furthermore stakeholders representing industry, labour and HEI are also represented.

### Norway

The Norwegian Government's **Board for Innovation** is responsible for ensuring implementation of the Government's plan for a holistic innovation policy, which was launched in the autumn of 2003 (see <http://odin.dep.no/archive/nhdvedlegg/01/10/fromi033.pdf>). The Board is to ensure policy coordination between relevant ministries as well as between different levels of public administration. Furthermore, it is to contribute to an on-going dialogue between policy makers and industry.

The Government's Board for Innovation is located under the Ministry of Trade and Industry, and is headed by the Minister of Trade and Industry. In contrast, the Government's Research Board is located under the Ministry of Education and Research, and is headed by the Minister of Education and Research.

### Estonia

The **Research and Development Council (RDC)** advises the Government of the Republic on issues concerning research and development strategy, thereby directing the organised development of a national research, development and innovation system. At a lower level, the Technology and Innovation Division of the Ministry of Economic Affairs and Communications also undertakes some coordinative functions.

The RDC comprises two permanent committees that focus on research, development and innovation policy. These are headed by the Minister of Education and Science and by the Minister of Economic Affairs and Communication who submit at least once a year to the Research and Development Council a report on the effectiveness of the work of the policy committees and an activity plan for the coming period. The responsibility for the smooth operation and daily performance of the tasks of the permanent committee rests with the policy adviser of the ministry. If necessary, special committees are established for particular tasks (for example, for updating the collection of national statistics, working out development plans in the key areas).

In order to perform its tasks, RDC annually approves a renewable three-year action plan that includes, among other things:

- securing of the analytical basis required for the planning and assessment of R&D as well as innovation strategies for the coming periods, including organisation of analytical surveys and evaluation of the measures implemented, technology foresight, comparative policy studies, etc.;
- issues related to the coordination and association of policies falling within the areas of administration of different ministries, national R&D programmes, other measures related to or affecting R&D and innovation, taking into account respective international initiatives as well as the necessity and opportunities to participate therein;
- planning of resources required to achieve R&D as well as innovation policy goals, including the provision of sufficient human resources and finances.

The Secretariat of the RDC ensures the performance of the above functions through its own activities which are related to the collection and systematising of information necessary for analysing and shaping policy, to the organisation and assessment of the effectiveness of the

measures implemented by the public sector and the expenses incurred, and eventually, to feedback concerning the need for adjusting administrative policy to the general development trend.

The Chairman of the R&D Council is the Prime Minister and its Secretariat is established as a unit of the State Chancellery.

### Hungary

The Tudomány- és Technológiapolitikai Kollégium (TTPK) (Science and Technology Policy Council) was established in its most recent form on 18 April 2003 by a government decree (No. 1033/2003. (IV. 18.) Korm). The Council's mandate is:

- to discuss and give opinions on the decision-preparatory documents prepared for the Government on STI policy issues;
- to coordinate Government STI policy measures; and,
- to discuss current STI policy issues and contribute to their solution.

The TTPK chair is the Prime Minister, and the secretariat is to be set up, either within the Prime Minister's Office or in the Ministry of Education.

### Latvia

In 2001 a work force for the elaboration of the National Innovation programme was established at the Ministry of Economy, in 2003 an Innovation division was formed at the Industrial Department of the Ministry of Economy and in the same year the Cabinet of Ministers issued a provision on the Administrative Council of the National Innovation Programme. The main task of the work force was to elaborate the National Innovation Programme, whilst the Innovation division is responsible for the elaboration, coordination and implementation of legislation, policy documents/programmes/projects, the funding system, and cooperation in the field of innovative development and activities. Lastly the Administrative Council of the National Innovation programme has been assigned to administrate the innovative processes in Latvia, promote development of the national innovation system and come up with propositions for the future action plan of the National Innovation Programme.

### Lithuania

The **Science and Technology Commission** to the Government of Lithuania was established in October 1<sup>st</sup>, 2002. It is an advisory institution to the Government of Lithuania with responsibility for policy and strategy development and implementation for the applied sciences, innovation and technology, promotion of R&D, and industry and business relationships. It is also responsible for the evaluation of policy actions and delivery of proposals for the development of R&D, technology and innovation policy guidelines, and the coordination and implementation of broad policy for all sectors of the economy. The Science and Technology Commission is established under the Prime Ministers Office and is chaired by the Prime Minister.

Inputs from experts, ministries, science and study institutions, associations and other organizations are used in the decision making process. The Commission as a result advises the Government to issue legal acts, related to innovation policy development. It also may suggest

promotion of innovation actions in order to harmonise the NIS, and to lobby for science, innovation and technology. However, decisions on the allocation of financial measures for innovation and technology development in business are made following the advice of the Business Development Council. This consists of three committees: 1) export development and promotion, 2) industry competitiveness and 3) SME development. Advisory decisions concerning the allocation of funds for innovation and technology development in order to increase industrial competitiveness are the responsibility of the Industry Competitiveness Committee. The Business Development Council is located within the Ministry of Economy and is headed by the Minister of Economy.

In addition to the Commission there are other traditionally functioning policy advisory level institutions, such as the Lithuanian Science Council and the Science Academy. The Ministry of Science and Education coordinates R&D in the science sector and promotes R&D and industry cooperation.

