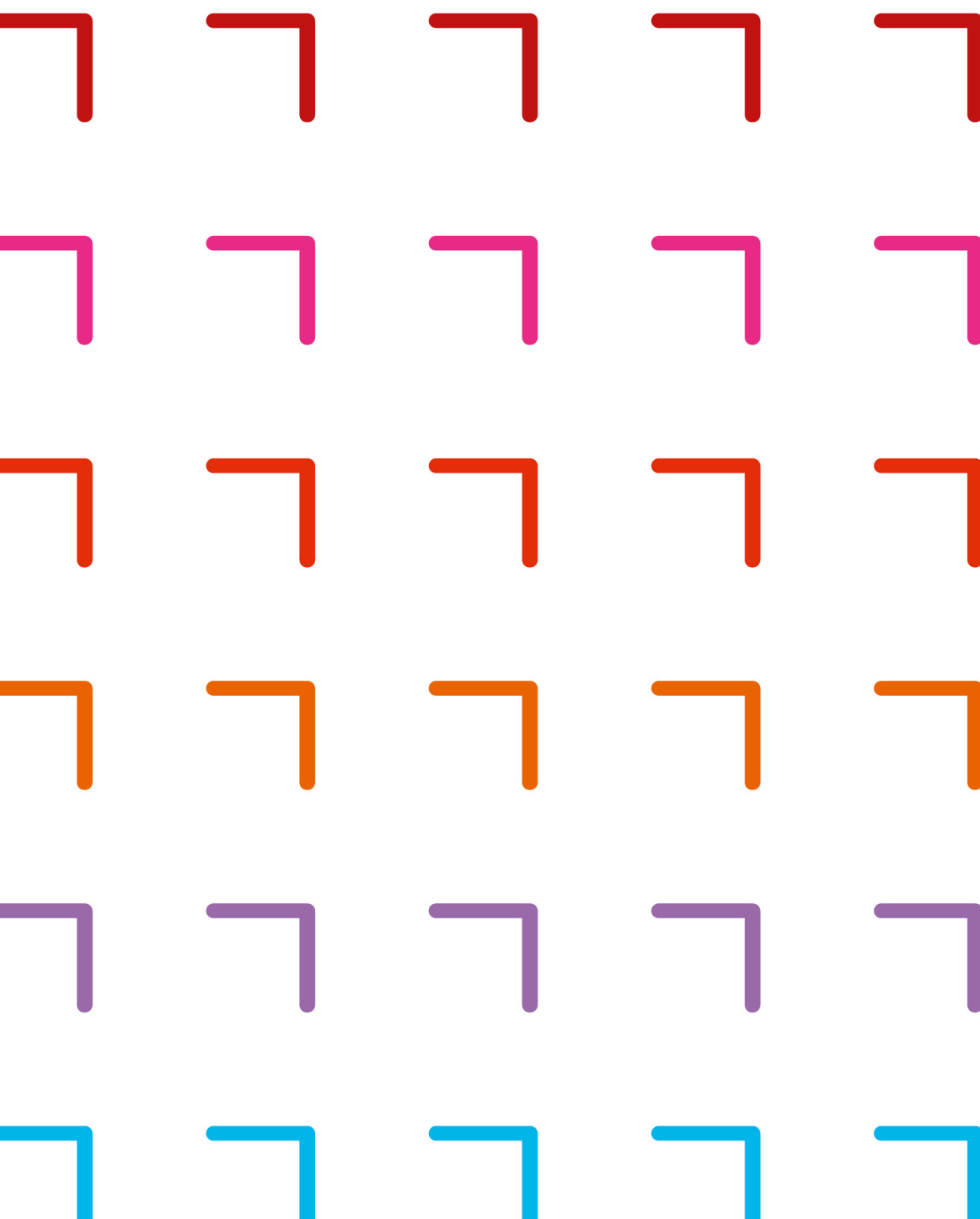


ADVISORY REPORT 141

ON THE FLEMISH POSITION EU FP8

23 SEPTEMBER 2010



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TRANSLATION FROM DUTCH

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EXECUTIVE SUMMARY

Against the background of a serious economic and financial crisis, the European Union is faced with major societal challenges that have to be seen in the context of a globalising world. Encouraging innovation in business and society is a centrepiece of the EU 2020 Strategy launched by the European authorities. This policy context also has an impact on the European research and development policy (R&D) and the development and content of the future Eighth Framework Programme for Research and Technological Development (EU FP8). It is vital for the European authorities and the governments of the Member States and regions to join forces so as to face up to the challenges from a stronger position, and thus ideally to also carry out a synergistic R&D policy on a joint basis. Furthermore, smaller countries and regions have specific interests and challenges in this regard.

