



Industry views on Research, Innovation & Education

Framework for reform – conference conclusions



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Conference conclusions

On May 12 in Brussels, the upcoming Swedish presidency of the EU opened a dialogue with industry representatives about how to improve the EU's policies for research, education and innovative industries. This is a summary of the conclusions.

Executive summary

The European Union faces major challenges to creating an attractive and competitive innovation climate. That it succeed is vital for the economy – and for its competitiveness in global markets. But the growing number of EU programmes intended to drive research-focused innovation appear to be at risk of disenchanting one of their most important constituents: industry. Far from increasing, industry participation in EU programmes is declining, according to research results. So what is to be done?

On May 12th, 2009, the Confederation of Swedish Enterprise, the Association of Swedish Engineering Industries, the Swedish Governmental Agency for Innovation Systems and the Swedish Permanent Representation to the EU organised a day-long seminar to ask industry about the problem. The focus was on developing concrete suggestions for improving the performance of the EU's research-focused innovation activities. The conclusions of the session, entitled "Industry views on Research, Innovation & Education initiatives" included these points:

- Involve industry more regularly in the planning of EU Research, Development and Innovation (RDI) priorities, and in the governance of RDI programmes, perhaps by following the example of the Strategic Research Agendas (SRAs) of European Technology Platforms (ETPs).
- Adopt a more holistic approach cross-cutting the areas of research, innovation and education when designing and planning specific funding instruments. To that end, improve communication between EU directorates and build upon existing good examples within thematic areas.
- Keep going with joint programming between the Commission and member-states, but involve industry in the process. Work on changing member state attitudes from "*what's in it for me*" to "*what's in it for us*" and thus indirectly for me.
- Make it easier for multinationals to involve their global R&D operations in the Framework Programme (FP).

- Bring more cross-disciplinary research into RDI programmes.
- Focus as much on cutting red tape and creating a well-functioning internal market as on conventional RDI funding programmes.
- Standardise and simplify the rules for all EU RDI programmes.
- The overall EU budget priorities need to reflect the ambition to become the world's most dynamic and competitive knowledge economy.
- Make use of the Lund conference, July 7-8, to plea for changing the Financial Regulation into allowing a certain amount of risk-taking of civil servants at the Commission in funding research-focused innovation.
- Bring controls back into proportion and make evaluations more cost-efficient and focus on whether overall results meet over-arching targets.

There was strong agreement that political will among EU institutions is crucial in order to walk the talk of policies. The current European Year of Creativity and Innovation is an obvious time for action.

EU research, innovation & education programmes – the report card

Since 1957, with the Euratom treaty, research policy has been a part of what is now the European Union. But in the past 25 years there has been an extraordinary growth in the funding, complexity and variety of the R&D, education, industrial innovation and related programmes. [See Annex] Four directorates-general of the European Commission manage most of this, though other DGs have related responsibilities. Most of their programmes are intended at least partly to benefit European industry. But do they?

Evidence presented at the conference suggests that industry participation within the Framework Programme is lower than that of universities and research institutes. In FP6, which ended in 2006, industry was involved in 3,794 projects. That compares to the 9,807 projects involving higher education institutions and the 9,607 projects involving research centres. Industry participation in the Networks of Excellence portion of FP6 was just 8%. In new member states, industry participation in these networks was virtually nil. Worse, industry participation rates appear to be declining further. The Commission has attempted to involve industry to a larger extent; and one particular challenge is how to attract Small and Medium-sized Enterprises (SMEs) to the programmes. But Neville Reeve, of DG Research, pointed out that there is wide variation by sector in industry participation. In the “Private for profit” sector the participation rate is quite a bit higher (around 25% for FP7). The evaluation of FP6 showed that the international dimension and long-term business alliances were important objectives for companies that do participate in the EU programmes.

DG Information Society and Media (Info) has also been analysing the impact of Information and Communication Technology (ICT) R&D projects within FP5, based on evidence from the field after the programme was closed. The industry participation was strong at that time; and the analysis shows that 80% claim that skills and competence were enhanced. More than 70% of commercial organisations report improved Research, Technology and Development (RTD) links with research institutes and universities. However, a more systematic approach is needed that cuts across innovation chains and open up new markets, according to Eric Badiqué of DG Info. A recent communication released by DG Info entitled “A Strategy for ICT R&D and Innovation

in Europe: Raising the Game” proposes a strategy to establish Europe’s industrial and technology leadership in ICT, to make Europe more attractive for ICT investments and skills, and to ensure that its economy and society benefit fully from ICT developments.

