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**COMMISSION STAFF WORKING DOCUMENT**

**Ex-post evaluation of the Direct Actions under the Sixth Framework Programmes for  
Research Technology Development and Demonstration carried out by the Joint  
Research Centre**

## COMMISSION STAFF WORKING DOCUMENT

### Ex-post evaluation of the Direct Actions under the Sixth Framework Programmes for Research Technology Development and Demonstration carried out by the Joint Research Centre

#### 1. INTRODUCTION

The purpose of this document is to communicate the results of an independent assessment of the Joint Research Centre's (JRC) Direct Actions under the Sixth Framework Programme (FP6) for Research Technology Development and Demonstration and to present an initial reaction of the Commission. The evaluation, carried out between February and September 2008 responds to the requirements of the Financial Regulation<sup>1</sup>, its Implementing Rules<sup>2</sup>, the provisions for an independent assessment in the Specific Programmes for Direct Actions by the Joint Research Centre in the Sixth Framework Programmes<sup>3</sup>, and the provisions for evaluation for the Seventh Framework Programme (FP7)<sup>4</sup>.

This dedicated evaluation report on Direct Actions in FP6 is established as an integrated part of an overall evaluation strategy for the full FP as requested in 2007 in the Court of Auditors' report on the evaluation of the Framework Programmes<sup>5</sup>.

The evaluation has been carried out in conformity with the standards and guidelines given in the recent Communication on evaluation to the Commission<sup>6</sup>.

#### 2. BACKGROUND

The JRC carries out the majority of its activities as direct research actions under the EC and the Euratom Framework Programmes for Research Technology Development and Demonstration, with the budget provided to it for those purposes. At the start of Fifth Framework Programme in 1998 the JRC received the mission to provide customer-driven

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<sup>1</sup> Council Regulation No 1605/2002 of June 2002 on the Financial Regulation applicable to the general budget of the European Communities (OJ L248/1 – 16.9.2002).

<sup>2</sup> Commission Regulation No 2342/2002 of 23 December 2002, laying down detailed rules for the implementation of the Council Regulation on the Financial Regulation applicable to the general budget of the European Communities (OJ L357/1 31.12.2002).

<sup>3</sup> Council Decision No 2002/836/EC of 30 September 2002 adopting a specific programme of research, technological development and demonstration to be carried out by means of direct actions by the Joint Research Centre (2002–2006) and Council Decision No 2002/838/Euratom of 30 September 2002 adopting a specific programme for research and training to be carried out by the Joint Research Centre by means of direct actions for the European Atomic Energy Community (2002-2006)

<sup>4</sup> Decision No 1982/2006/EC of the European Parliament and the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013) (OJ L412/1 30.12.2006): Article 7.2. and Decision No 2006/970/Euratom of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2007 to 2011)

<sup>5</sup> European Court of Auditors, "Evaluating the EU Research and Technological Development (RTD) Framework Programmes — could the Commission's approach be improved?", Special Report No 9/2007.

<sup>6</sup> "Responding to Strategic Needs: Reinforcing the use of evaluation" Communication to the Commission, SEC(2007)213

scientific and technical support for the conception, development, implementation and monitoring of European Union policies.

From 2003 to 2006 the JRC implemented the EC and the Euratom Specific Programmes of FP6, which distributed the work of the JRC over four core areas: Food, chemical products and health; Environment and sustainability; Nuclear activities; Horizontal activities (technology foresight; reference materials and measurements; public security and antifraud).

The JRC's contributions to the FP6 had as broad objectives, a strengthening of its customer-orientation; the creation of a broad knowledge base through networking activities and, in the spirit of the European Research Area (ERA), more closely associating Member and Accession State laboratories, industry and regulators in the scientific and technological support provided to the EU policies; as well as training of researchers using, in particular, its large-scale facilities and specialised laboratories.

The JRC received all together €1141 million through the two Specific Programmes to implement the direct actions under FP6 in its seven Institutes located in five different member states. During the second part of FP6, the JRC introduced several specific measures identified in the Five Year Assessment of the JRC<sup>7</sup> that was carried out mid-term of FP6. The improvements notably concern a corporate development plan for infrastructure including Informatics and Communication Technology facilities, corporate publications policy (branding), scientific integration between the core competencies and the Institutes, a statement of values for the organisation, and mission alignment and life-cycle management of the actions (JRC activities) through a periodic action review.

