

EURAB 05.014

**EUROPEAN RESEARCH ADVISORY BOARD  
FINAL REPORT**

**FP6 assessment with a focus on  
instruments and with a forward look  
to FP7**

April 2005

## 1. Recommendations

On the basis of the following report, EURAB makes seven recommendations:

**Recommendation 1:** EURAB recommends that the Commission should sharpen the present FP profile in two directions. One towards more specific mission oriented strategic research (e.g. the Joint European Technology Initiatives -JETI) and another towards bottom-up frontier research (e.g. the European Research Council), maintaining room for present bottom-up initiatives such as STREPS, and Integrated Projects.

**Recommendation 2:** As a result of the first recommendation the Commission should differentiate the various instruments used in the FP as well as the degree to which the details of the work programmes are predefined.

**Recommendation 3:** To respond to emerging needs and new trends the Commission should leave a specified room (i.e. 5-10%) of budgets in all programmes for new initiatives. This would supplement the current NEST activity.

**Recommendation 4:** NoEs should only be established in areas where there is a need to avoid fragmentation. The Commission should apply other mechanisms to decide whether NoEs in a certain area have added value.

**Recommendation 5:** To improve the participation of SMEs, the Commission should implement specific instrument, which are attractive to SMEs (e.g. industrial PhDs and equivalent of SBIR instruments). Particular attention should be paid to improving the information structures (e.g, National Contact Points) in the Member States for SMEs.

**Recommendation 6:** The Commission should refrain from making project budget cuts across the board and use the project evaluation procedures to make stricter selections (fewer projects).

**Recommendation 7:** The Commission and Member States should develop instruments for better coordination with national programmes and develop mechanisms for co-funding of horizontal activities.

## **2. A changing context for RTD**

In the last decade, research and technological development (RTD) and particularly industrial RTD have changed. The traditional model where universities, applied research institutes and industry have distinct and separate roles in a division of labour for knowledge production has broken down. The activities of these actors increasingly overlap and they increasingly work together. Many of the large corporations no longer have separate corporate laboratories that conduct medium to long term pre-competitive research. They have replaced their research activities with more business-oriented research units, while at the same time sourcing strategic knowledge available in other public and private research facilities all over the world. Although there is still a keen interest in fundamental and strategic research, industries' direct engagement in these activities – for instance through research programmes - has changed. In addition smaller companies have an increasing role in scientific and technological breakthroughs in emerging fields such as life sciences and nano-tech. The Framework Programmes (FPs) need to reflect these changes in the RTD context. There is a need to engage industry in strategic research along current business R&D models. There is also a greater need for a rapid reaction to technological challenges in certain technological fields as well as to specific emerging (societal) needs. The current set of instruments used in the FP lacks this flexibility.

## **3. The new instruments in FP6**

EURAB fully supports the conclusions of the Marimon Report. There is a general concern that industry participation is too low and the new instruments form an additional hurdle for industry and particularly SMEs to take part in FPs. Although EURAB in principle supports the objectives and the design of the new instruments, in practice their implementation was not in line with the foreseen goals. For instance the reduction of project budgets across the board as an answer to over-subscription, seriously hampered the project's goals and coherence. Another problematic issue is that the Commission tends to use the full scale of available instruments in all work programme areas. Not all instruments fit with each science field or application area. The Commission should take better consideration what type of instrument fits in which area, taking into account the scientific and technological challenges and the characteristics of the players involved in a particular field.

In line with the conclusions of the Marimon Report, EURAB support that the elaborated mechanisms (tools) should be adapted to specific fields. The situation is quite different in nuclear physics and, for instance, bio-medicine. In the former, efficiency requires concentration, large teams, and large scale; in the latter, the focus of interest and applications is inherently more dispersed and the main area generating industrial interest is the search for new ideas.

The Networks of Excellence (NoEs) have the objective to overcome the fragmentation in the European Research Area in various fields of science. However in the present

use of the NoE instrument in FP6, it is not always obvious that this objective was a key decision criterion for awarding these NoEs. EURAB proposes that NoEs are only set up in scientific areas where fragmentation poses a genuine problem and where stakeholders have indicated that the creation of an NoEs has an added value. Therefore the Commission needs other procedures and decision mechanisms to decide in which research areas NoEs have an added value. An option could be that stakeholder communities such as the Technology Platforms propose where an NoE is necessary, for instance in scientific areas where coordination would increase necessary synergy, where linkages between sub-areas are missing, or where there is a particular interest from industry.

