

## A EUROSCIENCE STATEMENT



19/05/2011

EUROSCIENCE'S POSITION ON THE PROPOSED EU COMMON STRATEGIC FRAMEWORK FOR RESEARCH AND INNOVATION



# A Euroscience STATEMENT

## ON THE PROPOSED EU COMMON STRATEGIC FRAMEWORK FOR RESEARCH AND INNOVATION

### INTRODUCTION

In this document, Euroscience presents its views on the EC Green Paper on *the Common Strategic Framework for Research and Innovation*. The EC has organised a consultation and Euroscience welcomes this involvement of the community at large. We find it important to respond as a grassroots organisation with a membership across 40 European countries.

The EC poses 27 wide ranging questions. Euroscience has chosen to respond by addressing a number of specific issues, which in our view are at the heart of the discussion. A principled discussion on the essence of EU policies and instruments should be had with the community.

#### Radical changes?

Despite the radical proposals we have been promised in the invitation to the consultation, they are not easy to distil.

One of the few specific proposals is the intention to 'merge' a large number of policies and instruments dealing with research, technological development and innovation, and, partly, even higher education. This sounds radical, but without concrete proposals as to how this would be achieved it is not a good basis for discussion.

Without proposing specific solutions or asking the key questions, consultations risk provoking reactions, which will be very incongruent allowing for, at best, selective shopping.

Apart from the merger, the Green Paper does not give the impression of a radical re-thinking of the EU research and innovation policies.

Yet, this is the first priority, based on answers to the question of how to delineate responsibilities for research and innovation policy at the European, the national and the regional level. We come back to this very important theme when we discuss the first question below.

#### **Buzzwords to legitimise European interventions: subsidiarity, European added value**

We wish to address the issue of two key "buzzwords" used when seemingly legitimising European interventions: *subsidiarity* and *European added value*. **Subsidiarity** might be used in a very narrow sense - what can be done by member states or national organisations, should be done by them. Applying this rigorously might lead to a much clearer demarcation but this is not how member states have chosen to interpret it. On the one hand they have used the principle in the past to defend, for example, national predominance in the area of large research facilities. On the other hand they have been bold in adding objective after objective into the Framework Programme and the Competitiveness and Innovation Framework. This overloads and de-focuses the programme. Many of these added objectives can be achieved by individual member states. Moreover, in a time where member states increasingly think in terms of intergovernmental cooperation, the principle

becomes even more inconclusive as to where the responsibilities lie: member states, the EU or some form of intergovernmental cooperation.

A high level of voluntarism in the application of the subsidiarity principle is the best way to describe past and current practice.

Interpretation is no better with **European added value**. Whether one reads research proposals claiming their European added value, or EC documents doing the same, one is struck by the extreme flexibility of those words. Does a collaboration of 12 partners from 12 countries, by definition, have European added value and a proposal by one researcher never, unless he/she perhaps tackles and solves one of Europe's Grand Challenges?

Is there a way that the concept could acquire even the slightest quantitative connotation? Clarifying EU responsibilities and national responsibilities for research and innovation is urgently needed, but must be done in concrete terms, not vague principles.

These are reasons why Euroscience feels that, as a starting point, it is time to address a much more practical question which takes into account the way member states, but also other countries across the World, have built up their policies and institutions in the area of science, technology and innovation.

What can better be done at a European level, given arguments backed up by practical experience in the world, and what should best be carried out by individual countries or even regions?

That is the first issue Euroscience will discuss below.

## Merging

Attention must be given to the proposal to merge (in a form not yet clear) the various frameworks, policies and regulations. The European Council has endorsed the 'merging' of the €B 53.3 Framework Programme for RTD (FP), the €B 3.6 Competitiveness and Innovation Framework Programme (CIP) and the €B 0.3 EIT activity into one Common Strategic Framework. The net is cast even wider - the large support from Structural Funds for innovation and research related activities, similar support in the context of the Rural Development Fund (which is part of the Common Agricultural Policy), as well as non-funding type of policies and measures will all be part of this Common Strategic Framework for Research and Innovation.

Euroscience agrees that conceptually it is a good idea to define EU policies for research and innovation in a comprehensive way.

It allows for, and hopefully leads to, more conceptual clarity with complementarities and synergies becoming much more visible and effective. Studies into the effectiveness and efficiency of a cluster of related measures and instruments might be more useful than investigations of individual measures. It should also lead to a considerable streamlining and simplification, not only of the rules and procedures, a necessity now widely recognised, but also of the instruments and the mechanisms the EU has adopted over the past decades to support research and innovation. Simultaneously,

one has to realise the enormous variety of goals and instruments covered by these various programmes, and their huge differences in scope and scale.