The Innovation Scoreboard is an annual exercise of DG Enterprise which compares the EU to the US and Japan. According to this, the innovation gap with the US and Japan has reduced. The EU is behind the US and Japan in R&D and IT investment. DG Enterprise also ran its Innobarometer survey of 2009. It showed decreasing business R&D expenditure, as a direct consequence of the economic downturn. Among the companies in the survey, 28% plan to cut their investment in R&D, whereas 12% claimed they will increase R&D expenditure due to the current situation. These results are taken seriously by the Commission.

Results from a study on Framework Programme impacts on industry in Sweden was presented by Lennart Norgren from VINNOVA. It showed that having a possibility to affect EU research agendas really does make a difference to the programmes’ impact on industry sectors. FP3 through FP6 has had a positive impact on the ICT and vehicle sectors in Sweden, he said. Competitiveness and technological development increased. For both these sectors, there have been possibilities to shape the research agenda. Persistence over time was also a key factor in the success for these sectors. On the other hand, the study showed the EU programmes had little impact on the life science and sustainable energy sectors – in part because of lack of direct relevance to those industries.

Anneli Pauli, Deputy Director-General of DG Research, recognises the Commission has several problems to tackle: “We have a long way to go and we are in the beginning. But it is a good beginning. The Commission is in a listening mode”.

Wanted: a better dialogue between industry and the EU

One of the major themes discussed during the day was how governance of the European Research Area could be improved by better dialogue with industry.

The message from BusinessEurope, the umbrella organisation for employers and industry federations, was clear: make maximum use of industry expertise in the setting of R&D and Innovation priorities in the Framework Programme. In the definition of R&D work programmes of industrial relevance, European Technology Platforms (ETP) have shown a lot of potential for generating high quality Strategic Research Agendas (SRA), thanks to the input of industry in particular.

Because of this good potential, the Commission could make broader use of the ETP methodology with a view to generating Strategic Research Agendas in other areas. It would be worthwhile to explore to what extent the ETP and SRA methodology could be used for defining the strategic research agendas for the Knowledge and Innovation Communities (KICs) to be set up by the EIT. Similarly, the ETPs could make an important contribution for implementing DG Enterprise's Innovation Action Plan.

Daniel Cloquet of BusinessEurope stressed that European business has invested greatly in the development of European ETPs and Joint Technology Initiatives (JTIs). This has contributed to defining R&D priorities, timeframes, and action plans on issues where growth, competitiveness and sustainability objectives require major medium- to long-term research and technological advances. The momentum created at business level should not be lost.

Recommendation: Involve industry in governance of programmes, perhaps by following the example of the SRAs of ETPs.

Magnus Madfors of Ericsson said industry-EU dialogue would also create a more coherent set of priorities for research and innovation. Companies set their priorities, and then they search for the right instruments to fund them. They can't start with the money and then figure out what to do with it. Nor should we twist the Framework Programme just to meet industry needs, because we would miss out on the public part of PPP for instance. Instead, in EU programmes, a good dialogue is required to match instruments to priorities of companies. Within one and the same company, the need for both short term and long term research projects co-exists. Innovation occurs throughout the whole value chain; and the route to market differs between companies. EU instruments should be able to handle this diversity. Through open discussion on how programmes are working, a more coherent set of priorities could emerge.

This message was reinforced by Andreas Hörnfeldt of Stora Enso. He said industry and the EU have a shared responsibility for the programmes' development. On one hand, the EU needs to be more responsive to new R&D needs of emerging industries as well as of traditional industries. On the other hand industry has a responsibility to look around for opportunities within the existing set of RDI supporting tools.

Jan van den Biesen of Philips argued that even though there is room for criticism regarding the Framework Programme, it is still a unique network that makes it possible for any company to contact any other company and say "Hey, do you want to collaborate on this topic, making use of programme X?". Everybody would know what you are talking about and that there are quite safe conditions to collaborate. Without the Framework Programme, this would be considered highly suspicious.