### Malta

The mandate of the **Malta Council for Science and Technology** is to advise Government on the strategic direction for national research and innovation policies, and the development of related investments and programmes. It was set up in 1988 as an advisory body to assist in the formulation of a National Science and Technology (S&T) Policy. Published in 1994, the National S&T Policy outlines the direction of Maltese future activity in developing effective science and technology policies. In 1995, the Foundation for Science and Technology was established as a public Foundation, to work on the implementation and coordination of national science and technology policies under the direction of the MCST. In 1997, the MCST Council was reconstituted, bringing in more representatives from industry and the University. The MCST council falls under the responsibility of the Ministry of Education and is chaired by a leading industrial representative.

### Romania

The **National Council for Science and Technology Policy** was established in 2002 as the government body in charge with correlating the RDI policies with other social and economic policies. The main mission of the Council is to establish the priorities of the National Strategy on Scientific Research and Technological Development, which encompasses the state policy and the national interest objectives related to:

- a) promotion and development of the national RDI system to sustain the country's socio-economic development;
- b) integration into the international scientific community;
- c) protection of the Romanian scientific and technological patrimony;
- d) development of human resources involved in RDI;
- e) development of RDI infrastructure and funding of RDI.

The National Council was established according to Article 40 of the Government Act no. 57/2002 on Scientific Research and Technological Development, published in the Official Monitor 643 of 30 August 2002.

The National Strategy objectives are based on Government programme objectives and sectoral strategies and were established through consultation with local and central public administration bodies, with the Romanian Academy, higher education organisations, R&D institutes, economic agents, employers' federation and labour unions, etc. Therefore, the National Council for Science and Technology Policy ensures a wide coverage of, and communication and cooperation between, the main stakeholders involved in formulating and implementing RDI policies.

The National Council for Science and Technology Policy is headed by the Prime Minister.

### Slovak Republic

Innovation policy topics in Slovakia are handled by the **Slovak Government Council for Science and Technology** (SGCST). The body originated in the former Slovak Government Council for Science and New Technologies and was restructured in 1999. According to its statute, "The Council is an advisory body of the Slovak Government for preparation and exercise of the government science and technology policies with regard to economic, social and culture development and defence and foreign affairs of the Slovak Republic". The Council discusses and examines strategic plans and materials designed for the Slovak government and related to science and technology development in Slovakia. It prepares views and proposals on materials prepared by other central government bodies and related to organisation, financing, legislative, development plans and international cooperation in science and technology. The Council also is involved in creation of science and technology system in Slovakia.

The SGCST is governed by the Slovak Ministry of Education, and the Minister of Education is chairman of the council, while Secretary of the State for Ministry of Economy is the Council's deputy-chairman.

### Turkey

The **Supreme Council of Science and Technology** (BTYK) was established in 1983. The BTYK, which is legally formalised, determines, directs and coordinates the country's innovation policy. It decides on the policy designed and proposed by the Scientific and Technical Research Council of Turkey (TUBITAK) - the organization responsible for the design of science and technology policy and covering innovation policy; approves the action plan for implementation of this policy; assigns the responsible bodies and coordinators for each policy measure, and follow-ups and coordinates implementation of policy actions.

The Prime Minister heads the BTYK and it directly reports to the Prime Minister's Office. TUBITAK acts as the secretariat for the Council.

## **2.2.2 Main findings**

The above sections confirm that there is also a large amount of variation between the mandates of the various bodies considered in this analysis. A synthesis of these results are provided in Table 2, below. The information provided also indicates that the channels and level of reporting varies considerably. Clearly, all these characteristics are strongly interdependent: a body with a mandate for the provision of high level policy advice directly to the Prime Minister will of necessity be composed of high level and influential representatives, whilst those tasked with

providing specific decisions on the allocation of funding may be composed of a broader set of stakeholders with experience at the operational level. Further characteristics of these policy bodies are considered in subsequent sections.

### **2.3 Tools and operation of decisions/outcomes**

The set of bodies listed in List 1 were analysed according to the various tools and methodologies they employed to analyse the strengths and weaknesses of their respective innovation systems. A synopsis of the findings is presented in Table 2.

It should be noted, that despite the absence of a high-level innovation coordination body, France does have explicit mechanisms for assessing strengths and weaknesses such as international benchmarking (for example a bilateral comparison with Germany in the field of Industry-Science Relations), the production of an innovation scoreboard ('Le Tableau de Bord de l'Innovation'), recourse to wide national consultations (for example, the 'Assises nationales' on innovation in 1998, the recent national consultation launched in December 2002), as well as other *ad hoc* studies (e.g. the 'Rapport Guillaume' in 1998) which, in the absence of a high level policy coordination body are used as a basis for policy making directly at Ministry level.

As might be expected, the tools and methodologies employed by the high-level bodies under consideration are highly contingent upon the specific mandate and remit of the policy body, and also upon its membership and composition. Thus, while some bodies make use of commissioned studies, others conduct their own or simply rely on the collective experience of their members. The same is true to the extent to which external fora and debates are utilised; generally bodies with little stakeholder representation amongst their membership may tend to use these tools whilst those with broader memberships may not.

A further analysis was performed on the ways in which the ideas, advice and decisions originating from the policy bodies were translated into policy decisions. Again, a synthesised version of these results is presented in Table 2.

The results indicate that there are again a range of potential mechanisms. In some bodies, the membership of the ministers of the responsible government departments means that decisions may be implemented directly. In other cases, a less direct approach is used, either via the elaboration of a national strategy or plan which subsequently guides policy implementation, or via a high level policy document which informs policy directions. In a further set of cases, advice is forwarded to agencies or bodies at the next level of the policy hierarchy.