The range stretches from the European Research Council (ERC) to capital access for

SMEs to assistance to cities to reduce energy consumption in public transport. Obviously, their implementation often requires completely different capabilities and expertise. The context in which they are decided may also vary widely: how to spend Structural Funds is, for instance, largely determined by the individual member states. This makes the idea of merging the implementation of all of these schemes daunting, to say the least. In addition, the wide range and the sometimes small scale of all the different (sub)programmes raise our key question: since many member states have similar programmes in place for the support of innovation, demonstration and dissemination,

what should really be done at a European level? Do these (sub)programmes have sufficient critical mass if a European intervention would be warranted?

### Question 1: What should really or best be done at European level? And what belongs to national or even regional levels?

#### Key principles

All discussions about European support for research and innovation should bear in mind four important principles which have all been learnt or are being learnt at a national level.

- ❖ The aim should be for excellence, where the exact meaning of excellence depends on the specific programme under consideration.
- ❖ The rules should be simple and administrative burdens as low as possible.
- ❖ Open competition is vital, which at a European level means that there should be no 'juste retour' mechanism, whether overt or covert.
- ❖ The instruments themselves must be stable, both when addressing frontier research or the large societal challenges where a

medium-to-long-term commitment is necessary. That is not a plea for 'no changes anymore', but changes in instruments every four years (of course FP 7 has introduced already more stability with its 7-year cycle) and support for, at most, four years are incompatible with ambitions to really make inroads into these major challenges.

#### Basic vs applied

When the discussions about the European Research Council (ERC) were reaching their apogee, Euroscience issued a position paper with one clear message. The EU was doing almost exactly the opposite of what one would expect, it stated. The FPs are very much focused on application-oriented research, which in many cases should be dealt with by national governments, and they leave the area of support for basic science to national governments. There is solid evidence that competition leads to higher quality results if you enlarge the catchment area and the peer review system accordingly. Of course, things have evolved since that Euroscience statement. In particular the ERC has been established precisely for the argument just mentioned. It is one example of taking established international experience into account in developing policy and instruments. Extending this to the whole of the current FP is now important: what should be the key responsibilities of the EU with respect to **research and technological development?**

A few issues would seem to stand out, in particular, application-oriented research.

Application-oriented research should, in many cases, be dealt with by national governments.

#### ERC

One issue is the support for the ERC. Excellence-driven as it is, it needs the widest

possible geographical scope. It has so far proved to be able to live up to its task, although it needs a significantly enlarged budget. The ERC has recently added a potentially very useful new scheme, the Proof-of-Concept grants to which only a small part of its budget will be devoted. It should remain so, but it may provide an important mechanism to investigate potential commercial or societal relevance of breakthrough research results. In due course, the ERC might also consider supporting excellent teams. This could strengthen the European university infrastructure by enabling outstanding graduate schools to attract doctoral students, from other European countries and from elsewhere, through a high-level competition.

The excellence-driven ERC needs the widest possible geographical scope and an enlarged budget.

### Crucial societal challenges

Secondly, the EU should provide ample funding for medium-to-longer-term initiatives to address the key crucial societal challenges. This should have higher priority than funding a large number of smaller cooperative projects or coordination/network schemes. How many challenges that can be taken up depend on the amount of national funds that can be efficiently leveraged for these programmes. They should not be identified in a purely political/bureaucratic approach as is now the case with the Joint Programming Initiatives. Rather a mix of top-down and bottom-up steps should lead to their identification and prioritisation. They should take the form of broad areas of issues - or problem-orientated research in relevant fields.

EU should provide ample funding for medium-to-longer-term initiatives to address the key crucial societal challenges. A mix of top-down and bottom-up steps should lead to their identification.

A good example is the agreement of key Comprehensive Cancer Centres (CCCs) in Europe to work together in an effort to create a platform for translational research in Europe. Only then can increasingly complex biological and clinical questions be addressed, methods be harmonised and a complementary infrastructure be developed. It is also clear that if such an initiative would be supported, its implementation does not require complex governance structures involving government civil servants and regular decisions in the Competitiveness Council, which is going to be the case in the Joint Programming Initiatives. Humanities and social sciences should, by definition, be integrated in truly interdisciplinary research approaches (including attention on ethical, IP or regulatory issues), as insight in and effective strategies for the behaviour of individuals, societies and institutions are integral to tackling these problems with their numerous stakeholders. There should be a mix of basic research, solution-driven research and technology developments. Investigating economic feasibility of solutions is crucial. There are already far too many organisational structures which relate to such societal challenges e.g. the Joint Programming Initiatives (JPIs), the Joint Technology Initiatives (JTIs) or the Public-Private Partnerships (PPPs). These are discussed in the section on instruments.

The considerable overlap and the diversity of conceptual ideas underlying the schemes (JPIs, JTIs, PPPs, etc.) make it very difficult for them to be effective vehicles for an effective and large-scale European research effort.