It is important for Flanders to prepare well for the Eighth Framework Programme and as a small region undertaking research activities to do its utmost to have a say in the process for the development and content of the EU FP8. The Flemish Council for Science and Innovation (VRWI) is leading the way in this respect, taking the initiative to draw up an advisory report for the Flemish position on this issue.

The VRWI stresses the importance of a harmonised development of the European Research Area (ERA) so that smaller countries and regions are able to fully deploy their research and innovation potential. The VRWI believes the following issues are key principles and factors for the development and content of the EU FP8, as a vital instrument for a well-rounded development of the ERA, and for creating innovation in business and society:

Horizontal principles

- The effort involved in creating innovation calls for more than just the commitment of specific R&D resources. At European level, the European Commission's directorates-general have to cooperate much more effectively to promote R&D-driven innovation across the policy areas. The innovation objective also has to be promoted on the basis of a complementary relationship with the policies and instruments of the Member States and regions.
- In view of the importance of R&D as decisive factors for the creation of innovation the EU FP has to be able to rely on a significant level of funding. The new EU FP has to remain clearly targeted on lending support to R&D (no 'radical shift'). The various European R&D resources and programmes have to be pooled as much as

possible for the future EU FP, so the regulations can be harmonised and knowledge institutions and business can gain easier access. This may not though create obstacles to the development of new or suitably adjusted instruments and programmes, although this must invariably produce sufficient value-adding opportunities as part of the knowledge and innovation chain.

- Against the background of the innovation objectives, specific EU FP8 instruments have to be focused on the major societal challenges ("grand challenges"). Towards this end, there has to be scope for various kinds of research: both programmed research ('top-down') and 'bottom-up' partnerships. There has to be enough scope for small-scale research.
- The European instruments have to promote cooperation between companies and knowledge-based institutions with the precondition for this being a basic pre-defined framework for IPR.
- The EU FP can be used to strengthen the financial status of the instruments and programmes the Member States, regions and organisations (also in the context of public/private initiatives) have developed in the framework of the ERA, provided key conditions are attached to ensure the smaller countries and regions have an opportunity to take part.
- The rules for taking part in the European R&D programmes and the cost management process have to be streamlined to a significant extent. The European Commission's recent proposals are a valuable initiative towards this end but the utmost care has to be exercised with the principle of result-driven R&D funding.

Positions about the various components of and in the margins of the EU FP8

- A central component of each EU FP, the Cooperation programme has to be focused on the major societal challenges. The competitiveness of the business sector is one of those. This component of the EU FP8 calls for programmed research conducted on the basis of multiannual research programmes, and also provides significant opportunities for new, promising (visionary) and/or high-risk bottom-up research.
- Public/private R&D partnerships can be a valuable instrument for achieving technological breakthroughs. They have to be selective and carefully-thought-out on the basis of highly specific technological objectives. The EUREKA cluster programmes are a valuable alternative for businesses.
- Businesses and knowledge-based institutions are faced with serious problems taking part in the existing public/private (and in some public/public) R&D initiatives. The opportunity for knowledge-based institutions to participate is of particular concern, in view of the type of co-funding required from the Member States and

regions and its limitations. The EU FP may offer solutions towards this end as a result of providing European funding to allow cross-border cooperation between knowledge institutions so that European funds can ensure the best research groups are involved in projects, wherever they are in Europe. The European funding can also be deployed in a comparable way for the EUREKA cluster programmes, although in a separate European Commission-managed portfolio.