As in the preceding analyses, the precise mechanisms employed are again contingent upon the remit and composition of the policy bodies themselves.

**Table 2. Characteristics of high-level innovation policy bodies.**

	Tools and operation	Translation to policy	Role/remit
Austrian Council	Commissioned studies	Funding allocations Policy papers	Recommendations & funding allocations
Danish Council for Tech. & Innov.	Benchmarking <sup>1</sup> Surveys, studies <sup>1</sup> Fora <sup>1</sup>	Policy decisions	Advisory Coordination
Spain – CICYT	Analyses Foresight studies Fora/debates Coordinated workgroups	Via National Plan for RDI	Planning, coordination and monitoring of National Plan for RDI
Finnish S&T Policy Council	Commissioned and recommended evaluations	Via triennial key policy documents (S&T policy reviews)	Advisory
Ireland - Forfás	Commissioned studies Evaluations & Surveys Peer reviews Focus groups, fora & meetings Expert groups (e.g. ICSTI) Technology Foresight Technology Assessment <sup>2</sup>		Advisory
Italy – 4 <sup>th</sup> Commission of CIPE	Surveys, studies Benchmarking	Via CIPE resolutions	Evaluation of priorities and approval of National Research Plan
The Netherlands – Innov. Platform	Workgroups Focus groups/consultations	Via proposals to cabinet	Advisory (but on a think-tank basis)
Portugal – Interministerial Commission on Innov. & Knwldg.	?	Via definition of strategy and targets	Definition of strategic guidelines and targets
UK – Steering Group on Innovation in the Knowledge Economy	Utilises previously conducted review and defined actions	Via direct ministerial involvement	Coordination of implementation
Iceland – S&T Policy Council	Benchmarking <sup>1</sup> Surveys, studies <sup>1</sup> Fora and hearings <sup>1</sup>	Tri-annual guidelines on public policies Funding allocation from Technology Development Fund	Advisory Allocation of funding
Norway – Govt. Board for Innov.	“Innovation 2010” review Internal meetings & professional contacts	Via direct ministerial involvement	Advisory Follow up implementation of Government holistic plan for innovation
Estonia – R&D Council	Analyses Surveys and evaluations Technology Foresight Comparative policy studies	Approval of three-year plan	Advisory
Hungary – S&T Policy Council	Commissioned studies	Via direct ministerial involvement	STI policy advice, discussion and strategy development
Latvia – Administrative Council of the National Innovation Programme	SWOT and innovation system studies Benchmarking, quantitative indicator studies	Implementation of National Innovation Programme	Administration, advisory
Lithuania – S&T Commission	Expert input Information from stakeholders Discussion with stakeholders	Via direct ministerial involvement Advice to heads of agencies, etc.	Advisory
Malta Council for S&T	National R&D audit CIS data	Via chair Minister or direct to Parliament	Advisory
Romania – National Council for S&T Policy	Inter-member consultation, using data from externally commissioned benchmarking, studies, peer reviews, for a	Outcomes of debate are submitted to Government	Advisory
Slovak Govt Council for S&T	Undertakes and commissions studies and peer reviews	Provides recommendations to Government	Advisory
Turkey – Supreme Council for S&T	Surveys, peer reviews Fora Working group and task force studies Benchmarking	Provides advice to TUBITAK and subsequently translates into policy decisions	Determines, directs and coordinates innovation policy

Notes:

1. Possible future methodologies.
2. Exploratory use at present.

## **2.4 Membership**

The next section looks at the composition of the advisory bodies presented in List 1. The first question is whether the body may be described as “high-level” or not in terms of its representation.

### ***2.4.1 High-level or not?***

The term “high-level” is rather ambiguous and may apply to the membership of the body, the level to which it submits its policy decisions, or even the level of strategic significance of its policy input.

In terms of membership, it can be seen from Table 3 that about half of the bodies in List 1 are chaired by the Prime Minister or an equivalent level government official. In all these cases, the membership also comprises Ministerial-level representatives. Only four of the bodies examined do not have Ministerial level representatives and, of these, two have a Minister either as a member or as the Chairperson. Table 3 also indicates the presence of representatives other than Ministers, further information on which is presented in Table 4.

### ***2.4.2. Size***

As may be seen in Table 3, the number of members of the high level policy bodies in List 1 varies somewhat, although the average number of members tends to be around 12-14 members. In most cases, there is likely to be a natural limitation on the size of membership imposed by a balance between the need to reach consensus and administrative constraints (coordinating diaries, etc., for example) and the need to ensure broad representation to cover the range of innovation-relevant policy interests.

### ***2.4.3 Support/location***

Information was also provided on the location of the various policy bodies considered, although a number of gaps existed in this data. At least four bodies were reported to be located in and/or had their secretariat provided by the Prime Minister’s Office. A further seven were located in or had secretariats provided by Ministries with relevance to innovation.