To be complete, the JRC receives a special budget of around € 25 million per year from outside the Framework Programme to finance an action programme to reduce and dispose of nuclear liabilities, resulting from current and past nuclear activities carried out on JRC sites. A separate evaluation of these activities has been completed earlier this year<sup>8</sup>.

Furthermore, following Council requests, the JRC generates additional revenues on top of its appropriations through the framework programmes by using its specific competences. This is done for instance:

- by taking on specific work from Commission services, directly contributing to the implementation of several EU policies, such as energy, security or external relations;
- by participating in Indirect Actions of the Framework Programme;
- through contract work for third parties, such as regional authorities or industry.

All these activities are seen as an essential means for acquiring and transferring expertise and know-how, whilst notably the participation in Indirect Actions allow the JRC to strengthen its scientific basis, build up its networks and maintain contacts with the scientific research community.

During FP6 the JRC generated such additional, so-called competitive income, equivalent to some 12% of its total budget.

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<sup>7</sup> The Five-Year Assessment of the Joint Research Centre (1999-2003) - Ex-post evaluation of the implementation of the JRC Multi-Annual Work Programme 1999-2002 and early mid-term evaluation of the implementation of the JRC Multi-Annual Work Programme 2003-2006, Report by an independent evaluation Panel under the Chairmanship of Professor David Fisk, April 2004

<sup>8</sup> JRC Ispra Decommissioning and Waste Management Programme, Peer Review by Nuvia, Document Ref. 89269/TR001, May 2008

### 3. THE EVALUATION

The main objective of the FP6 Ex-post Evaluation is to provide independent feedback to the budgetary and legislative authorities, other stakeholders and the general public on the JRC activities in FP6. The evaluation reports on the results in the JRC Specific Programmes and pays particular attention to the follow-up of the conclusions of the Five-Year Assessment carried out mid-term of FP6. Moreover, it provides the Commission and the JRC with recommendations for a continued improvement of its science-based policy support.

The evaluation was carried out by a panel of high-level independent experts<sup>9</sup> chaired by Sir David King. The Panel assessed the JRC's work according to the structure of the Multi-Annual Work Programme (MAWP) for FP6 categorizing the activities by 11 Priorities in four Core Areas of Research. Rather than assessing the performance of each of the seven JRC Institutes, this method emphasised an integrated approach to the JRC as an entity and to its work in its main competence areas of FP6.

The Panel paid special attention to the quality of research activities, as well as to the quality of implementation and management, and achievement of the objectives set. In addition, it took evidence from JRC customer surveys carried out by an external survey company. On the basis of site visits by sub panels of usually five experts and parallel desk studies of the background material provided by the JRC, one or two experts prepared a thematic summary report for the activities in each of the 11 Priorities. The final text was scrutinised by the full Panel and contains the agreed conclusions and recommendations. The emerging findings were presented to and discussed with the JRC Board of Governors in June and November 2008.

The executive summary of the evaluation report is presented in Annex 1 with the ten main recommendations of the Panel. It has been disseminated widely in printed form and through the Europa<sup>10</sup> internet sites and it has been transmitted to the Panel carrying out the overall Ex-post evaluation of the Sixth Framework Programme.

### 4. KEY FINDINGS

The overall assessment of the JRC's performance and achievements during the Sixth Framework Programmes is positive and, considered over a longer period "the JRC has undergone a major transformation over the last 10 years, consolidating its position as an

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<sup>9</sup> The Panel had 15 members: Sir David King (Chairman) - former Chief Scientific Adviser to HM Government; Jussi Huttunen (Vice Chairman) - Former Director General, Ministry of Health and Director General, National Public Health Institute of Finland; Jacques Bouchard - Former Head of the CEA Nuclear Energy Division, Chairman of the Generation IV International Forum; Jan Dekker - Former President of TNO (The Netherlands' Organisation for Applied Scientific Research); Nada Lavrač - Head of Knowledge Technologies Department at the Jožef Stefan Institute, Ljubljana; Heino Nitsche - Professor of Chemistry at the University of California, Berkeley, and Faculty Senior Scientist at Lawrence Berkeley National Laboratory, USA; Klaus Paulus - Former Director Federal Research Centre for Nutrition, Karlsruhe; František Pazdera - Director General of the Nuclear Research Institute in Řež; Lisa Sennerby Forsse - Vice-Chancellor of the Swedish University of Agricultural Science; Ján Szolgay - Professor of Hydrology and Water Resource Management at the Slovak University of Technology, Bratislava; Klaus Thoma - Director Fraunhofer Ernst-Mach-Institute in Freiburg; Lena TSIPOURI - Associate Professor at the University of Athens, Department of Economic Sciences; Christine Van Broeckhoven - Scientific Director, Flanders Interuniversity Institute for Biotechnology, Member of the Belgian Federal Parliament; Wolfhard Wegscheider - Rector and Professor of General and Analytical Chemistry at the University of Leoben; Alexander Zehnder - Former President of the ETH Council (Swiss Federal Institutes of Technology).