Recommendation: Create more opportunities for open discussion between the Commission and industry about RDI priorities.

Bridge the gap between policy areas

Another major theme was communication between EU agencies, and between Brussels and national authorities.

Policies implemented by DG Research, DG Enterprise, DG Info and DG Education all have an impact on the total innovation climate. Therefore a holistic approach is needed – for instance, when designing programme-specific financial instruments. Both the Commission and business should make sure that barriers between policy areas don't stand in the way of ERA.

Recommendation: Improve communication between EU directorates in the design of programmes and policy. Build upon existing good examples within thematic areas.

Communication between Brussels and the national capitals is another challenge – indeed, the divisions among EU directorates reflects the way most member-states organise their own ministries. The range of instruments on member-state level is too scattered, which makes work on a pan-European level difficult. More collaboration is needed – but this has to be on a voluntary basis. Each country focuses on “what's in it for me” when considering EU policies – and that is a point of view unlikely to change anytime soon. More joint programming would help, several conference attendees agreed. Joint programming also should explore the methodology of ETPs, bringing industry views on strategic areas into the planning.

Recommendation: Keep going with joint programming efforts between Brussels and the national capitals, but involve industry in the process. Work on changing member-state attitudes from “what's in it for me” to “what's in it for us” and thus indirectly for me.

Due to the current economic downturn, many policy issues are now on the table. These include access to risk capital, regulatory barriers to innovations reaching the market, the importance of a demand-side approach and the importance of the internal market for commercialisation of research. These are issues that should be a natural part of an innovation policy aiming to create long-term economic growth and a strong innovation climate. “We should never waste a good crisis”, said Bjarne Kirsebom of the Swedish Permanent Representation to the EU.

RDI-Eutopia – What matters most to industry?

In an ideal world, EU policy for research, development and innovation would operate very differently. These are some of the changes that, for the industry participants at the conference, would make a difference.

- **Open Innovation requires global interaction throughout the value chain**

The dominant new model for multinational R&D is “open innovation”, in which companies collaborate with universities, research institutes, SMEs, suppliers or even customers to develop new products and services. Mobility and access to skilled researchers are crucial for open innovation. Therefore, EU programmes need to become more internationalised to cope with this process, argued Erich Ruetsche of IBM. At present, it’s simply too difficult for multinationals to involve their non-EU labs or partners in EU projects – so many do not even bother. “I have heard that bringing in researchers from other parts of the world is possible, but frankly I don’t want to try”, he said.

The European Institute of Innovation and Technology (EIT), was put forward as a promising source of skilled researchers in the future. It is also a good example of a more continuous, long-term effort in EU support for innovation. Hopefully it could expand into covering several research areas in due time.

Recommendation: Make it easier for multinationals to involve their global R&D operations in the Framework Programme.

- **Increasing cross-disciplinarity within industry creates a need for new forms of collaboration**

Yet another issue was the importance of multi-disciplinary innovation. For instance, Andreas Hörnfeldt of Stora Enso said his company's R&D scope is broadening into electronics and nanotechnology. Magnus Madfors of Ericsson said his firm is looking into how different materials can be used for communication. Since one company can't do everything in-house, there is greater need for strategic partnerships. As a result, knowledge transfer is also becoming more challenging, said Maria Anvret of the Confederation of Swedish Enterprise. EU instruments must adjust to this new reality.

EIT seems to be out for a good start in its cross-disciplinary approach. As Reijo Aholainen of DG Education put it; "the longest distance one could possibly imagine could very well be between two professors".

Recommendation: Bring more cross-disciplinary research into RDI programmes.

- **Encourage SMEs through lower regulatory barriers to reach the market**

Support for small and medium enterprises should come, not from policies targeted exclusively to them, but from policies that improve the overall innovation climate for everybody. "SMEs don't need specific policies; they need good policies. Because bad ones tend to hurt them more", said Jonathan Zuck of the Association for Competitive Technology.

This was also the view of Nigel Parker of Ark Therapeutics, an Anglo-Finnish biopharma start-up that relied heavily at the outset on EU and national grants. In fact, he said, there would have been no Ark without that early support for its cutting-edge gene therapy research and it would not have been possible to build the Company to being a leader in gene based medicine without continued support from the same grant sources. But, he cautioned, nowadays grants alone aren't enough. More important in the short to medium term is the regulatory climate. Due to increasingly heavy pharmaceutical regulation, he said, the cost of getting new drugs to market has soared. If the EU really wants to encourage innovation in the life sciences sector, it should address market access.