### Infrastructures

The third area upon which EU research funding should concentrate is research infrastructures. Much attention has been given over recent years to identifying additions to the set of existing European, in contrast to national, research facilities, especially through the ESFRI Road Maps. The last FPs have supported access, cooperation design studies and some very small investments (limited by the available funds and by the condition that at most 10% support is allowed). However, what is really lacking is a European mechanism to provide financial support for new research infrastructures. Some may argue that the EU should provide a threshold percentage, say 30%, of the investment costs of the large infrastructures. For the smaller and medium-sized facilities, the national funding agencies or research councils would be much better placed to finance these in a “variable geometry” approach, thereby removing the need for complex political discussions. Others prefer an EU contribution to the operational costs. Both methods would simplify and accelerate decision making considerably. Of course a solid mechanism must be in place to decide on priorities and to ensure quality, with ESFRI there is at least a basis for this. In addition, the access support should continue - every researcher should get access if their research proposal has passed the quality threshold of a research facility.

A European mechanism to provide financial support for new research infrastructures is currently missing.

### International cooperation

To support the global ambitions and visibility of the EU, international cooperation is another important element of research support. As in the case of the grand societal challenges, strategic decisions, as which regions and countries in the world to focus on, are needed to ensure critical mass. Apart from the obvious

focal areas, including the major emerging economies as well as the need to be visibly active in a tripolar world of North America, Europe and Asia, Russia on the one hand and Africa on the other would deserve special European attention. Goals may vary: addressing global grand challenges, capacity building, supporting diplomatic initiatives, linking with new G8 initiatives, etc. Financing will, in most cases, be a shared responsibility. Other regions are prepared for this and often use less bureaucratic rules as the Russian Foundation for Basic Research illustrates. Making sure there is critical mass is vital if these cooperative programmes are to truly be about doing research and technological development and more than exchanging scientists and students or support for conferences (which may of course serve a useful purpose as part of a larger scheme).

More funding, more focus, clear strategic goals and simpler implementation mechanisms are also needed to counter the reluctance of quite a few non-EU countries and regions which find it difficult to collaborate with the EU and therefore prefer direct collaboration with member states.

### Marie-Curie scheme

The Marie-Curie scheme has proven its value time and again. It must be maintained and should be expanded, including perhaps the possibility to do research outside the EU.

### Non-financial research support

There are non-financial measures that should be taken at a European level to support research and effectively enable the true realisation of a European Research Area. They concern portable social security schemes, portable pension schemes and recognisable and explicit career development

arrangements which would make it easier to build a career with periods in different countries.

Euroscience is of the opinion that the member states, the European Parliament and the Commission are not serious when they believe that a European Research Area can be realised without significant progress in the areas of social security, pensions and careers.

We will not go into detail on other important fields where action at the European level is crucial, such as legal regulations (with respect to ethical or environmental issues, for example) or codes of conduct, as these are not disputed. However, we must emphasise that as one of the most significant research funders in the World, the absence of a clear policy on research integrity must be addressed.

The 2010 Singapore Statement on Research Integrity sets out universal principles and responsibilities that could easily be adopted into ERA and FP conditions.

### **Innovation**

When it comes to **innovation** there is a considerable body of knowledge and experience on how governments can support innovation and at what level (in Europe's case: European, national or regional) this is best achieved. Overall, it is widely accepted as good practice to concentrate at the national or regional level most of the innovation support measures: tax exemptions, repayable support for risky development projects, facilitating regional clusters of firms, educational and research institutions, financial institutions, public sector agencies. That does not mean that at the EU level there are no important things to be done.

Regarding EU financial support, the same key societal challenges should figure prominently. In the programmes addressing these challenges, a variety of often well-tested measures could be built in to stimulate the innovation (across the whole gamut of new products, production processes, new services or new delivery methods of services including public services, new physical infrastructures etc.). These measures include, for example, support for collaboration between academia or research institutes and industry, repayable support for new developments, pre-commercial procurement or support for technology transfer. A suitable package of these and other support measures should be part of the design of the programme that addresses a particular grand societal challenge. However, it is in the nature of innovation that most of these will not actually be part of the programme since, for most innovations, a proprietary phase is necessary. This is a phase in which usually no government support is allowed.

It is widely accepted as good practice to concentrate most of the innovation support measures at the national or regional level. Regarding EU financial support, a suitable package of measures should be part of a programme's design that addresses a particular grand societal challenge.

A second method to support innovation would be to introduce, at the European level, something similar to the successful Small Business Innovation Research (SBIR) programme in the US. Several EU countries have established their own versions of the SBIR programme. But, as with the ERC, it would make good sense to try and trigger real breakthrough innovations in a European competition. Though Europe lacks the equivalent of the US agencies and Federal laboratories that carry out the SBIR programme, it may well be possible to include

a SBIR component in each of the large programmes addressing key societal challenges. That would also be a natural way to involve SMEs.