- Joint programming is a process in the hands of the Member States and regions but as the engine behind the ERA the European Commission has to act as an arbitrator with the EU FP as its instrument. Towards this end, the European authorities can set conditions for ensuring the opportunity to participate for smaller countries and regions.
- The participation of smes in all the EU FP programmes and instruments has to be facilitated as much as possible via user-friendly regulations. There has to be another target figure but one that measures the true extent to which smes play a participatory role in research. The EU FP8 should ideally feature a horizontal programme again for less research-intensive smes.
- The instruments of the Competitiveness and Innovation Programme (CIP) have to be assessed, while the measures and instruments focused on facilitating R&D-based innovation should be included in an innovation promotion programme within the EU FP. The main requirement is for better support to be provided for the follow-up stage for R&D projects.
- The EU FP8 has to feature a key component on career development and mobility for researchers in various stages of their career. This has to be focused on researchers in all disciplines and each stage of their career, while also including a relevant (streamlined) programme for intersectoral mobility.
- The European Research Council (ERC) is a key instrument for developing Europe's knowledge base and maintaining the knowledge chain. A significant level of resources must once again be provided. Excellence has to continue to be the only criterion for selection, even if new instruments are taken on board by the ERC.
- It is time to start consolidating earlier choices of major research infrastructures, in the light of the activities of the European Strategic Forum for Research Infrastructures (ESFRI). The EU FP8 has to make a selective contribution to the cost of building major research infrastructures, in dynamic interplay with the commitment of resources by the Member States and regions. In this case, too, the commitment of European resources has to be linked to the condition that all the Member States and regions, including the smaller ones, are involved in the choice, the priority setting, the establishment and the access and usage opportunities.

BACKGROUND

Against the background of a serious economic and financial crisis, the European Union is faced with major societal challenges that have to be seen in the context of a globalising world. The European authorities are anxious to work in cooperation with the Member States in addressing these challenges using the EU 2020 Strategy. A key objective towards this end is the promotion of innovation in business and society. This policy also has an important and logical impact on the research and innovation policy applied by the European Union, and that of its Member States and regions.

The European research and development policy (R&D) is broadly defined in the light of the European Framework Programme (EU FP), but has been striving since the launch of the European Research Area (ERA) concept to create a partnership with the Member States. The countdown to the European Union's next Eighth Framework Programme for Research and Technological Development (EU FP8) is now underway. The challenges referred to and the new policy context will affect the development and content of the EU FP8.

It is important for Flanders to prepare well for the Eighth Framework Programme and, as a small region undertaking research activities, to do its utmost to have a say in the process for the development and content of the EU FP8. The Flemish Council for Science and Innovation (VRWI) is leading the way in this regard, taking the initiative to draw up an advisory report for the Flemish position on this issue. This document does not consider the EU FP according to the strict sense of the current European Framework Programme (EU FP7) but in terms of the totality of the European financial grants for Research, Technological Development and Innovation that are directly or indirectly managed by the European authorities. This includes the European resources and instruments used as co-funding for initiatives, programmes or instruments, when these are focused on the international cooperation of private and public entities and authorities in the Member States or regions and developed or deployed under the ERA and the Europe 2020 Strategy.

The advisory report is divided into two main chapters.

The first one deals with the horizontal principles the VRWI believes also have to serve as a basis for the implementation of the EU FP8. This involves:

- The objective of the EU FP and its relationship to innovation objectives
- The relationship between the European R&D policy and that of the Member States and regions

- The EU FP being used to leverage the initiatives taken and due to be taken pursuant to the ERA 2020 Vision.

These principles also have a bearing on cooperation between knowledge-based institutions and businesses and the streamlining of the regulatory requirements in the European R&D programmes.

The second chapter addresses the anticipated or potential building blocks of the EU FP8. This explores:

- A new Cooperation programme;
- Public/private partnerships in support of R&D;
- Joint programming as a major new development in European research activities;
- The instruments for SME participation, research infrastructures and innovation promotion
- Research training and mobility programmes planned in the future and the European Research Council (ERC).

This advisory report was prepared for the Flemish Council for Science and Innovation by its Working Group on European Cooperation, under the chairmanship of Anne Adams, in which the Flemish universities, research centres, businesses and governmental actors are represented.

ADVISORY REPORT

1. HORIZONTAL PRINCIPLES

1.1. EU R&D policy and innovation

The call for the development of an Innovation Union reflects the “Europe 2020” strategy's strong signal to European Member States to make a firmer commitment by way of efforts and resources for innovation in business and society. As research and development (R&D) are generally acknowledged as being vital and even decisive factors for achieving innovation, the R&D resources obviously have to be effectively used for innovation in business and society. The concept of innovation has to be defined broadly, not simply in economic terms: European society is struggling with many challenges that have to be examined and resolved.