In this context, the holistic approach to innovation policies deserves to be mentioned again. The EU does not need merely a good innovation strategy, said Jonathan Zuck. Companies do not have an innovation strategy; they have a strategy. Innovation simply needs to be brought to the centre of “the EU strategy”, he argued.

Recommendation: Focus as much on cutting red tape and creating a well-functioning internal market as on conventional RDI funding programmes.

- **Simplicity and variety**

Simplicity is also on the wish list for companies. At present, between different programmes, there exists a great variety of application procedures, cost-eligibility and cost-reporting rules. What you learn from one programme may not be specifically useful for another. Though each programme has to be able to work according to its own goals and may have instruments that are specific to that particular programme, a standardised set of financial rules and procedures used by all EU RDI programmes (e.g. what are eligible costs and how are they reported) would help, argued Bruno Lambrecht, of K.U.Leuven Research & Development.

Recommendation: Standardise and simplify the rules for all EU innovation programmes.

- **Flexibility**

Apart from variety and simplicity, flexibility is also important in the equation - especially for SMEs, Jonathan Zuck argued, since their environment is constantly changing and they need to act rapidly. Also Jan van den Biesen pointed out that quicker ways to form public-private-partnerships are necessary. It took four years to form the Artemis JTI, which is too long. It is understandable that the first batch takes time; but for the future, faster formation of partnerships is vital. In the current

construction, JTIs have the status of Community bodies which means that EC finance and staff regulation must be applied. “This means that one partner dictates to the other; you have to live by my rules; that is not really a partnership”, he continued. “In spite of these problems, we are happy that through the joint efforts of all stakeholders we managed to set up these first JTIs; however, for future JTIs a better approach is needed”.

Recommendation: Faster formation of PPPs.

- **Walk the talk of policies – overall EU priorities need to change**

At the most fundamental level, many industry representatives said, overall EU priorities must change. Jan van den Biesen called it illogical that the EU has invested more in agricultural support for the tobacco sector than for health research, as was the case until quite recently. Maria Anvret said: “To achieve competitiveness, we should look into the way money is applied and used in order to make a difference”. The message from industry is to invest in the future, not in the past.

Recommendation: The overall EU budget priorities need to reflect the ambition to become the world’s most dynamic and competitive knowledge economy.

- **Reform Financial Regulation**

Industry was also concerned about the issue of the Financial Regulation that applies to all activities of the Commission. Currently, EC civil servants are personally liable for the mistakes that they make. That doesn’t really help when it comes to the Commission being willing to take risks, Jan van den Biesen pointed out. “We can’t just all wait for the Commission to make another mistake. Instead, a more trust-based and risk-tolerant approach is needed for funding research and innovation. This will need adaptation of the Financial Regulation, which will require the cooperation of

Commission, Court of Auditors, European Parliament and Council to make this possible”, he continued. The upcoming Lund conference was highlighted by Jan van den Biesen as an opportunity to make a call for change in this direction.

Recommendation: Make use of the Lund conference, July 7-8, to plea for changing the Financial Regulation into allowing a certain amount of risk-taking in funding research and innovation.

- **Get control back into proportion**

Spending millions on controls, checks and balances in the RDI programmes might be politically understandable, but it sure is not economically defensible, Jan van den Biesen argued. Furthermore, several voices in the crowd argued for increased simplicity and transparency. Bruno Lambrecht suggested that defining “activities” (in the meaning of the Financial Regulation) to be evaluated in a more general and over-arching manner could be a key to increasing simplicity. The overall results and efficiency in achieving targets should be in focus.

Recommendation: Bring controls back into proportion and make evaluations more cost-efficient. Focus on whether overall results meet over-arching targets.

Concluding remarks

Bjarne Kirsebom made some concluding remarks on what was said during the day – and on what was not said. He reflected that education had been mentioned only a couple of times whereas research and innovation was frequent in the discussions. “When talking about the knowledge triangle, we should not forget education”. We all agree on its importance, Kirsebom remarked.