**Table 3. Membership, size and support bodies**

	PM chair?	Ministerial-level reps?	Size	(Other) representatives	Secretariat/location
Austrian Council	No	Yes <sup>1</sup>	8	Science and industry	Min. of Transport, Innovation & Tech.
Danish Council for Tech. & Innov.	No	No	?	See Table 3	Min. of Sci., Tech. & Innov?
Spain – CICYT	President	Yes	10?	Advisory Council, Regions	Min. of S&T
Finnish S&T Policy Council	Yes	Yes	c. 17	Academy of Finland, TEKES, (and see Table 4).	Min. of Educ. & Sci., Min. of Trade & Industry
Ireland - Forfás	No	No	10+ <sup>2</sup>	(See Table 4)	n/a
Italy – 4 <sup>th</sup> Commission of CIPE	No	No <sup>3</sup>	6?	None	CIPE
The Netherlands – Innov. Platform	Yes	Yes	18	(See Table 4)	Project Bureau
Portugal – Interministerial Commission on Innov. & Knowldg.	No <sup>4</sup>	Yes	7+	None	Innovation & Knowledge Society Mission Unit
UK – Steering Group on Innovation in the Knowledge Economy	No	Yes	13+	None	?
Iceland – S&T Policy Council	Yes	Yes	18	(See Table 4)	PM’s Office?
Norway – Govt. Board for Innov.	No	Yes	9	None	Min. of Trade & Industry
Estonia – R&D Council	Yes	Yes	12	(See Table 4)	State Chancellery
Hungary – S&T Policy Council	Yes	Yes	9+	(See Table 4)	PM’s Office or Min. of Educat’n
Latvia – Admin. Council for Nat. Innovation Programme	No	Yes	13	(See Table 4)	Min. of Economy
Lithuania – S&T Commission	Yes	Yes	12+	Lithuanian Science Council, Academy of Science	PM’s Office
Malta Council for S&T	No	Yes <sup>5</sup>	c. 10	(See Table 4)	Foundation for S&T
Romania – National Council for S&T Policy	Yes	Yes	10	(See Table 4)	?
Slovak Govt Council for S&T	No <sup>6</sup>	No <sup>6</sup>	31	(See Table 4)	Ministry of Education
Turkey – Supreme Council for S&T	Yes	Yes	20+	(See Table 4)	TUBITAK

Notes:

1. Ministers of Transport, Innovation and Technology, and of Science, Education and Culture (non-voting).
2. Refers to the Board of Forfás.
3. However, members are senior civil servants.
4. Chaired by the Assistant PM.
5. Minister of Education, Science and Sport only.
6. Minister of Education is chairman.

## 2.5 Representative groups

The questionnaire sought information on the composition of the membership of the policy bodies in terms of representation by various stakeholder groups. The results of this analysis for those bodies in List 1 are presented in Table 4. Note that in this analysis, ministry representatives are not necessarily Ministers (as presented in Table 3).

Several features are apparent from the Table. Firstly, there seem to be two major types of bodies, those with Ministry representation only (Italy, Portugal, UK, Norway and possibly Romania) and those with broader membership. In the latter, the HEI sector and Industry are frequently represented and stakeholder associated groups (such as SMEs, Employers’ Federations, Labour Organisations and Research Funding Agencies) represented to a lesser extent. Societal groups (in both cases represented by national Academies of Sciences) are rarely present. The Turkish Supreme Council for S&T has the broadest representation, extending to state organs such as the national Broadcasting Corporation and the Atomic Energy Council, a fact reflected in it having one of the largest memberships of all bodies from List 1 (over twenty members).

A further distinction may also be made regarding the composition of Ministerial representation. The first group has rather restricted Ministerial representation, with members from what could be

considered the 'innovation core' (i.e. Science/Education, Industry and possibly Labour/Employment). These include the bodies from Austria, Spain, Ireland, and The Netherlands. The second group has a broader membership and includes representation from ministries outside the typical innovation core (i.e. Ministries of Health, Environment, Transport, Planning, Agriculture, Rural Affairs, Regional Affairs, Culture, etc.). The extent of this broader membership varies but may be an important factor in the significance with which innovation policy is regarded in the economy as a whole.

**Table 4. Composition of membership.**

Country ( & relevant body)	Representatives															
						Government/ Ministries										
	Ind.	SMEs <sup>1</sup>	Empl Fed.	Labour org.	Trade org.	PM's (office)	Finance/ Treasury	Sci. Educ.	Industry	Health	Labour /Empl.	Other	HEI sector	Res. Funding agencies	Societal groups	Other
Austrian Council								Y				Y <sup>2</sup>	Y			
Danish Council for Tech. & Innov.	Y	Y		Y									Y			
Spain – CICYT	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y			
Finnish S&T Policy Council	Y		Y	Y		Y	Y	Y	Y		Y	Y <sup>3</sup>	Y	Y		
Ireland - Forfás	Y	Y		Y				Y	Y		Y		Y	Y		
Italy – 4 <sup>th</sup> Commission of CIPE						Y	Y	Y	Y		Y	Y <sup>4</sup>				
The Netherlands – Innov. Platform						Y		Y	Y				Y	Y		Y <sup>5</sup>
Portugal – Interministerial Commission on Innov. & Knowledge						Y	Y	Y	Y	Y	Y	Y				
UK – Steering Group on Innovation in the Knowledge Economy						Y	Y	Y	Y	Y	Y	Y <sup>6</sup>				
Iceland – S&T Policy Council	Y	Y		Y		Y	Y	Y	Y	Y		Y <sup>7</sup>	Y			
Norway – Govt. Board for Innov.							Y	Y	Y		Y	Y <sup>8</sup>				
Estonia – R&D Council					Y	Y	Y	Y				Y <sup>9</sup>	Y	(Y) <sup>10</sup>	Y <sup>11</sup>	
Hungary – S&T Policy Council						Y	Y	Y	Y	Y		Y <sup>12</sup>	Y	Y		
Latvia – Admn. Cncil. for Nat. Innov. Prog		Y				Y		Y				Y <sup>13</sup>	Y	Y		Y <sup>14</sup>
Lithuania – S&T Commission	Y					Y	Y	Y	Y			Y <sup>15</sup>	Y			
Malta Council for S&T	Y	Y					Y									
Romania – Nat. Cncil for S&T Policy	Y <sup>14</sup>	Y <sup>14</sup>	Y <sup>14</sup>	Y <sup>14</sup>	Y <sup>14</sup>	Y	Y	Y				Y <sup>17</sup>	Y <sup>16</sup>	Y <sup>16</sup>	Y <sup>16,18</sup>	
Slovak Government Council for S&T	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y <sup>19</sup>	Y			
Turkey – Supreme Council for S&T	Y	Y			Y	Y	Y		Y	Y	Y	Y <sup>20</sup>	Y	Y		Y <sup>21</sup>