<sup>10</sup> <http://ec.europa.eu/dgs/jrc/index.cfm?id=2550&lang=en>

indispensable source of knowledge and expertise in support of the political agenda of the EU". The delivered science and policy support is qualified as "good, very good and sometimes excellent". The Panel observed a continued improvement of the customer-orientation of the JRC from FP5 through to FP6 ever since the adoption of the new mission of the JRC in 1998.

The Panel acknowledges the JRC's strategic framework: a convincing mission statement, a value statement and regular internal evaluation. It recommends establishing a longer-term vision and an overarching corporate strategy, which would allow the organisation to make a next step and advance to higher level in serving the policy customer. In this context, the JRC should start a continuous process for making a detailed short, medium and long-term assessment of the status of its research facilities and infrastructure with the aim to further enhance its efficiency and effectiveness. The Panel supports the modernisation and rationalisation of the JRC site in Ispra and the renovation of buildings and facilities at the other sites, which started as a follow-up to the previous major external evaluation<sup>7</sup>.

As regards its mode of operation, the Panel is of the opinion that the JRC is very much reactive, whereas it has the knowledge base and the skills to be more proactive. The Panel would like to facilitate such evolution in an environment where the organisation is expected to do what the customers ask (reactive) and suggests that this could for instance be done through a high-profile Chief Scientific Adviser inside the Commission, who could be an intermediary customer for proactive work from the JRC.

Aware of the Staff Regulations for Officials of the European Communities and the Conditions of Employment of other Servants of the European Communities, the Panel believes that certain improvements in the field of human resource management are feasible, and necessary for the JRC. It recommends the Commission to grant the JRC more flexibility in adapted recruitment procedures and career management schemes.

Finally, the Panel addresses the process for the evaluation. With such a very wide ranging work programme, an overall evaluation of the JRC would benefit from dedicated, competence or sector-orientated evaluations of the performances in the various areas which would then also allow a more profound analysis of the quality of the work in those areas.

## **5. INITIAL REACTION TO THE EVALUATION**

The Commission services welcome the Panel's findings and the high level of the analyses in the report, as well as the thrust of the recommendations, summarised in Table 1. They acknowledge the role of the Board of Governors in the discussions of the early results and expect that the strategic nature of the recommendations will help to further strengthen the position of the JRC, as the Commission's in-house provider of scientific support and advice.

The positive assessment of the JRC's implementation of the Direct Action in FP6 in terms of its customer orientation, its quality and its impact is well received. The reported progress is also the result of a dialogue between the JRC and its policy customers notably inside the Commission, which over the years became more structured and intensive, in particular thanks to the High Level Users Group (HLUG). This constructive approach within the Commission has helped the JRC to fulfil its policy-support role by orientating its work towards the priority areas of its customers and it will enable the JRC to take a more proactive approach in supporting the policy making process.