Innovation requires more than just the availability of Research and Development (R&D)

The R&D policy and resources alone are obviously not enough to achieve the innovation objectives of the Europe 2020 Strategy. The other flanking and support policies have to be implemented in relation to innovation. At European level, responsibility for the promotion of innovation and making the ‘innovation Union’ is shared amongst various European policy areas and their officials. The European authorities need to ensure more effective coordination and the inclusion to some extent of the innovation-related policy: first of all R&D policy, industrial policy, education policy, financial policy and regional policy. This requires closer cooperation between the relevant European Commission directorates-general. The acknowledgement of the key role R&D plays in creating innovation has implications for the EU FP's aim in terms of innovation, as well as in the overall structure and the content of the instruments and programmes.

The R&D policy due to be carried out in support of innovation is an objective not only for the European authorities but also for the authorities of the Member States and regions.

The European Framework Programme is the most vital instrument for carrying out a European R&D policy. The successive Framework Programmes have made a huge

contribution towards promoting scientific cooperation between European knowledge-based institutions and businesses, creating value-adding opportunities in terms of the competitiveness of business, tackling the societal challenges, support for outstanding research activities in knowledge-based institutions, training for researchers and bolstering research infrastructures. The Framework Programme has obviously undergone a transformation over a 20-year period, with the objectives constantly being aligned with the social and economic challenges of the Community and its Member States. As Europe has now reached an economic and social turning point, involving unprecedented challenges, the EU FP has to be fleshed out so as to tackle these challenges as much as possible. The commitment of other authorities is also vital in this regard. Equally important is an appropriate allocation of tasks between the different levels (subsidiarity) with the European Commission taking on a coordinating role, as well as bringing the European R&D and innovation instruments into line with the policy instruments of the Member States and regions.

1.2. The EU FP as an instrument for pooling the European R&D resources ...

The recognition that R&D has a decisive influence on the creation of innovation in business and society underscores the importance of a significant level of support being made available via the EU and the Member States, including private resources. The tremendous increase in R&D resources under the EU FP7 highlighted the extent to which research and development was acknowledged as the engine behind innovation. It is vital that this commitment should also be reflected in the post-2013 epoch in the level of resources available for R&D, and the proportion this represents in the overall European budget. A significant level of resources has to be provided once more under the next EU FP.

The EU FP continues to be an instrument for pooling European research and development resources. The horizontal and enhanced objective of promoting innovation does not alter that conclusion. From that point of view the next EU FP does not represent a radical shift in relation to the current Framework Programme. The next EU FP has the most to gain from a clear focus on support for research and development, but with a relevant set of instruments.

In the next EU FP the European authorities' R&D resources have to be streamlined as much as possible. The programmes and initiatives involving a research dimension undertaken in previous years outside the EU FP, with FP resources or otherwise, have to be consistent with the streamlined Framework Programme in future. The instruments available to the European authorities for promoting R&D-based innovation are also being

included in the EU FP. Bringing the R&D and innovation policy under the authority of one European Commissioner underscores the logic of this pooling and the policy can be developed further in a more integrated way and programmes be adjusted.

Pooling R&D initiatives in the EU FP has to help along the development of regulations allowing easier access for businesses, knowledge-based institutions and other key research players. Towards this end, the regulatory environment has to be harmonised as much as possible in the case of programme management, financial regulations, rules of participation and the rules for intellectual property rights. This integration should not result in a paralysing standardisation, nor should the development of new concepts and instruments stand in the way, provided these offer appropriate value-adding opportunities.

Scientific quality as a key criterion should always form the basis of the assessment procedure applied to all programmes and instruments supported or co-funded by the resources of the EU FP for the purpose of carrying out research. In the case of initiatives not focused purely and simply on research the relevance of the scientific quality criterion may vary according to the type of R&D activity being proposed and the position in the knowledge and innovation process, as compared with other criteria, such as the impact.

1.3. ...but with an enhanced objective and a commitment to innovation in business and society

The future European R&D policy, involving the EU FP as the key instrument, needs to ensure the resources available for innovation are significantly increased. This is possible as a result of giving tangible expression to the ERA 2020 Vision's call to develop programmes and instruments to meet the major societal challenges ("grand challenges") and the challenges of the business community. The appropriate research in support of innovation and the grand challenges takes various forms: apart from programmed research consideration also has to be given to small-scale 'bottom up' research cooperation, where the greatest potential for innovation often lies. Instruments and resources can also be used to transfer research findings to the market and society at a faster pace, although we need to keep a sense of proportion about how effective these instruments are likely to be.