1. Including representative organisations.
2. Ministry for Transport, Innovation & Technology.
3. Ministry of Environment.
4. Regional Affairs.
5. Representatives of the Advisory Council for Science and Technology (AWT) and the Socio-Economic Board (SER).
6. Environment, Food and Rural Affairs; Culture, Media and Sport; Transport; Home Office; Ministry of Defence; Office of the Deputy Prime Minister (regional issues); Office of Science and Technology.
7. Ministry of Fisheries, Ministry of Agriculture and Ministry of Environment.
8. Fisheries; Local Government and Regional Development; Agriculture; Petroleum and Energy; Foreign Affairs.
9. Ministry of Economic Affairs and Communication.
10. From Finland.
11. Estonian Academy of Sciences.
12. Agriculture and Rural Development; Environment and Water Management; Informatics and Communications.
13. Ministry of Economy
14. Latvian Investment and Development Agency
15. Environment; Agriculture.
16. Stakeholder group representation may not be through direct membership, but via consultation.
17. Agriculture, Food and Forestry; Communication and Information Technologies; Development and Forecasting; coordination of the Government General Secretariat.
18. Romanian Academy.
19. Agriculture; Defence; Transport; Environment; Construction and Regional Development; Culture; Institute for Standards and Metrology.
20. Communication and Transportation; Energy and Natural Resources; Defence; Forestry, Agriculture and Rural Affairs.
21. State Planning Organisation; Scientific and Research Council of Turkey; Broadcasting Corporation of Turkey; Atomic Energy Council.

## 2.6 Influence and impact

Questionnaire respondents were asked to provide their subjective view on the level of influence exerted by high-level policy organisation on decisions made by the national government concerning innovation policy. As might be expected, the answers to this question were rather mixed in terms of analytical content. In addition, although a number of respondents indicated that high-level policy bodies had exerted a strong influence, whether such influence had been effective in directing or coordinating policy was a harder question to answer. In many cases, developments had occurred too recently for any significant results to be observed or conclusions drawn. With these caveats in mind, bodies such as Ireland's Forfás, the Fourth Commission of the CIPE (in Italy), and the bodies in Lithuania, the Slovak Republic and Turkey are all reported as having a strong influence.

Obviously, influence may only be judged in cases where a direct evaluation or review of the body's activities has been carried out, or where the output and its subsequent translation into policy are clearly visible. Thus, the influence of bodies responsible for the production of National R&D plans, strategies and similar documents is readily discernible, whilst those providing advice (which may not be openly published, or which may be tacit) are harder to assess in terms of their influence.

The following extracts are taken from the questionnaire responses:

### Austria

The Council has had substantial influence although this has been limited to the allocation of funding. The net impact of the funds is somewhat lower than the actual resource spent as funding for science and technology by the responsible ministries declined in the same period.

### Denmark

Whilst no examples have been provided, due to the high professional profiles of the members and their close connection with industry, the Council undoubtedly has a strong influence on the government's innovation policy decisions. Also its mandate to allocate public funding for innovation gives it a strong *de facto* influence.

### Spain

In general, it can be said that Spanish innovation (together with R&D) policy development and planning are relatively centralised processes. Sectors such as the Higher Education or industry sector influence this process through more informal ways rather than utilising the formal structures available.

In addition, European (Commission) policies and plans to support innovation (particularly those incorporated inside the Framework Programmes) exert a strong influence for most of the actors involved, both inside and outside the official bodies in Spain. In short, much of Spain's innovation policy direction is strongly influenced by European-scale initiatives, which implies that the onus is on policy implementation rather than policy development.

A special comment must also be made concerning the growing significance of regional innovation policies and plans, and the level of coordination needed at country level. In this area, a specific coordination body exists (the General Council of Science and Technology, appointed to CICYT). This has regular meetings (every 2 months) although very little information is disclosed and no minutes are published. The National Plan 2004-2007 underlines the objectives for coordination, suggesting the signature of Cooperation Agreements between Regions and MCYT as the main instrument (13 Agreements are alive at the moment). However, at present the coordination of national and regional policies and plans does not appear to be particularly strong. Moreover, national/regional coordination is strongly influenced by the variable political relations between the Central and Regional Governments.

### Finland

The Science and Technology Policy Council in general has a strong influence. However, the extent to which the Council's recommendations have influenced innovation policy decision making is not straight-forward and has changed over time. As an example of its influence, in the latest review by the Council, an increase in public R&D funding was recommended for the years 2003-2007: subsequently the new Government announced that it would increase public R&D expenditure, thereby agreeing with the Council's recommendation.