**TABLE 1. THE PANEL'S MAIN RECOMMENDATIONS  
FROM THE EX-POST FP6 EVALUATION**

1. For the benefit of the JRC and notably for its corporate positioning, planning and evaluation activities, it is recommended to develop a Work Programme structure that reflects the core activities of the JRC. Adaptations to changing political priorities have to be accommodated in substructures.
2. The Panel recommends that the JRC and its Institutes should establish a rolling five-year strategy, formulate a vision with clear goals, analyse its assets making a proper representation of policy support areas and competencies, and adopt criteria for accepting or not accepting tasks and apply them rigorously.
3. The Panel recommends that the JRC should thoroughly re-evaluate the position and management of exploratory research and revisit the functions and the roles of the JRC Scientific Committee and Institute Scientific Committees so as to produce uniform procedures for the Institute Committees.
4. The Panel urges the President and the Commission to enable the JRC, with its links to university knowledge generation in the EU and worldwide, to exercise a proactive policy advice function. To function properly this would need, for example, the creation of an "Office for the Chief Scientific Adviser to the Commission" within the Commission Services, with a high-profile Chief Scientific Adviser responsible directly to the President and the Commission.
5. The Panel recommends that the Commission should grant improvements allowing the JRC to adapt hiring procedures and career management schemes in keeping with the skills required.
6. The Panel recommends that the JRC should develop a quality assurance system for graduate training with the aim of continually attracting talented students.
7. The Panel recommends that the JRC should continue building up efficient mechanisms for the coordination of the activities within the organisation. The mechanisms should be need and competence driven, and correspond to the trends adopted by the most successful research-based policy-support organisations in the world.
8. The Panel recommends that all information exchange functions in the JRC, including the publications database PUBSY, should be upgraded. Contemporary knowledge management tools and methods to improve awareness should be used. These should include knowledge mapping tools.
9. The Panel recommends that the JRC should start a continuous process for making a detailed short, medium and long-term assessment of the status of its research facilities and infrastructure with the aim to further enhance its efficiency and effectiveness. This should be part of an overall strategy.
10. The Panel recommends that, in addition to the legally obligated high-level FP evaluations, the JRC should organise smaller, competence or sector-oriented external evaluations of its work. This will improve the positioning of the JRC in the relevant field.

The Commission is committed to establishing an overarching strategy of the JRC, as recommended by the evaluation panel, in time for the FP7 mid-term review<sup>4</sup>. The ultimate goal is an optimum exploitation of the knowledge base of the JRC in support of EU policies as well as a clear place for the JRC in the discussions on science, science policy, and research in the European Community and the Euratom framework programmes. Within the JRC it will also lead to further integration and coordination across the institutes.

In FP7 the JRC started taking a more proactive approach in its policy support; recent JRC reports include topics such as “Health impacts of GMO in food and animal feed”<sup>11</sup>, “Impacts of Europe's changing climate”<sup>12</sup> and “Radio Frequency Identification (RFID) Technologies: emerging issues, challenges and policy options”<sup>13</sup>. In the spirit of the Panel’s recommendations, these reports nurture the debate on important societal issues that are of major concern to the European policy makers and citizens alike.

The Commission will incorporate more details about the follow-up given to the recommendations of the Ex-post Evaluation in the progress report of FP7.

## 6. CONCLUSIONS

The Commission invites the European Parliament and the Council to take note of the findings and the recommendations of the evaluation Panel. The Commission commends the progress made in the customer orientation of the JRC and asks the European Parliament and the Council to support the recommended step change to advance to a higher level of service to EU policies.

Internally the Commission will support the JRC in seeking a more proactive approach in its scientific advice and support activities and it will consult on the overall orientation of the JRC with the Board of Governors with its representatives of the Member States, the candidate countries and the countries associated to the framework programmes.

The progress made in establishing a corporate strategy for the JRC and in implementing other measures proposed will be a major object of the mid-term evaluation of the direct actions of the JRC in FP7. This evaluation will be available in the course of 2010 as a basis for further developing the JRC as the scientific and technical arm of the Commission to support the conception, development, implementation and monitoring of EU policies.

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<sup>11</sup> [http://ec.europa.eu/dgs/jrc/index.cfm?id=1410&obj\\_id=5650&dt\\_code=NWS&lang=en](http://ec.europa.eu/dgs/jrc/index.cfm?id=1410&obj_id=5650&dt_code=NWS&lang=en)

<sup>12</sup> <http://ec.europa.eu/dgs/jrc/index.cfm?id=2540&lang=en>, prepared in cooperation with the European Environment Agency and the World Health Organisation

<sup>13</sup> <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=1476>

## ANNEX 1

### Executive Summary of the Ex-post Evaluation of the JRC Direct Actions of the Sixth Framework Programmes for the period 2002-2006

This report presents the Ex-post Evaluation of Joint Research Centre (JRC) Direct Actions of the Sixth Framework Programmes (FP6) for the period 2002-2006. It is divided into a backward-looking section with the achievements of the JRC in FP6 and a forward-looking section with an analysis of challenges for the JRC in the future. The recommendations have been drawn up with the objective to strengthen the capability of the JRC to deliver a service to the Commission without compromising scientific vitality or integrity.

The Multi-Annual Work Programme of the Joint Research Centre during FP6 was based on customer needs and on a push for integration of its Institutes' competencies and facilities, around thematic priorities. Simultaneously, the JRC strived to increase its networking activities across Europe and internationally, to enhance the training of European researchers and to help Candidate Countries in the last steps of the EU accession process.