Promoting societal innovation (with a focus on, for example, new ways of delivering public, largely government services) could equally be achieved as part of these programmes. Limiting the number or the scope of targets by using more specific and restricting language, should go hand in hand with specifying the instruments proposed to attain those targets.

In addition, access to capital might be an issue if it can be done at a sufficiently large scale. The current Competitiveness and Innovation Programme does not seem to have this critical mass.

Most other useful EU-level interventions to spur innovation would be of a non-financial nature: the European patent (on which finally significant progress has been made, though two large countries will not cooperate with the language regime adopted by the others), pre-commercial procurement, environmental and safety regulations etc.

Euroscience has intentionally focused attention on a relatively black-and-white picture of European-level responsibilities because this seems to be the only way to bring back the focus of creating a realisable European Research Area. It is essential for Europe collectively and as individual member states to respond to the ongoing American challenge and the rapidly emerging challenge from Asia.

Besides introducing the successful Small Business Innovation Research (SBIR) programme at a European level and promoting societal innovation, most other useful EU-level interventions to spur innovation could be of a non-financial nature.

### Question 2: What should be the balance between the key components?

Before discussing the balance, it should be clear that the ambitions expressed time and again by the EU at the level of the European Council, require a much higher level of investments in STI. It is remarkable that it is generally accepted that spending on defence is an investment, whereas spending on science and education is generally (especially by finance ministries) still seen as consumption and subsidy. Fiscal austerity may be in vogue, and even this is debatable, but even within those constraints there is room for manoeuvre. Europe needs to invest in smart people and smart ideas, products, processes, services and infrastructures. We need only look at examples in Asia to see that the knowledge-based economy is backed by substantial government investment in STI.

How come it is generally seen as an investment to spend money on defence, whereas spending money on science and education is often seen as consumption and subsidy?

### The balance

As to RTD, assuming as a provisional target that during the next seven-year period (2014-2021) of the new Financial Perspectives an average €B 11 would be available for research. The current spending level in 2010 or 2011 is in the order of €B 8 per year so we have factored in inflation and an increase

in real research investment. Of these €B 11, €B 4 could go to the ERC including Marie Curie, €B 1 to research infrastructures, €B 5 to a few key societal challenges and some €B 1 to international cooperation. To add some continuation of cooperative projects and networks, the balance would change somewhat. It is not easy to tag numbers to supporting innovation. One needs to define the key measures in line with the arguments given before. Even then, innovation support would be part of the programmes addressing key societal challenges. For the SBIR-type components, one might set a target of possible 5% of the relevant budgets, which would amount to something in the order of €M 250 per year.

### Question 3: How important is it to cover the full innovation cycle?

The EC would be well advised not to indulge in terms which seem to be full of meaning but on closer inspection are more mystifying than clarifying.

What is the full innovation cycle? Why is it a cycle in the first place?

Euroscience agrees that it is conceptually useful to present both nationally and at EU level an overview of all the activities to support research and innovation, including non-financial issues such as legislation, and dissemination of results in society at large. But in the end it is the practical questions which count: how best to support R&D? How to support innovation in a combination of financial and non-financial stimuli as discussed above? How to make sure Europe has the educated work force it needs? Each of these questions can be addressed by measures which are not necessarily linked. Where they can be usefully linked it should be done. However, a university has a different mission (requiring a proper environment and long-term priorities in research funding) from a

company or from a sector-orientated research institute that works in close cooperation with companies in its particular field. It does not mean that organisations with a specific remit should not consider how they could contribute to the other goals - universities are increasingly doing so - linking their essential roles, teaching and research, to the world of innovation through joint projects, strategic alliances or technology transfer-activities. Another good example is that of the ERC, which is experimenting with its Proof-of-Concept programme without compromising ERC's main mission. There is no doubt that programmes addressing key societal challenges in their design will have to comprehensively identify what is needed to make real progress. This may involve basic research, solution-driven research, technology development, new educational programmes, regulatory measures, a SBIR-like component, pre-commercial procurement, etc. One cannot prescribe a fixed set of measures for each and every programme. The EIT so far seems to have found an interesting way of addressing research, education and innovation in bringing together various stakeholders while respecting their roles, as the designs for the three initial Knowledge and Innovation Communities (KICs) have shown. But the KICs face two key problems: 1) lack of money (hence a concentration on planning, coordination and some training activities) and, partly as a consequence, 2) difficulties in maintaining the commitment of the partners. This demonstrates that designing interesting new schemes without providing adequate financial means is not advisable.

