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Ministry of Education and Research Sweden

**Contribution from the Swedish  
Government to the discussion on the  
next Framework Programme (FP8)**

**December 2010**

## **Introduction**

During September-October 2010 the Swedish Government Offices conducted a consultation on the FP8 and related European Union programmes. More than 80 stakeholders, including governmental funding agencies and research councils, universities, research institutes, businesses and regional authorities responded.

Based upon this consultation, the following initial Swedish position on FP8 has been formed focusing on general aspects of FP8, i.e. it does not include details on any thematic priorities, instruments, rules for participation et cetera.

However, the Swedish position is also that the negotiations about the next financial framework must not be anticipated. The following should not be seen as a position on how Sweden would like to see the budget for R&D to be developed in the next financial framework.

The Swedish position will be further developed and elaborated when additional information and proposals are available from the Commission and from other Member States.

## **Main issues**

The world is facing challenges as never before. They include challenges such as energy and raw materials supply, the preservation of the environment, competitiveness and employment, health and the security of our people. Moreover, we need to seek greater involvement of young talents from across Europe and across the world in order to meet these challenges. Female participation in R&D needs to be encouraged and increased.

The proposal for the next framework programme is therefore a major opportunity to move the research agenda forward, not only in meeting these global challenges, but also in stimulating innovation in order to further strengthen the competitiveness of European society and businesses.

Responsibility for this proposal rests with the Commission. However, it will only grow fruitful with the active involvement of Member States and the European Parliament at the policy level, and the active involvement of the research and business communities at the level of implementation.

To achieve this, the Commission needs first to set out clear principles to determine both future policy and its implementation on the following lines:

The FP8 will need to be significantly different from its predecessors. It must be developed into the single most important tool for knowledge creation focusing on, as stated in the Lund-declaration, “the Grand Challenges of our time moving beyond current rigid thematic approaches” at European and global level. “This calls for a new deal among European institutions and Member States, in which European and national instruments are well aligned and cooperation builds on transparency and trust”.

At the same time we are still faced with the aftermath of one of the world’s most severe economic crises ever, which will stress even more the need to focus the FP on areas where there is real European added value. Before priorities are set for FP8, the Council and the European Parliament should agree on a set of criteria of added value based on evaluations and impact assessments of earlier FPs.

The FP8 will need to provide support for curiosity driven and demand driven research. Efforts to improve knowledge transfer and to make scientific knowledge accessible are vital. The European Research Council (ERC) is a successful innovative instrument in FP7 and should retain continued support in FP8.

The FP8 will need to be more focussed on the output and the uptake of research, contributing more broadly and significantly to innovation, competitiveness, growth, social cohesion and sustainable development. Consequently, it will be increasingly important to explore and develop synergies with other instruments, programmes, policy areas at the regional, Member State and European level, as well as to integrate the global dimension.

The Lisbon Treaty and the establishing of the ERA as an EU policy objective, makes coordination and interaction between activities at Union level and national/regional levels even more important. The FP8 should be used as a tool, facilitator within its priorities, e.g. in Joint Programming and in international cooperation. We also need to take onboard the new challenges that the Lisbon Treaty presents.

To support the development of world class research infrastructures – understood in a broad sense – have to be a task of profound importance for the FP8 and other Union instruments, such as the Structural Funds.

Universities are generally accepted as of crucial importance to build the European Union knowledge-based economy. However, there are still no strategic instruments available for the support of cross border development of excellent environments for research and innovation, including

education<sup>1</sup>. The FP8 must be adapted to support this need, together with the Structural Funds and the Union programmes for education resources at national/regional.

### **Grand Challenges**

The political discussion on top-down priorities for FP8 should focus on a limited number of Grand Challenges, which later need to be divided into more focussed sub-challenges. The Grand Challenges we face must within the context of FP8 be targeted in a way which enables Europe both a way to build a future society of social well-being and prosperity as well as private sector competitiveness and sustainable development.

Processes are needed to identify the challenges around which Europe should join forces. It should be in areas where European research and innovation can make a difference and create new markets, being a player in a global context. Examples of such a challenges are climate change and energy e.g. through the 20-20-20-targets.

It is important to note that what is currently identified as major societal challenges will most likely not - in a couple of years time - be the only ones. The Commission's initiative the European Forum on Forward Looking Activities should play a significant role in this process.