### Ireland

As the political and public policy systems have become more convinced of the value of research, technology and innovation over the last 20 years, the ability of Forfás and its predecessors to influence national policy has grown. It now has a generally strong influence and a very strong influence with regard to some recent highly significant [innovation policy] decisions.

### Italy

The fourth Commission of the CIPE has a strong influence on decisions concerning some elements of innovation policy, i.e. those related to research and training. A major example is represented by the National Research Plan. The need to adopt an effective instrument for planning research stems from the awareness that initiatives autonomously developed by the scientific system should be interrelated to the overall requirements of the country in terms of science, technology and innovation. The National Research Plan offers the opportunity to achieve such inter-sectoral coordination (among different institutional subjects), critical mass (among different actors and locations), and coherence (between the planned objectives and the implementation instruments) which could mobilise hidden or under-used resources. The financial provision for the Plan coordinates different instruments provided by various administrations: ordinary funding to public research institutions; Funds for the Support of Basic and Industrial Research; Fund for Technological Innovation; and other financial sources from different Ministries.

### The Netherlands

The Innovation Platform seems to be developing. The extent to which its proposals are integrated into innovation policy and impacts are, however, at this point difficult to measure. Nevertheless, the fact that the initial proposals and advice produced are already resulting in actions being taken (for example, the development of a Dutch Marie Curie-type fund) may be viewed positively.

Based on the membership of the Platform and the fact that it is headed by the Prime Minister, it may be expected that its advice will have a large impact. However, the extent of its influence will be dependent on the quality of this advice and the commitment of all actors to actually promote a positive impact.

### Portugal

The new orientation is relatively recent and there is still no knowledge about any relevant decisions taken by the Interministerial Commission with regard to innovation policy. On the other hand, UMIC (the Innovation and Knowledge Society Mission Unit) which has mostly focused on information society issues, has already published some Action Plans in this area.

### United Kingdom

As yet, it is too early to be able to assess the influence of the Steering Group on Innovation in the Knowledge Economy with regard to the implementation of the findings of the DTI Innovation Review. Moreover, as this body operates more or less *in camera*, it will be difficult to attribute the achievement of milestones on the Innovation Review Implementation Plan directly to the activities of the Steering Group.

Nevertheless, in general, and based on UK experience, it would seem that allocating primary responsibility for innovation-related issues within a single lead department, agency or similar body is an effective way of ensuring that innovation is given a high degree of policy priority across government (provided that there is already Government-wide acceptance of the importance of innovation). In the UK the DTI forms the lead agency for innovation, but its policy documents and pronouncements cover all aspects of the UK economy and a number of innovation-focused reviews have been produced in conjunction with the Treasury, or other relevant departments (Education and Skills, Work and Pensions, etc.). High-level policy documents (Strategic Reviews, White Papers) concerning innovation often make reference to actions that other Government Departments should or can undertake in order to improve the innovation environment.

Obviously, the form that this high-level policy strategy organisation takes depends on the national context. Although a standing "Council for innovation policy" might be effective in developing strategies and coordinating policies, (reactions to the formation of the Finnish Science Council appear to be highly positive) the latest UK development (i.e. the establishment of an inter-ministerial group to take forward a strategy developed within the DTI) appears to offer a practical approach with regard to the UK context. In this example a strategy for innovation has been developed by the DTI (through an extensive review with full regard to the interests and inputs of a wide range of stakeholders) but its implementation rests in the hands of a relatively small inter-ministerial group with direct control over policy implementation.

Also, in support of this approach, one might argue that placing strategy advice and development and policy implementation within the remit of a single group or Council (comprising a wide variety of stakeholder interests) might produce excessive debate at the cost of little policy action. However, as noted above, the developments in the UK are as yet too recent to be able to assess the effectiveness of this approach.

A further UK development should also be mentioned briefly. One outcome of the recent Innovation Review and the Lambert Review into University-Industry links is a move to develop a greater regional focus for innovation policy. This is likely to involve the setting up of further regionally-based Science/Industry Councils (SICs) which would develop and implement innovation policy on a regional basis, and also the establishment of sets of regional innovation indicators to assess progress. The SICs would be run under the Regional Development Agencies in England, with equivalent bodies in Northern Ireland, Wales and Scotland. The Treasury has argued that much innovation policy needs to be tailored to the specific regional situation and these developments are intended to realise this goal.

### Iceland

It is too early to tell what influence the Science and Technology Policy Council has had. However, the structure of the Council seems to indicate that it will have a strong influence on governmental decisions concerning innovation policies. The fact that almost all ministries are represented in the Council together with the short routes of communication in Iceland among individuals, institutions and business life also points in that direction.

### Norway

The Government's Board for Innovation has only recently been established, and the influence this body will have on actual policy decisions yet remains to be seen. However, the Government's Research Board appears to have a very strong influence on Norwegian innovation policy decisions. For instance, the decision to initiate a process for the introduction of a holistic innovation policy (the implementation of which forms the primary *raison d'être* of the Board for Innovation) was firmly rooted in the work of this body.

### Estonia

No assessment on influence made.

### Hungary

The Hungarian Government does not have an explicit innovation policy, although various STI schemes do exist and are in operation. The TTPK has only met once or twice since April 2003 and does not yet have a secretariat. Thus it is hardly possible to establish if TTPK - as a body - has had any impact on the existing policy schemes. Its members, however, individually in their 'normal', day-to-day jobs, certainly have had a strong influence.