The structure and objectives of the future EU FP will therefore be adapted and adjusted in terms of the existing instruments but not drastically changed. An adjustment regarded as substantially necessary is the need for smoother interaction (synergy) with the Member States' instruments for European cooperation, as described in 1.5.

As the Europe 2020 Strategy makes quite clear the entire array of research is relevant for promoting innovation. All kinds of research, ranging from fundamental and theoretical to applied and market-led research, is vital for creating innovation. The EU FP's support to the different links in the knowledge innovation chain involves relevant instruments tailored to the type of activities. Towards this end, it has to be decided in each case to what extent the relevant link in the knowledge and innovation chain is underpinned directly and fully via the EU Framework Programme resources (under the indirect management of an Agency or otherwise), or via the support instruments of the Member States, regions, public/public, public/private partnerships (PPPs) or inter-governmental organisations boosted with EU FP resources under specified conditions.

1.4. Promoting cooperation between businesses and knowledge-based institutions

Europe can rely on an extensive knowledge base, thanks first of all to the various research institutes and universities. Maximising cooperation between knowledge-based institutions and businesses in the context of innovation-driven R&D is generally recognised as a precondition for sharpening the competitive edge of businesses and innovation in society. Hence the need for the EU FP instruments to be fleshed out or strengthened, where possible and desirable, so as to facilitate this cooperation. It is possible to adjust the majority of the European programmes and instruments in the interests of this cooperation.

A key challenge is ensuring research findings are channelled more seamlessly into industrial (and social) applications. A precondition for closer cooperation between businesses and knowledge-based institutions is achieving a balanced framework for agreements on intellectual property rights (IPR) against the background of R&D projects. These cooperation arrangements may vary according to the status of the R&D activities in the knowledge and innovation chain.

Research programmes and instruments relying entirely on the EU FP for support should be covered by a basic pre-defined framework for IPR, subject to some scope for negotiations, as commonly accepted hitherto. This European IPR framework is also envisaged for public/private partnerships created with EU FP funding.

1.5. The EU FP for enhancing the instruments and programmes of Member States, regions and other European organisations and guaranteeing their open and inclusive character

European R&D cooperation via a European Framework Programme forms the basis for the valued added now established in terms of quality (via competition), economies of scale and impact. This rationale nonetheless continues to be valid, and also has to be decisive for the development of the EU FP8 instruments. All instruments and programmes have to be based on the rationale of international competition, demonstrating clear advantages in relation to the instruments being deployed in the case of the Member States and regions. The instruments available to the EU FP and the Member States and regions should reinforce and complement rather than duplicate each other.

The EU FP clearly has to act as the driving force in developing the European research area (ERA), and more specifically in the case of initiatives the Member States and regions undertake under the ERA 2020 Vision. The European authorities have to act as the driving and coordinating force in these initiatives to facilitate cross-border R&D cooperation of the Member States and regions, while the central European R&D (and the linked innovation-relevant) resources have to be deployed in order to modify these initiatives and programmes. The European co-funding system has to be subject to clear conditions, with European resources being pivotal for the necessary adjustment of the partnership initiatives created via the ERA 2020 Vision and particularly the Joint Programming and Research Infrastructures. In particular, they have to ensure the open and inclusive character of these initiatives so as to guarantee the opportunity for small countries or regions to participate in setting priorities and taking part in projects.

There is also a need for a closer complementary relationship between the objectives and instruments available to the EU FP and to inter-governmental organisations such as EUREKA.

A closer complementary relationship reflects the aim of seeking to rationalise the instruments in support of cross-border R&D cooperation. The advent of harmonised participation rules also guarantees smaller countries or regions access to these European R&D cooperation instruments. The conditional European 'top up' should therefore be regarded as a key factor for facilitating all the Members States harmonious participation in developing the ERA.

1.6. Simplifying the regulatory requirements

The European R&D programmes' participation and cost management rules have to be streamlined to a great extent to ensure that both businesses and knowledge-based institutions will avail themselves of the instruments so as to pool their R&D efforts in a European context.