The structure could be a combination of a Grand Challenge module complemented with specific themes and 'Key Enabling Technologies' (KET). The approach could be challenge-driven joint calls involving different thematic areas, complemented by the introduction of an additional Grand Challenge-module. This Grand Challenge-module should provide additional funding to joint calls (to stimulate joint actions), offer additional flexibility and help to further stimulate interdisciplinary research and cross-sector collaboration involving areas that may be outside the thematic structure or unforeseen.

In approaching the challenges it is important to note that it is not always novel research that can provide solutions, but it may also be existing knowledge brought together in an interdisciplinary manner requiring the contributions of highly qualified researchers. These approaches are obviously not mutually exclusive, but could in many cases be complementary along a time axis.

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<sup>1</sup> The EIT should be able to provide support for the most excellent environments in some areas but is not likely to meet the need and demand for a wider and more accessible instrument.

### **Transnational cooperation in FP8**

Transnational cooperation should remain at the core of FP8 with the focus on managing Grand Challenges. Additional priorities should be identified addressing the competitiveness of European society and businesses. The experiences from the Private Public Partnerships (PPPs) model introduced as part of the Recovery package are very positive and should be considered as a way to identify future areas along with the European Technology Platforms (ETPs). Finally, priorities supporting other Community Policy areas should also be identified.

The FP8 must within its main scope to a greater extent than FP7 be an attractive funding mechanism for private and public sector actors, which are also the main users and responsible for translating the knowledge produced into actual products and services.

FP8 should also include fundamental technology areas in rapid development, with applications to generic business sectors and societal areas, i.e. *Key Enabling Technologies* (KET). Their deployment will have a significant impact on the competitiveness, renewal and growth of European businesses. Projects within the KETs should involve collaborative research and link to innovation instruments enabling private sector exploitation. Cognitive science and technology should also be considered as an enabler and facilitator alongside other KETs. Activities supporting future and emerging technologies could be considered involving high risk research with the potential of a significant societal or business impact.

The programme will have to have an inbuilt flexibility in the implementation and the Commission should explore new forms of engaging Programme Committees and other stakeholders, notably universities, research institutes and businesses in systematic strategic consultations.

The review of ERA-related instruments carried out by the new advisory body ERAC (ERA-Committee) should together with the FP7-interim evaluation give further guidance on instruments to be used in FP8. However, transnational Cooperative projects should be the main vehicle to implement the activities complemented with coordination activities, drawing on experiences of Joint Programming, ERA-nets, article 185, JTIs, ETPs and PPPs contributing to the priority setting.

The projects should predominantly have strong links to innovation instruments, and to the concept of the European Innovation Partnerships. A structure for endorsing 'open innovation' should be elaborated. It is also highly likely that current instruments for research at least to some extent

will have to be adapted to the requirements of necessary interaction between research, innovation and education.

### **Great ideas**

A bottom-up approach focused on great ideas is vital to preserve in the FP8. Such an approach, where the sole criterion for selection is scientific excellence, allows researchers to identify new opportunities and directions in any field of research. This ensures that funds are channelled into new and promising areas of research.

The focus should be on purely curiosity driven research open to all areas. European Research Council (ERC) has proven to be successful and has reached recognition for its focus on excellence as the only criterion. The program should continue, and it is of importance to safeguard its added value of creating competition on excellence at European level. The possibility to link research results from ERC to innovation instruments should be explored and developed, to better enable exploitation and deployment.

### **Innovation, demonstration, deployment and SMEs: bridging of the gap between knowledge creation and exploitation**

Actions oriented on enhancing output from research to contribute to innovation and growth needs to be further developed and coordinated. Strengthening the overall linkages from research towards demonstration, trial and innovation is vital. To achieve the necessary bridging of the gap between knowledge creation and exploitation, taking into account the whole innovation cycle, incentives, instruments and mechanisms will have to be built into the FP8.

The FP8 and complementing programs, both at EU and national/regional levels, should reflect policies securing *demand-side activities*: procurement, smart regulations and standardization and provide means of supporting innovation partnerships between stakeholders. Also, there is a need for leveraging and for attracting further private research and development investments.

FP8 should have a clear result exploitation strategy integrating projects/programs activities of downstream testing, demonstrators, prototyping, test beds and “open innovation”, seamless with regards to if instruments are in place within FP8 or through complementing instruments. This increases the importance of IP-management models. Public pre-commercial procurement tools on Member States level are imperative, being strong drivers of critical markets/demands which reduce risk levels for businesses.