The EIT seems to have found an interesting way of addressing research, education and innovation in bringing together various stakeholders while respecting their roles.

#### Question 4: What should be key instruments?

In line with focusing on key issues as discussed in answering our first question above,

a considerable streamlining and simplification in the number of instruments is very important

#### ERC

The ERC exists, works well and should be allowed to follow its own evolution and achieve full autonomy to make this possible. It should receive increased support to meet the demands being placed on it.

Some redesign would be of great value, especially for the programmes/activities addressing key societal challenges. We now have Technology Platforms, of which some have been followed up by Joint Technology Initiatives. The three Knowledge and Innovation Communities (KICs) of the EIT, the all-encompassing Sustainable Energy Technologies plan (SET), under which six European Industrial Initiatives have already been formed and the first Joint Programming activities have also been approved, at least on paper. Many more will follow judging by the list of themes agreed and all should again be different from the EUREKA clusters. As mentioned above, a very careful design is necessary in a mixed top-down and bottom-up approach. The Lund declaration of 2009 provides some useful indications to what needs to be taken into account. The complexity arising from mixing up responsibilities and roles of universities, research institutes, hospitals or companies with those of government civil servants and ministers makes for rather unwieldy governance, as the governance structure experience with the JTIs, SET and the Joint Programming Initiatives demonstrates. Reducing the role of government officials in governing structures of the resulting programmes is warranted.

Some redesign would be of great value, especially for the programmes/activities addressing key societal challenges as well as reducing the role of government officials in governing structures of the resulting programmes.

#### Marie Curie

For the Marie Curie programme the same holds as for the ERC: it is there and it works well. It may be appropriate to turn this into a programme of the ERC. The national funding agencies in Europe all handle the same combinations of programmes.

#### Research Infrastructure

For Research Infrastructures one would have to find a mechanism to select projects eligible for EU support and to co-finance construction or operations. The instruments for access, coordination and design studies are there.

#### International cooperation

For international cooperation at a large scale a new instrument is needed: the current one (under the Capacities part of FP7) is not suitable for larger strategically defined programmes. The two calls which have been issued so far, in 2008 and 2009, were very short-term (each for one year only), and there was little money involved (€M ~10).

The large variety of instruments which are (or were) aimed in the first place at coordination, such as ERANets, Networks of Excellence and Open Coordination, have not been very cost-effective, as the European Commission admitted in its communication on Joint Programming. These should be reviewed and, unless there are exceptionally good cases for their retention, they should be discontinued.

New instrument is needed for international cooperation. The large variety of instruments which are aimed primarily at coordination have not been very cost-effective.

### **Risk-sharing finance facility**

The Risk-sharing finance facility which is a joint activity of the EC (funded through FP7) and the European Investment Bank, is very successful, and needs to be continued. But as everyone now realises, it is not an appropriate instrument for financing investments or operations for research infrastructures. There are a few examples in which this facility has been used to co-finance investments in research organisations (CERN was the first one) but in almost all cases it concerns investments by companies. This is useful, but the reason why it does not work for research infrastructures is fairly simple - if there is no serious earning capacity in the project, there is little reason to take a loan. It is therefore a facility that belongs more to the realm of innovation by making capital available. The current Competitiveness and Innovation Framework Programme contains possibilities to ensure that companies, especially SMEs, have better access to (commercial) capital but one may ask whether this instrument is of sufficient size despite the large leverage factor of the EU money.

For the remainder, financial EU support for innovation should largely take place in the context of the programmes addressing key societal challenges, and through a SBIR-like programme that itself could be organised in that same context, as suggested above.

The risk-sharing finance facility is very successful and needs to be continued.

### **Question 5: Should the role of industry, in particular SMEs, be strengthened, and how?**

This question can best be addressed in the context and the logic of what better can be done at a European level and at a national level. Answering it in a general way leads to one obvious danger, which often materialises in reactions by employers or industry organisations - namely that industry (but the same would be true for universities) have a right to a certain share, say half, of the budget of the FP.

Recent studies show that providing more public money to industry does not necessarily help industry close the gap with the USA and Asia in industrial R&D expenditure.

Studies of large samples of the most innovative (i.e. in R&D spending) companies in the US and Europe show that the gap is the result of the fact that in Europe there are fewer young companies (founded after 1975), which are smaller, and are active in industrial sectors with lower R&D shares.

How to create conditions to make young companies grow fast is one overarching question that needs to be addressed.

Where possible, one should involve industry and sometimes industry must be in the lead. But one needs the specific mission and context of a programme or an activity before one can usefully answer the question whether it is possible to involve industry, and if so, how. Thus, we propose to follow some of the key components as presented in the answer to our first question.