#### ACHIEVEMENTS UNDER THE 6<sup>TH</sup> FRAMEWORK PROGRAMMES

In ten years of working with its new mission the JRC evolved into a reliable source for scientific and technical support to EU policies. It successfully achieved the main goals set for its work under FP6 through a clear customer-orientation, robust policy support and underpinning research. The standing of the JRC inside the Commission is of crucial importance for these achievements.

The JRC has accepted and implemented the recommendations of the Five-Year Assessment in 2003. During the review period the JRC has shown the capacity to set priorities by reorienting small parts of its work and discontinuing certain activities that have become less relevant. Nevertheless, within areas like food, health, foresight, environment, public security, the Panel indicated topics during the Institute visits and in the detailed commentary of the final report where the JRC needs to analyse its position seriously and make sure that it can generate the critical mass needed to be effective in those fields.

The Panel observed that the JRC has reinforced its networking activities across Europe and internationally, that it has enhanced the training of European researchers, that it has assisted the New Member States with the transfer of the total body of EU legislation, regulations, directives and standards (the *acquis communautaire*) and that it delivers well-respected international services in several areas of competence.

A detailed assessment of the work carried out during the 6<sup>th</sup> Framework Programme convinced the Panel of the good, very good and sometimes excellent quality of the delivered science and policy support. The full report of the evaluation presents a "detailed commentary" on the various priority areas. An important observation, however, is that it is difficult to make a thorough evaluation of all the different themes and competences in one single exercise.

So far the JRC has significantly changed the structure of its Work Programme with every new Framework Programme, whereas the basic elements of its work broadly stayed the same. The Panel was unable to find a convincing explanation for this practice.

For the benefit of the JRC and notably for its corporate positioning, planning and evaluation activities, it is recommended to develop a Work Programme structure that reflects the core activities of the JRC. Adaptations to changing political priorities have to be accommodated in substructures.

## **CHALLENGES FOR THE JOINT RESEARCH CENTRE IN THE FUTURE**

### **Strategic Positioning**

Since the introduction of its new customer-oriented mission the JRC has shown continuous improvement thanks to internal control on the mission alignment of the work. This has produced a step change in the performance of the JRC which is today certainly satisfactory. In this regard, however, the Panel felt that the organisation is reaching a performance ceiling and that it needs another step change to advance to a higher level.

For this next step change the JRC needs a fully fledged corporate strategy, building on an assessment of its current tasks and competencies and an analysis of the needs with a five-year time horizon. Such a strategy would provide the necessary reference for making the difficult choices in setting priorities in the Work Programme.

The Panel recommends that the JRC and its Institutes should establish a rolling a five-year strategy, formulate a vision with clear goals, analyse its assets making a proper representation of policy support areas and competencies, and adopt criteria for accepting or not accepting tasks and apply them rigorously.

The vision needs to distinguish three distinct types of activity in the JRC

- (1) The largest element: a collection of S&T policy support activities driven by a few big and several small and more irregular policy customers.
- (2) The Euratom commitment: a stable element within the JRC. It is, however, more dedicated to Treaty implementation than to policy support. It is arranged through a Euratom Framework Programme and a dedicated Work Programme Unit in the organisational structure.
- (3) Reference Materials and Measurements: also a stable element in the programme based on the JRC's expertise in this field.

It should bring the science and policy-support dimensions inseparably together and for this purpose the role of exploratory research in the JRC would be clarified.

The Panel recommends that the JRC should thoroughly re-evaluate the position and management of exploratory research and revisit the functions and the roles of the JRC Scientific Committee and Institute Scientific Committees so as to produce uniform procedures for the Institute Committees.

The Panel was somewhat surprised to see that the JRC mainly operates in a reactive “policy support” mode. It has the position, the knowledge base and the human resources to play a proactive “policy advice” role, in which it should, in a timely manner, draw the attention of policy makers to upcoming issues and indeed to become more involved in the early, agenda-setting part of the policy-making process.

In the Panel's view the European Commission would benefit from receiving proactive unbiased scientific advice from the JRC, identifying future problems, opportunities and needs of our societies, picking up signals from the scientific community and using horizon scanning

procedures based on the current state of knowledge from science, technology and the social sciences.