The innovative tool of Risk Sharing Financing Facility (EIB) in FP7 should be further encouraged and much more opened up to SMEs. To reach an input target concerning SME participation, such as the 15% budget target to SMEs in FP7, the conditions for SMEs in FP8 need to be properly addressed to more efficiently enable and drive participation. Important issues for this are simplification of application and administration, speeding up of evaluation processes and payments, increased possibilities for risk capital funding, and the possibility of smaller projects which better can address SMEs research relevance. The Eurostars model could be considered as a potential candidate for a SME-instrument for FP8. New impact related targets may also be needed, to create better prerequisites for participation.

Today the synergies between the CIP (Competitiveness and Innovation Framework Programme) and FP7 are not well developed. It is clear that the innovation aspects of the FP need to be improved and that today, there is a missing functionality in this respect. Regardless if these two existing programs may be merged or continue to be handled separately, there is a need to increase exploitation of synergies between future FP and CIP. There is also a need to increase exploitation of synergies between FP, CIP and the Structural Funds. The interface for innovation support activities outside FP8 needs to be developed, with the aim to reach a *single interface* as far as possible. Also, synergies and links to Member State activities need to be strengthened, in line with the communication on Innovation Union. Likewise the relation between framework programmes and joint programming initiatives need to be clarified.

Synergies should be sought between the FP8 and the structure of the European Institute of Innovation and Technology (EIT) together with the Knowledge and Innovation Communities (KICs). The implementation of the EIT must be secured and co-funding could be considered within the priorities of FP8. It should also be elaborated in what sense FP8 could interact with education, for instance to stimulate entrepreneurship and innovation, in line with the Knowledge Triangle concept.

Enhanced synergies between FP8 and the Structural Funds, to more effectively stimulate smart specialization, for example by strengthen the development of clusters. The recommendations by ERAC in June 2010 should be followed up and further input are expected by the Commission Expert Group on Synergies.

### **Building blocks of ERA**

FP8 should build, expand and improve several horizontal aspects of FP7, n.b. mobility, research infrastructures and international cooperation.

#### *Mobility*

The Marie Curie actions is a well established and central building block in the creation of the ERA. The transfer of Mobility-actions to DG EAC (Commission Directorate - General Education and Culture) should result in a stronger link with the Educational programmes. At the same time the programme will have to contribute to the implementation of the EU2020-strategy and the Innovation Union, e.g. extended outreach also for enhanced mobility between private sector and academia. Support for younger researchers are of importance. Activities should also be included to support the focus on grand challenges.

#### *Infrastructure*

“The ESFRI list” (European Strategy Forum for Research Infrastructures) is a very important achievement, providing a basis for a European road-map for the development of world class scientific instrumentation in Europe. However, the list is growing longer every year. The current financial crisis will make it even more important than before to find ways of realizing the list through common European endeavours. In this perspective, there is the need for the FP to support also construction of research infrastructures, not only the preparation phase.

#### *Global cooperation*

In many areas it makes more sense to talk about a Global Research Area rather than a European Research Area. It is important that the FP8 to strengthen its role to provide linkages with emerging markets and new knowledge and innovation hubs outside Europe. FP8 should from the beginning be designed to enable global cooperation in particular to tackle global challenges. Framework conditions should be in place to facilitate such cooperation in order to avoid tailor made specific calls.

### **Implementation aspects**

As stated in the FP7 Interim Evaluation, the complexity of the FP7 is high and a reduced complexity of instruments must be achieved for FP8. Fundamental for the implementation of FP8 will be a continued simplification process, and it is urged that such simplification should be centred on the user-perspective. At the same time the continuity aspect should be taken into account, what works well should not be changed.

Many of the initiatives introduced to facilitate coordination and mobilization of national/regional programmes have a significant potential but it is too



early to take a stand on how to implement such activities in FP8. Further evaluations, in particular on the impact is needed before such a decision can be taken.

The implementation of ERA-NET Plus, article 185 and JTI's have resulted in a proliferation of different rules and procedures. One way to solve this problem could be to distinguish between coordination activities in which Member States set priorities and those where business and other stakeholders set priorities. The priority setting is the key element where Member States and other stakeholders should be involved, but the actual implementation should be harmonised e.g. through an extended mandate for the Research Executive Agency (REA) and the ERC Executive Agency (ERCEA). This will facilitate harmonisation of rules and procedures.