### Latvia

The activities of the work group for the elaboration of the National Innovation programme have been of significant importance in laying the foundations for innovation policy in Latvia. At present, the Administrative Council of the National Innovation Programme does not have a strong influence, nevertheless this is expected to increase under the new Government formed in March 2004.

### Lithuania

The Science and Technology Commission was established as a result of the implementation of the guidelines indicated in the White Paper on R&D and Technology and plays an important role in directing innovation policy, primarily as a strong expression of political will to set innovation

policy as one of the priority areas in national development. However, its influence on policy development is restricted by the fact that decision-making power is limited to the advisory level, which may or may not be translated into innovation policy action.

### Malta

Innovation activities in Malta are well behind European standards. Gross expenditure on R&D is only 0.5% of GDP, and is undertaken mainly by a handful of foreign-owned firms in the export industry. Innovation practices have not permeated Maltese business and policy-making. There is thus a clear need for a coordinating force in this respect, focusing on the key aspects of demand and supply of innovation activities and generating the necessary synergies locally and internationally. The Malta Council for Science and Technology is slowly evolving in this regard, assisted mainly by the development of a research and innovation fund and by participation in EU funded projects. The Council however still lacks the strategic outlook to become an effective coordinator and driver of innovation policy in Malta, although, as noted by a recent (2002) review of its activities, its influence could be enhanced by moving it from under the Ministry of Education to the Prime Minister's Office. It is, however, also evident that MCST is aware of the challenges being posed by EU membership in the area of innovation activity and is doing its utmost to stimulate government attention in this regard.

### Romania

The two bodies in charge with innovation policy (the Research Department of the Ministry of Education and Research and the National Council for Science and Technology Policy) have a rather strong influence on the Government's policy on innovation, as they are the main nucleus from which such policy emerges. However, given the complex social and economic problems that the country is facing, innovation as a concept remains a rather abstract notion and innovation policy implementation suffers from the lack of experience and adequate human and material resources.

### Slovak Republic

The SGCST is a government advisory body and its recommendations are important for Government decisions on S&T policies. The real influence of the Council is, of course, limited by financial funds allocated to the S&T projects. These funds are provided by the Ministry of Finance, which does not consider S&T development as a priority. However, there have been some positive results initiated by the SGCST. For example, the Government, on the advice of the SGCST, established the STAA grant agency, which improved the financing of Slovak public and private research. The Council also initiated and reviewed the Law on Science and Technology. This Law was passed by the Slovak Parliament and regulates the organisation and financing of the Slovak system of Science and Technology.

### Turkey

The Supreme Council for Science and Technology (BTYK) has a very strong influence on decisions made by the Government concerning innovation policy as it is the highest level body at the governmental level dealing with this policy area. All innovation-related actions taken by the Government (such as the Law on Technology Development Zones, which provides various incentives for companies and researchers located in technology parks and Government funding for industrial R&D activities) are the outcomes of decisions made by the BTYK. On the other

hand, not all the policy actions or decisions arising from the BTYK have been implemented or put into force by the Government or related agency due to insufficient commitment to innovation by different governments over the past.

### **3. Planned agencies**

A number of countries were reported as being in the process of introducing new high-level innovation policy coordination bodies. Brief details for each of these are presented below.

#### **3.1 Belgium: High Council for the 3% Target**

In Belgium, innovation is largely a competence of the regional levels of government. In this sense a more correct term in the Belgium context would be cooperation rather than coordination, as there is no hierarchy of competencies so that, for instance, the Federal Government has no authority to co-ordinate actions of regional governments. A number of ‘Science Policy Councils’ exist at different government levels (Federal and Regional). Whilst the remit of these councils concerns science policy and not exclusively innovation and although they are government advisory bodies, they do however play a role in bringing together the different actors in the field of innovation. A recent development is the announcement that in the near future (possibly May 2004) a “High level group 3% for research” (or “High Council for the 3% target”) will be created, with a view to enhancing cooperation between government institutions at all levels of authority in order to boost innovation.

The mandate of the High Level Group for the 3% will be to:

- Develop new ideas and detect policy needs;
- Advise all levels of authority, all departments, all interested stakeholders and foster cooperation between all the parties involved.

The High Level Group for the 3% is being created by the Ministry of Economy, Energy, Foreign Trade and Scientific Policy and its members will be representatives from the scientific community (academics, research centres) and from the universities.

#### **3.2 Luxembourg: Inter-ministerial Working Group on Research and Innovation.**

At the end of 2003, the Luxembourg Government council decided to set up an inter-ministerial working group on research and innovation. This group has two main aims: to reach the objective of 3% of GDP for research investment; and to build a more coherent research and innovation policy.

The Ministry of Research, Economy, and Finance forms part of this inter-ministerial working group.

#### **3.3 Latvia: Administrative Council for the National Administration Programme.**

In conformity with propositions put forward from the Latvian scientific community, the Government is considering the establishment of a Council of Science, Technology and Innovation. This will be under the leadership of the Prime Minister and there are plans to create a respective ministry in the more distant future.