The Panel urges the President and the Commission to enable the JRC, with its links to university knowledge generation in the EU and worldwide, to exercise a proactive policy advice function. To function properly this would need, for example, the creation of an “Office for the Chief Scientific Adviser to the Commission” within the Commission Services, with a high-profile Chief Scientific Adviser responsible directly to the President and the Commission.

### **Human Resources**

Given the vital role that human resources play in the JRC’s ability to achieve its mission, strategic importance must be given to the recruitment of the best possible candidates and to their continued career development once recruited. Strategic resource management must reach beyond the recruitment phase of the new staff members and follow them throughout their career as permanent members of staff or during their stay as a member of the visiting staff.

The Panel is fully aware of the Staff Regulations for Officials of the European Communities and the Conditions of Employment of other Servants of the European Communities; but the Panel believes that the following improvements are feasible and necessary for the JRC in this field:

- More competitions for staff with an S&T profile that give the highest priority to specific competence. Currently the Commission still places too much emphasis on administrative knowledge even in these S&T competitions.
- Enough posts for the JRC to recruit top talent on six-year temporary contracts for which the selection is made by the JRC.
- An increased use and selection of grant holders (PhD, post docs and visiting scientists) for the JRC.
- The creation of possibilities for the JRC to develop a career path for scientists within the constraints of the Commission rules, e.g. by creating Senior Scientist positions parallel to the system for administrative managers.

The Panel recommends that the Commission should grant improvements allowing the JRC to adapt hiring procedures and career management schemes in keeping with the skills required.

PhD students have a revitalising effect on an organisation. The JRC provides a training ground for PhD students and in areas where there are demands for skills in Europe not met elsewhere (e.g. nuclear, reference materials, environment) the opportunities offered are very good. Some parts of the research programme are critically dependent on the work and availability of graduate students. This training policy has to be continued, but its implementation can be improved.

The Panel recommends that the JRC should develop a quality assurance system for graduate training with the aim of continually attracting talented students.

### **Modernising the Organisation**

Modernisation is key in a constant strive towards efficiency and effectiveness. The JRC needs a structured approach towards constantly modernising the organisation, paying attention in particular to infrastructure, management, organisation, and knowledge management.

In the wake of the Five-Year Assessment the JRC started building up mechanisms for coordination of the activities within the organisation. Further integration of the thematic and methodological competencies of the JRC is possible. The principal role of the vertical, “hierarchical” structures is to maintain these competencies. However, much of the actual work should occur in horizontal actions and programmes put together in a flexible way, backed by adequate financial resources according to the needs of the customers and research questions.

The Panel recommends that the JRC should continue building up efficient mechanisms for the coordination of the activities within the organisation. The mechanisms should be need and competence driven, and correspond to the trends adopted by the most successful research-based policy-support organisations in the world.

While much of the work over the past four years has already resulted in measurable improvements in the ICT system of the JRC, several strategic goals have not yet been fully achieved. JRC publications hold a wealth of knowledge that should be easily accessible to the external public; the only acceptable exception to open publication is an issue of EU or national security. In view of the large number of JRC researchers and the fluctuation of the temporary staff the organisation needs to use the most advanced Knowledge Management facilities.

The Panel recommends that all information exchange functions in the JRC, including the publications database PUBSY, should be upgraded. Contemporary knowledge management tools and methods to improve awareness should be used. These should include knowledge mapping tools.

The owner of large research facilities and infrastructure has to commit financial and human resources to something that may not necessarily be useful in the longer run. It also reduces the owner’s flexibility. In the long run simpler laboratories bring a higher cost-benefit ratio.

The Panel recommends that the JRC should start a continuous process for making a detailed short, medium and long-term assessment of the status of its research facilities and infrastructure with the aim to further enhance its efficiency and effectiveness. This should be part of an overall strategy.

### **CLOSING REMARKS**

The current evaluation allowed a high-level assessment of the JRC activities, but an assessment of the detailed policy support and the quality of scientific work would require more study of the JRC products and real interaction with its customers and stakeholders. More specialised evaluations would provide a better feed back to analyse the key competence areas and benchmark their success in research and policy support.

The Panel recommends that, in addition to the legally obligated high-level FP evaluations, the JRC should organise smaller, competence or sector-oriented external evaluations of its work. This will improve the positioning of the JRC in the relevant field.

These more specialised evaluations should also be used to assess the internal administrative and reporting processes in the JRC and to validate the “quality assurance framework for scientific and technical documents” and its implementation mechanism adopted by the JRC after the Five-Year Assessment of 2003.