In the ERC, industry obviously does not play a central role. This does not detract from the usefulness of the ERC as its function is different, but it has established a possibly

important mechanism (its Proof-of-Concept grants) to enable new industrial activity.

In research infrastructures, industry's role will also be limited, except of course as contractors in the construction phase, and increasingly as beneficiaries of the research being carried out at such facilities as well as through the use of data gathered by such infrastructures. Nationally and locally it may be possible to think of public-private partnerships, for instance to establish a joint molecular library. But for European research infrastructures this will be very unlikely to happen, as a glance of the ESFRI Road Map list shows. Using research infrastructures often happens in teams in which a company collaborates with a university scientist, but increasingly new research infrastructures will need to consider how they give more direct access to companies.

The situation is very different in programmes and activities addressing key societal challenges. Here companies play an important role both in defining priorities and developing solutions and technologies. Future energy provision, transportation, green construction and installation, medicine or carbon footprint reduction through new industrial technologies are all illustrative examples. As mentioned, the KICs have found a reasonably good mix between academic research, industrial research innovation and training as well as the roles of research institutes, universities and companies in carrying out these activities. In JTI or the SET framework industry is heavily involved, and this should continue.

Companies play an important role in programmes and activities addressing key societal challenges, both in defining priorities and developing solutions and technologies.

SMEs are vital for innovation and they should be part of all schemes where technology

transfer or collaboration between academia, research institutes and industry is promoted. One may envisage a new programme where in a simple way such collaborations, led by an SME, could be (financially) stimulated. Indeed, more effective dissemination strategies to make the results of EU-funded projects within the limits of IP better and more easily available to SMEs would be useful. At the European level, however, one has to be careful about what can effectively be done specifically for SMEs. A SBIR-like programme is one option - it is directly tailored to SMEs. Access to capital can be a serious matter at the European level if sufficiently large. Euroscience realises that, politically, SMEs play an important role, whether it is the Council, the Commission, the European Parliament or in the member states. Yet one must be realistic about what can be done at a European level other than through the mechanisms mentioned above. Many of the measures that do exist are far more effective at a national level.

SMEs are vital for innovation. However, one has to be careful about what can be effectively done at a European level. Many of the measures that do exist are far more effective at a national level.

#### Question 6: How can one achieve simplification of rules and procedures?

Euroscience welcomes the steps that the European Commission is already taking, such as presented in COM(2010) 187 "*Simplifying the implementation of the Research Framework Programmes*" in moving from a cost-based approach to one based on results. It must be stressed, however, that results will often be unanticipated. Much more needs to be done in all phases of the process from application to the final accounting. Our members have provided many examples of the excessive bureaucracy which is all the more burdensome

as procedures are not suited for research. They have pointed to strange requirements such as time sheets for students. Enormous duplication exists in the paperwork required for application and reporting. The rules for reviewers are rather patronising, and pre-suppose reviewers to know almost nothing about how to review a research proposal whereas they probably know better than the persons who drafted the rules. The Research Executive Agency, apart from the fact that it only administers a tiny and rather haphazard part of the FP's programmes, is not judged an improvement. The accumulation of auditing procedures and the legalistic approach to it, including contradictory requirements, have many times been raised with the Commission and rightly so. An important point is that they are not solved by somewhat fashionable concepts as one-stop-shopping or single-point-of-entry unless there is a change in the mindset of those applying the rules. Everyone knows that a trust-based approach would be beneficial to almost everybody. Yet it seems impossible to genuinely change the system. It is doubtful whether the answer is to try and introduce one common set of rules and procedures for all types of support - they may differ considerably in magnitude and objective as may be assumed from a reading of the Green Paper. The variety of instruments, goals and target groups are just too great for a single scheme. Common approaches can be used for certain aspects, but also those can be done more simply: compare for example the common EU application portal to the US model [www.grants.gov](http://www.grants.gov).

Much more needs to be done in all phases of the process from application to the final accounting. Everyone knows that a trust-based approach would be beneficial to almost everybody. Yet it seems impossible to genuinely change the system. The variety of instruments, goals and target groups are just too great for a single scheme.

Euroscience is aware that several of the problems (but certainly not all) have arisen in the European Parliament. Yet, this makes it only more puzzling, given the common practice in member states for organising the whole process from application to final accounting. Their national programmes also require credibility, procedural and substantial quality with regard to evaluation, approval, administration, reporting or accountability. But the way this is translated into rules, procedures and practices is far simpler than the current EU rules. The puzzling thing is that these national rules and procedures have all (indirectly) been approved by national parliaments. Thus,

Euroscience believes that some good national practices could be used in guiding the design of simple EU rules for research and innovation. Secondly, using nationally approved rules and procedures should help convince the European Parliament since this is what they accept at national levels.