#### **4. Reinforcing industry participation**

In order for European RTD to have an impact on growth and competitiveness, industry participation in the Framework Programme (FP) needs to be strengthened. This asks for a better involvement of industry in strategic research programmes and also a reinforcement of the problem solving element in the FP.

A survey amongst EURAB members suggests that there are a number of reasons for industry not to participate in the current FP. Heavy administrative and reporting procedures and too heavy tendering procedures were seen as the two most important reasons for industry not to participate in FP 6. The current contractual arrangements, in particular IPR, were also considered to form a disincentive for industry to take part. The third reason put forward was the lack of possibilities for industry to influence the research topics. The EURAB members considered that a combination of bottom-up approaches (STREPS, IPs, EUREKA type activities) as well as strategic exercises such as trend analyses and technology road mapping could help setting a research agenda relevant for industry. The Commission and the Member States should consider new tools to involve industry in strategic research. The *present and future platforms* can help set medium to long term research agenda's relevant for industry. In the implementation through Joint Technology Initiatives, it is recommended to establish competing projects rather than merging all activities in one integrated effort.

The low participation of SMEs remains an issue of concern. The traditional instruments such as STREPS and CRAFT need to be continued and receive an adequate share of the resources. However, simplification of participation rules is a key requirement to attract SMEs to these EU instruments.

CRAFT can be further improved and brought even closer to the needs of research-active SMEs through the following measures:

- The periods during which SMEs are in need of research activities are in most of the cases not longer than one year. Customers and principals want rapid results. That's why the procedure for the corresponding "calls for proposal" should be organised as previously in the form of an "Open Call".

- The payment of research grants must be adjusted to SMEs' shorter time perspectives. In addition to accelerating the release of payments, a deductible SME "start-up amount" should be taken into consideration and afterwards calculated into the overall budget.
- In general, the 2-step-application procedure in Collective Research can be considered a success, as the workload for submitting a proposal has been reduced for everybody concerned. But nevertheless, more funds and clearer Commission guidelines are required.

Suggestions to increase industry interest in Community programmes could be to set up a European version of the US Small Business Innovation Research Programme (SBIR) which can help bridge the gap between research and commercialisation. Other options could be to introduce industrial PhDs alongside experienced moderators to help bridge the cultural gap between industry and academia.

Furthermore, a better coordination between universities and SMEs is necessary: research for graduation papers or diplomas could be done on the spot within companies.

- An upgrade of the Marie-Curie-mobility programmes through an extension of the grants for scientific offspring to grants for scientists and their work in research institutions; Post-graduates, PHD-students, engineers, technicians carrying out innovation and R&D projects.

## 5. Instruments in FP7

The objective of FP7 is to offer to the scientific community, industry and European society in general, the set of tools ("tool box") that is necessary to strengthen and better exploit European research capacities, performances and results. From support to frontier ("investigator-driven") research to applied, policy-oriented, industrial and technological research and technology transfer.<sup>1</sup> EURAB endorses this idea of providing a set of instruments for different purposes. However, how this tool box is filled and organised needs careful consideration. The artificial split between research and innovation activities which seems to appear in the Commission's policy structures and instruments is counter productive for overcoming the European paradox. In many technological fields knowledge creation is a constant interactive process between frontier research and innovation. The FP instruments should incorporate this and not separate research and innovation in its instruments. EURAB supports the addition of instruments in two directions:

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<sup>1</sup> European Commission, (DRAFT) Proposals for a decision of the European Parliament and of the Council on the European Community 7<sup>th</sup> Research framework programme 2007-2013 and a decision of the Council on the Euratom 7<sup>th</sup> Research Framework programme 2007-2011: Building the Europe of Knowledge

- more mission-oriented strategic research initiatives where industry has a large role in defining the agenda and
- support of bottom-up frontier research through the establishment of the European Research Council.

To remain flexible and respond quickly to emerging societal or technological challenges, the Commission should hold a share of its budget (5-10%) available supplementing NEST.

In order to strengthen the mission oriented elements and create more focus and mass in European RTD, better policy coordination is necessary between the Community, the Member States as well as the regions. The Commission and Member States should develop instruments for better coordination with national programmes and develop mechanisms for co-funding of horizontal activities. International co-operation outside the EU remains an important feature of the FPs and needs to be continued in FP7.