The proposals the European Commission tabled in its 'Communication on the Simplification of the Implementation of European Research programmes' provide a valuable stimulus for what is regarded as the urgent need to simplify the regulatory requirements in the entire application and management process for R&D projects relying on European resources. It is vital for businesses and knowledge-based institutions, the actual stakeholders in a research company, to be involved in the developments affecting the regulatory requirements streamlining process. The items referred to below are crucial as components of the simplification planned for the process of implementing the EU FP8 programmes and instruments. They were also championed in this capacity by Flemish businesses and knowledge-based institutions within the Belgian position formulated in answer to the Communication referred to, as well as in preparation for the Council conclusions during the formal Competition Council on October 2010 and the European Parliament report presented under the leadership of the Member of the European Parliament Maria Da Graça Carvalho:

- The huge potential for simplification is more likely to be found in a far-reaching harmonisation of the financial and participation rules governing programmes and instruments in the EU arsenal, and the EU FP mechanisms (including JTI, art. 185, kics...);
- An unambiguous interpretation of the European regulatory requirements by the project officers from the European Commission and relevant agencies is also a key factor for promoting simplification;
- The simplification measures applied have to take account of the type of R&D stakeholders (businesses, research institutions, universities) and the kind of activities being carried out as part of the R&D projects: research, demonstration, training, exploitation and dissemination. The question of specific aid rates being linked to the variety of activities under the current regulations is definitely not acknowledged as a pressing need for simplification;
- There has to be a freedom to choose between the methodology for actual or average staff costs, and in the latter case this should be based on the actual wage costs widely applied in the institution and where this is in keeping with the customary accounting procedures;

- The use of 'lump sums' for staff costs is acceptable only if these are based on the actual cost of each organisation and pursuant to the customary accounting practices of the institution, as long as the amount involved allows the actual staff costs to be borne and as long as they do not have to be justified as a result of demonstrating the actual staff costs. It is possible to use 'lump sums' for other direct costs as long as account is taken of the type of research activity, such as the utilisation of costly infrastructure.
- A fast-track assessment and a short contract signing period are crucial. A maximum 3-year period has to be established for an ex-post audit.

The Commission proposal for a shift towards a result-based approach as the basis for funding projects was given a cautious reception by the VRWI. In any event this cannot be deployed as a generalised funding system on a widespread basis. Consequently, the approach is feasible only for programmes with specialist narrowly focused research objectives ('mission-oriented research and development'):

- The proposed option for project-specific 'lump sums' to determine the contribution to the project costs during the contract negotiations, and pay in the light of the agreed output cannot be applied on a widespread basis under the EU FP8 because this would result in less high-risk and thus less innovative projects.
- The proposed option for predefined project-specific 'lump sums' and selection on the basis of the largest anticipated scientific output for the given budget has not gone down very well because this methodology puts the less capital-intensive participants at a disadvantage. Nor is there any clear distinction from the process of pre-competitive innovative procurement.
- The proposed option for a 'high trust award approach' without requiring any justification for costs is, conversely, welcomed for frontier research.

Flemish knowledge-based institutions are also proposing a new option, where the European authorities grant certification for a short period to organisations whose accounting procedures are acknowledged as being in keeping with European financial regulations and financially reliable. During the accreditation period they are required to justify costs only when these apply to projects that are not carried out as anticipated.

2. POSITIONS CONCERNING THE VARIOUS BUILDING BLOCKS/STRUCTURE OF THE EUROPEAN RESEARCH POLICY

2.1. Cooperation programme as the key component of the EU FP

In keeping with the original aim of the Framework Programme the centrepiece of the future EU FP is once again the Cooperation programme component.

In order to ensure consistency with the innovation objectives of the EU FP the Cooperation programme has to be focused on the "grand challenges" identified by the European authorities in cooperation with various governments, businesses and key social players. Facilitating competitiveness in the business sector is also regarded as a grand challenge. As part of a specific programme to boost the competitive position of the business sector, R&D has to be founded in particular on key technologies.

Any programmes created under the Cooperation umbrella have to offer balanced support for both 'bottom up' research and programmed 'top down' research. The programmed research involving the grand challenges has to be based on multiannual research agendas fleshed out via businesses and the research community. The future programmes have a modular and flexible structure in terms of the description of the research schemes and the intended scale of the projects. The regulations provide the opportunity for research projects in progress to be adapted substantially or halted.