**Question 7: How to ensure coordination with and between national programmes, and should EU funding be used to leverage national (public) money or industrial contributions?**

Let us first list some of the key hurdles that stand in the way of coordination between national and EU programmes. Weak coordination based largely on exchange of information or good practices has not worked well. This is what the Commission admitted in its Communication on Joint Programming of 2009 in referring to ERANet, Open Coordination, etc. It relates to a second problem, the fact that governments are reluctant to place or let their national organisations place funds in central pots. Yet to ensure quality, one needs just that without 'juste retour'.

The third problem is that so far the parties with the largest flexible budgets, the National Funding Agencies, are not really part of discussions on policies for STI at the European level. They have some relatively small joint programmes (through the European Science Foundation), but they need to be at the table when future policy initiatives are discussed.

Fourthly, the organisational schemes used for programmes or activities with joint EU and national funds are very complex. They are often remote from the scientific community and the schemes the researchers are used to. The Joint Programming scheme, for example, is handled very much top-down by bureaucrats. Instead, one could be more courageous and engage with consortia of key players that have been formed for several key societal challenges. This raises yet another hurdle - how to avoid the need to involve all 27 member states. Article 185 (the old 169) is intended to enable the EU to co-fund initiatives of a subset of member states, but the results so far are not encouraging. The JTIs do involve national funding but participants find them very cumbersome.

4 key hurdles to overcome:

- Weak coordination based largely on exchange of information & good practices
- Governments reluctant to place their funds in central pots
- National funding agencies not really part of discussions on policies for STI
- Joint programmes with EU and national funds are very complex

Euroscience suggests it might be better to focus on a limited number of examples in the area of key societal challenges. In designing these programmes a diversity of resources, funded in several ways, could be incorporated. For example, a number of key research institutes whose mission may be exactly in line with the goal of the programme concerned (in energy for example) would be one such resource. For these institutes and the governments behind them might be convinced that if the governance of the programme is simple enough (which is now not the case), they would all benefit from investing part of their own resources in a common programme. It would also help if an additional EU contribution would be provided in a simple way, as say a percentage of their contribution. Since there would also be a basic research part in the programme, some national funding agencies (not all countries would need to participate) might be agreeable to put money in a central pot and organise a joint open competition. In this way a second resource would be leveraged.

In the area of key societal challenges, Euroscience suggests to focus on a limited number of examples. A diversity of resources, funded in several ways, could be incorporated when designing these programmes.

Another example is to be found in the area of research infrastructures. We mentioned when addressing **question 1** that

for investments in the smaller and medium-sized research infrastructures on the ESFRI Road Map, the National Funding Agencies or Research Councils might play a more effective role than would be possible in an inevitably more politicised government setting.

Assisted by an EU financial incentive during the period of the next Framework Programme, the National Funding Agencies might be able to fund several of these research infrastructures. Moreover, they have all the tools to ensure quality.

As to leveraging other contributions, there is nothing against a prudent use of the concept of leveraging. Emphasizing 'prudent' is essential: it can be done when the nature of the programme makes it opportune - for the ERC it is simply not necessary. For co-financing construction or operational costs of large research facilities, national public funding will always (for the foreseeable future) be dominant, and so the EU contributions will be aimed at accelerating national decision making and thereby releasing national funds. In programmes addressing key societal challenges, it is often possible to get companies to contribute financially, but governments should not forget that these are societal challenges. Whether EU funding is capable, through leveraging, to get European companies to spend more on R&D is questionable. We have already mentioned that the combination of fewer young companies that spend less on R&D and are active in less R&D-intensive sectors than their US counterparts explains most of the gap in industrial R&D between Europe and the US.

It is questionable whether EU funding is capable, through leveraging, to get European companies to spend more on R&D.

### **Question 8: What role should the EU Structural Funds play? And the CAP/Rural Development Funds?**

The Commission data show that €B 86 (25%) out of the Structural Funds for 2007-2013 is spent on enhancing the capacity of regional economies to change and innovate. These investments focus on four key elements: R&D and innovation, entrepreneurship, ICT and human development. This is an important development because it sets free the FP (as it currently exists) to achieve its own objectives, namely to increase the world level competitiveness of European research and innovation efforts. So the first recommendation of Euroscience is that:

it should be stated much more explicitly that if Member States want to use EU funds to improve their infrastructure for STI, the Structural Funds and those funds only should provide the means to do so, not the FP.

In this way it is possible to strengthen universities and research centres, invest in research infrastructures and create local and regional clusters. This would have the additional benefit of countering the local brain-drain, which is substantial in several countries at the moment. Another example is for countries to use the Structural Funds more systematically (it has happened in some countries) to finance investments and operational costs to overcome the so-called digital divide. There are huge costs of advanced internet connectivity for research and education in peripheral and often less densely populated parts of Europe.