Considerably more resources are needed to exploit Europe's research potential, particularly in the less advanced regions. However, the main bulk of financial support for this will have to come from other sources than the FP, n.b. the Cohesion and Structural Funds. Therefore links and synergies will have to be improved between different policy areas and programmes, especially when it comes to FP and the instruments for Cohesion Policy.

## **Summary**

### Important features of FP8:

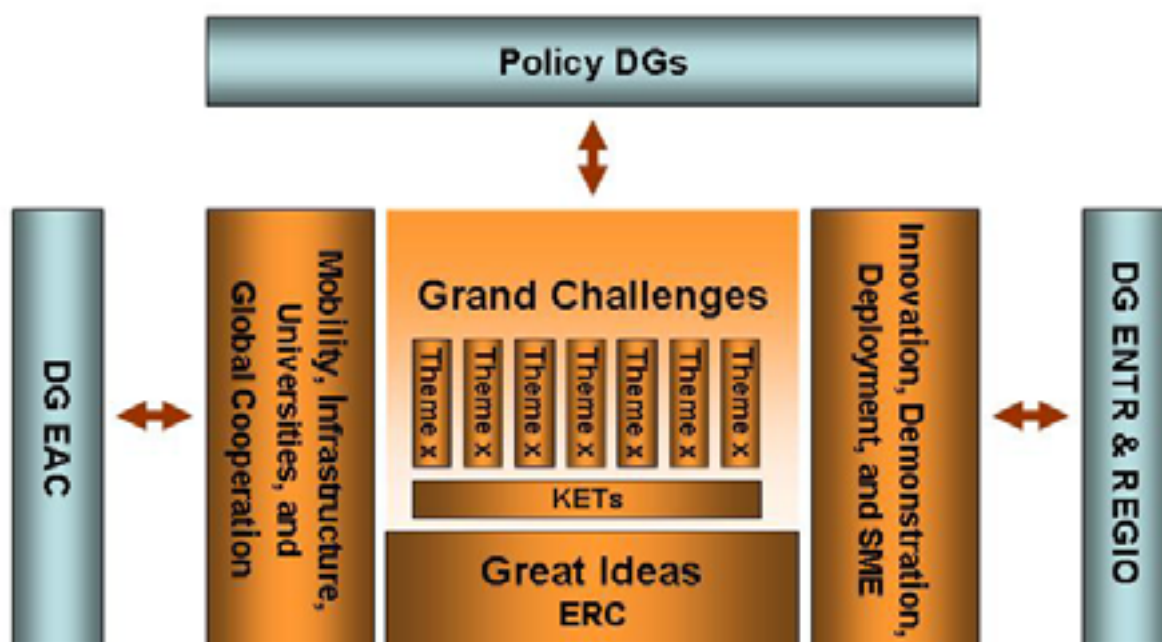
- Focus on Grand Challenges
- Driving European competitiveness and growth
- Based on agreed criteria of European added value
- Develop synergies and links with other instruments, programmes, policy areas at the regional, Member States and European level.
- Strengthening the international and global perspective
- Strive for enhanced simplicity, harmonisation and flexibility with focus on the need of the beneficiaries
- Have sufficient degree of continuity
- Participation of female researchers
- Support for young researchers

### FP8 should support:

- curiosity driven and demand driven research
- cross disciplinary research
- activities of downstream testing and demonstration
- transnational cooperation and mobility between business, institutes and academia
- improving knowledge transfer, and efforts to make scientific knowledge accessible

- creation and growth of knowledge intensive SMEs
- construction of research infrastructures

ANNEX: Schematic illustration of a possible structure for FP8



The FP8 needs to contain research with a top-down approach in form of Grand Challenges complemented with specific themes and ‘Key Enabling Technologies’ allowing demand driven and cross disciplinary research.

A bottom-up approach focused on great ideas is vital to preserve in the FP8. The ERC should focus on purely curiosity driven research open to all areas with excellence as the only criterion.

Actions oriented on enhancing output from all parts of the Framework Programme, to contribute to innovation, competitiveness and growth needs to be further developed and coordinated.

FP8 should build, expand and improve several ERA-aspects, n.b. mobility, research infrastructures, universities and global cooperation.

Interaction between FP8 and other policy areas (Directorates-General of the Commission) should be strengthened, including interaction with innovation, education, regional aspect and thematic policy areas.