### **3.4 Poland: Council for Innovation.**

Although no concrete reforms have been introduced yet, discussions are taking place with regard to the future scope of the Polish NIS. For example, a group of Dutch experts (Ecorys Group) held a workshop on the “Evolution of the National Innovation System in Poland” (February 2004) with the cooperation of MoELSP, the Department of Innovation, in the framework of a pre-accession programme “Strengthening government policy and institutional cohesion to enhance the innovativeness of the Polish economy before accession to the European Union”. The main outcome was the suggestion that Poland should improve the governance of innovation policy, especially in terms of its structure. More specifically, it was proposed to establish a special Council of Innovation. In this context, it was pointed out that similar Councils exist already in some EU countries, including Finland, the Netherlands and Portugal. It was also suggested that the competences of such a body should not be limited to raising innovation awareness: it should also play a coordination role with the capacity to formulate strategic goals.

At present, the Polish authorities are preparing a law on the support of innovative activities. Decision-makers in the current administration responsible for innovation policy agree that proposal to establish a special Council of Innovation should be reflected in the new legislation.

With regard to its membership, it has been recommended that the Prime Minister should chair its activities, whilst its members should include the representatives of the Council of Ministers responsible for the development of economy, research and education, managers of innovative companies and successful scientists. At a preliminary stage, the members of the Council of Ministers should prepare a preliminary version of the status of the Council of Innovation which would determine rules governing membership, scope of responsibilities and its internal working procedures.

### **3.5 Slovenia: Technology Agency.**

The Slovenian Technology Agency was formally established in January 2004, but it has not yet commenced operation. According to the Law on Research and Development (2002), the Agency is to be responsible for technological development and innovation promotion programmes. Until the Agency becomes operational, innovation and technology policy continues to be under the Ministry of Economy, Department for Entrepreneurship and Competitiveness.

According to the Law on R&D, the Technology Agency will be responsible, among other tasks, for:

- execution of programmes and measures for competitiveness promotion and technological development within the framework of the National Research and Development Programme (NRDP);
- planning, directing and financing of activities for innovation promotion and promotion of R&D activities and transfer of knowledge;
- promotion of industry-research cooperation;
- monitoring and evaluation of programmes and measures of development policy and investment in R&D on competitiveness of national economy;
- cooperation in conceptualisation of technology and innovation policy; etc.

The Agency is established by the government, which also appoints the managing director. The Agency is to be headed by a Management Board and a Board/Council of Experts, nominated according to the Agency's statute. According to the Law on R&D, the Board of Experts will be nominated from the representatives of the "carriers of technological development (sic)".

Membership of the Technology Agency will be drawn from: industry; SMEs (or representative organisations); the Industry Ministry; and the HEI sector.

Current expectations as to the role and impact of the Agency are high in terms of its impact on policy. The key factors deciding the actual impact will be the individual nominated as director of the Agency and the budget allocated to its programmes. Neither of these developments has been made public as yet.

#### 4. Main conclusions<sup>6</sup>

Overall, given the variety of types and forms of innovation coordination bodies, it is difficult to draw many conclusions of a general nature. However, a number of issues do arise which could form the basis of further discussion in the workshop:

1. Coordination can occur at various stages of the policy formulation process, from the identification of weaknesses in the NIS (e.g. SWOT analyses) through the provision of advice, to the implementation of specific policies. Even at the implementation stage, it is evident that coordination may be undertaken through various avenues, such as the coordination of policies amongst various actors in the NIS or coordination of funding allocations, for example. *The selection of the optimum point(s) for coordination in this process and the most appropriate actors to involve at each stage offer good points for discussion.*
2. Amongst the variety of approaches observed, two main activities appear to dominate: the provision of advice on innovation policy derived either from a range of stakeholders (e.g. Denmark, Finland, Ireland, Netherlands, Iceland, Estonia, Romania, Slovakia and Turkey) or from a more restricted set of key innovation policy actors (e.g. Austria, Italy, Hungary and Lithuania); and the implementation of a specified policy or strategy (for example, a National Plan for RDI) (e.g. Spain, Portugal, UK, Norway and Latvia). A number of those bodies with an advisory remit focus on the development of specific national plans or innovation strategies (e.g. Spain, Italy, Malta, and Romania). *Two pertinent questions suggested here are: how important is the development and implementation of a national strategy which can provide a focus for coordination – can coordination be effective in the absence of a national policy or plan; and is it more effective to coordinate the development of such a strategy, its implementation, or both?*
3. There appears to be a very recent trend in the establishment of coordination bodies tasked with the overseeing or assessing progress towards the achievement of the 3% Barcelona target (e.g. Belgium and Luxembourg). *One possible question is: how effective is the imposition of an externally driven innovation goal in aligning national innovation priorities?*

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<sup>6</sup> Note, this section concentrates solely on innovation coordination bodies rather than those concerned with coordination of a more restricted sub-set of policy issues (such as research, science and technology, etc.).

4. The regional issue of coordination is also important. Countries such as Belgium and Spain have (or are planning, in the case of the former) both a national level innovation coordination body and regional level coordination bodies. Similarly, the UK with a distinctly non-federalist structure, nevertheless is in the process of establishing regional bodies which will be tasked with the coordination of innovation policy at regional levels. Lastly, France operates coordination at the regional level through ANVAR in the absence of a national-level body. *What are the best models for coordinating national and regional innovation policy, particularly where national goals and approaches may not be entirely appropriate to regional concerns?*
5. It is difficult to establish the impact of the bodies under review. Although a number have been reported as being influential in terms of the translation of their policy recommendations into policy action, in the absence of more detailed evaluations the question of whether or not they have served to coordinate policy effectively has to remain open.