Kirsebom then pointed out the large interest and expectation to make larger use of ETPs and JTIs and also to make use of their methodology when designing research and innovation programs. This is much like what actually is the case currently, but it could be intensified, he said. We also need to find a way to include emerging technologies in the programmes.

It was observed by both Commission representatives and industry representatives that despite the interaction there is between policy areas, much more is needed. This applies both to the national and EU-level.

The FP role in a global context was elaborated on during the day, Kirsebom continued. The need to make FP truly global since companies need global skills will raise interesting challenges to EU-policy makers. The questioned that this would lead to is “How to make sure that European results of a global FP could be exploited in Europe?” It is the same question as how to make Swedes want to put money into research performed in Holland. Well, perhaps we would all benefit from it, Kirsebom concluded. Therefore it is important.

The exposé of instruments made by van den Biesen illustrates that we have a case for doing something about governance of education, research and innovation. We want a reasonably efficient European structure of programs. The structure is currently quite complicated. Hopefully, the next presidencies will find a way to change this, Kirsebom ended.

ANNEX

The EU research-based innovation landscape

To outsiders, there is a bewildering range of EU programmes and policies on innovation, involving several different parts of the European Commission. Here is a primer.

The Framework Programme is managed mainly by DG Research. It is the major R&D supporting programme and has been around for 25 years. The current Framework Programme 7 spans 2007-2013 and has a budget of €53.2 billion. FP7 is divided into four different categories. Cooperation is the largest component and aims to encourage collaborative research. The Ideas programme provides support for basic, investigative research. The People programme supports mobility and research career development of researchers. The Capacities programme aims to strengthen infrastructure and knowledge regions. Funded through FP7 are also the ETPs and the JTIIs. They are led by industry and each has its own SRA. Their ambition is to cover the whole economic value chain through effective public-private partnerships. A major review of FP7 is underway, with an eye to formulating plans next year for the next generation of Framework.

DG Enterprise and Innovation leads the Competitiveness and Innovation Programme (CIP), which aims to encourage innovation activities primarily within small and medium enterprises. It consists of three operational programmes; the Entrepreneurship and Innovation Programme, the Information Communication Technologies Policy Support Programme and Intelligent Energy Europe. DG Enterprise supports interaction also through the Europe Innova programme, launched in 2006. It aims to provide a laboratory where new tools and instruments can be tested. The approach is sector-based, bringing together public and private innovation support providers, business clusters and standardisation practitioners in networks. Pro Inno Europe aims to improve innovation support through mutual learning at national / regional and EU level. In order to stimulate the demand-side of innovation, the Lead Markets Initiative was launched by DG Enterprise two years

ago. In the context of the Lisbon Strategy, an Innovation Action Plan is currently being formed and will be presented by the end of this year. Also, a broad based innovation strategy has been formed and is soon to be announced.

DG Education and Culture manages several policy strands. Its Lifelong Learning programme, an umbrella for education and training programmes, has a life span coincident with FP7 and a budget of €7 billion. The programme adds to mobility through supporting individuals to pursue education and training across all of Europe. The directorate-general also has the main responsibility for the new EIT. EIT will function as a more permanent addition to strengthening the knowledge triangle within the European Research Area. The approach is cross-disciplinary so that the synergy of different research areas can be fully exploited. The EIT is organising industrial, research and educational partners into KICs. Calls for proposals to form KICs have just been published, and the first is scheduled to be operating in 2010.

DG Info administers ICT research under the Framework programme. In FP7, the largest single portion of support is attributed to ICT (over €9 billion). Both basic research and ICT for applications within healthcare, road safety and industrial competitiveness are supported. A complementing initiative is the Future and Emerging Technologies initiative which aims to encourage innovative, high-risk ideas that would add to the competitiveness of EU. In order to focus EU's investment in innovation and research in ICT, the i2010 strategy was formed. The first of the three overall aims of the strategy is to create a single European Information Space to promote an internal market for services related to information society and media. The second aim is to strengthen investment in ICT research. Thirdly, i2010 aims to support better public services and quality of life through the use of ICT. The i2010 strategy was launched in 2005 and was updated in 2008, following a mid-term review. In the Lisbon Strategy i2010 is a key element due to the importance of ICT in today's economy.



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Teknikföretagen