A problem is that it is difficult to get a detailed overview of the effects of the Structural Funds investments in research and innovation, entrepreneurship, ICT and human development. Member states are very largely responsible for what they spend the money on within the broad contours agreed at the outset.

Is it possible to make it mandatory for member states to provide more concrete information on how much money is being spent on STI related activities and on the activities themselves?

Could certain guidelines be established for spending part of the Structural Funds on these four activities for example by agreeing on a certain number of priority investments? It will always be difficult, given the predominance of national priority setting, as well as the different levels at which member states are already investing in Science, Technology and Innovation, but it is worth discussing. It would anyway be good if national and regional authorities are encouraged to design 'smart specialisation strategies' with regards to industrial sectors and research as this would help to create critical mass and quality.

The Rural Development Fund (which is part of the Common Agricultural Policy) is only indirectly relevant for research and innovation. A quick glance at some of the national programmes through which the Rural Development policy is implemented shows that promotion of sustainable agriculture is about the closest you get to innovation. Therefore, there may not be much in favour of complicating discussions further.

### Question 9: How to support policy with scientific information?

The Joint Research Centre has been transformed to be a major player in

supporting policy with scientific information, and that should remain so. Its role as policy advisor will, by definition, increasingly require a more independent position. But then this is not an area for monopolies.

The Inter Academy Panel of major national academies of science issues very authoritative reports written by and peer reviewed by the world's best scientists. These should be used in the EU on key issues of worldwide importance.

On specific issues, Euroscience itself and European learned societies are willing to assist policy making, and this should be requested more systematically.

There are also groupings of universities and similar bodies operating on a global scale whose policy pronouncements will be of value for EU STI policy setting.

In addition, there are national bodies such as the British Royal Society or Royal Academy of Arts and Sciences in the Netherlands, which produce well researched policy documents. Although of a national character, they can also be used at the EU level.

In the USA, PCAST (the President's Council for Advice on Science and Technology) uses the mechanism of establishing committees of highly reputable experts to prepare policy recommendations in a wide range of substantial areas, which if agreed by PCAST, then go to the President.

STOA works for the EP, but also as a meeting ground for national technology assessment organisations and could play a wider role.

Instead of creating new organisations or complex mechanisms to link national policy advice to EU policy advice, we suggest that alternative structures could be used. For instance, every year a meeting(s) could be organised on key topics with well-structured

debates, which are prepared by bringing together specially commissioned studies and information. Politicians, scientists, societal organisations, companies but also citizens could get together to try to understand what is scientific information that is available, what given uncertainty could be reasonable policy options and what would be their impact and social support. The Danish organisation for Technology Assessment has very successfully pioneered consensus debates in the early 1990s and they could provide a model.

Euroscience suggests a yearly meeting(s) on key topics with well-structured debates on specially commissioned studies and information with politicians, scientists, societal organisations, companies and citizens.

#### Question 10: Should one engage citizens and civil society to a larger extent?

Euroscience is very much in favour of engaging citizens and civil societies in setting research agendas, in discussing results and in defining policy options.

The debates mentioned in the previous section are one model. The programmes/activities addressing key societal challenges would seem to be ideally suited to achieve this aim.

Some research councils in Europe already seek outreach information or wider societal relevance within research proposals. This has been done for many years by the National Science Foundation in the USA. While this practice is not unambiguously positive, the general feeling seems to be that better ways must be found to trigger scientists to think about such a relevance paragraph in research proposals.

Euroscience believes there is a need to have brief and easily digestible policy reviews which are understandable by politicians and in the public debate. One example of this is the briefing papers prepared by the UK Parliamentary Office for Science & Technology which has led the way with such papers. Other national parliaments have created similar bodies and these are now well networked in Europe. The EC could take advantage of this expertise to commission policy papers.

There is a need to have brief and easily digestible policy reviews which are understandable by politicians and in the public debate.

In addition, scientific journals could play a more active role by more regularly commissioning review articles, perhaps by adding a carefully written 3- or 4-page summary to a scientific review paper which is intended for a wider readership.

*Finally, many other questions posed by the Commission concern, for example, the use of other financial instruments (equity, loans, etc) have been dealt with under our first question. The same is true for pre-commercial procurement. As to IP rules, much experience exists at national and EU levels and this does not seem to be an area where major action is needed. The suggestions for an answer to the first question also target the issue concerning the role of non-funding instruments*



This Statement was produced by the Governing Board of Euroscience, in consultation with its members, under the direction of Dr. Peter Tindemans.

**Euroscience**

1 Quai Lezay-Marnésia | F-67000 Strasbourg

Tel: +33 (0)388 24 11 50 | Fax: +33 (0)388 24 75 56

E-mail: [office@euroscience.org](mailto:office@euroscience.org) | <http://www.euroscience.org>