All programmes developed on the basis of the grand challenges, in the context of the programmed component, should provide scope for new, promising (visionary) and/or high-risk research ('bottom up') by knowledge-based institutions and businesses, as this research is a key link in the innovation chain while offering the necessary fertile ground for future applied research. In view of the importance of new and high-risk research for the knowledge and innovation chain an appropriate share of the budget has to be provided under this heading. The 'Future and Emerging Technologies' programme, applied under the EU FP 7, may be used as a template. The programme has to provide opportunities for both small and large-scale cooperation (comparable with the FET Flagship Initiatives). This 'bottom up' research component focuses on the importance of the innovative potential of small-scale research. The programme also has to be based on straightforward application procedures. The actual cooperation in the Cooperation programme may be undertaken in various types of projects or forms of cooperation. The large and small-scale cooperation

projects are effective in this respect. However, more formal forms of cooperation have to be developed among knowledge-based institutions by way of Joint Research Initiatives.

2.2. Public/private partnerships in support of R&D

For the purpose of positioning these Public-private Partnerships (PPPs) in the next EU FP an in-depth assessment has to be made of the extent to which current R&D PPPs (including the Joint Technology Initiatives in the current EU FP 7 and PPPs set up under the European Commission crisis plan) have achieved the planned objectives in terms of their impact and added value, and of the involvement of smaller businesses and knowledge-based institutions.

The R&D PPPs may act as valuable instruments for achieving specific technological breakthroughs but they have to be selective and carefully-thought-out in the light of highly specific technological objectives. Apart from the PPPs the Cooperation programme's specific added value is retained because this may serve, in particular, to develop cooperation between knowledge-based institutions and businesses in support of more generalised and more high-risk research.

PPPs currently being created as Joint Technology Initiatives (art. 187), and, in addition, the public/public partnerships as well under art. 169 and within the ERANET+ programme now pose huge participation problems for businesses and knowledge-based institutions. The participation is generally thwarted by the usually intricate financial, participatory and IP regulations at variance with the EU FP. The PPPs are based on co-funding programmes, generally with contributions by the national/regional authorities, industry, and the European Commission. The national/regional funding is still nearly always earmarked for organisations within the Member State's national/regional boundaries. Consequently, smaller Member States /regions with limited budgets are hamstrung in the extent to which they can participate. This is particularly true when there is a mismatch between the field of expertise boasted by the knowledge-based institution and the business community within the same region and they have to rely on 'cross border' cooperation. In practice, knowledge-based institutions may often participate solely as a subcontractor for a company from their own country or region, because there is no European funding for this 'cross border' cooperation. This means Europe is failing to seize opportunities to fully exploit its outstanding potential and mobilise it in support of European cooperation. Businesses also have to contend with an extremely cumbersome management structure, in the context of an overwhelming input by the European administration and the major industrial players.

Certain jtis also lay down rules for intellectual property (IP), allowing few or no rights to knowledge-based institutions and/or knowledge-based institutions are thwarted by national or regional regulations in the case of intellectual property rights to knowledge.

An appropriate level of participation for knowledge-based institutions is a key priority in the case of PPPs covered by the future EU instruments. The funding process has to be revamped to allow knowledge-based institutions to participate in full. In practical terms, there is a strong argument for the European financial contribution to PPPs to be focused on knowledge-based institutions and in doing so use the aid percentages as applied in the Cooperation programme. This will ensure that these business-oriented projects result in authentic European 'cross border' cooperation between a) high-quality knowledge-based institutions and b) knowledge-based institutions and businesses, wherever they are in Europe and thus independent of restrictive national or regional obstacles. The European authorities therefore have to act as an arbitrator to ensure a fair competition-based participatory system. The participating businesses in turn may tap into the participation of quality knowledge-based institutions, wherever they are.

The R&D PPPs covered by the future EU instruments for participation, funding and IP regulations have to be harmonised with each other as much possible, while being harmonised with the general regulatory requirements of the EU FP, from which they derive their support.

From a business perspective, we note that R&D PPPs covered by the future EU instruments have to show an obvious added value in relation to the R&D PPPs programme in the inter-governmental EUREKA initiatives. The so-called EUREKA's Cluster programmes were established long before the PPPs in (the margin) of the EU FP, and are highly successful initiatives in the case of joint research programming for 'mission-oriented' and market-led R&D. Consequently, they represent an attractive and flexible aid instrument for the business sector, as a follow-up to the EU FP cooperation programme, involving an appropriate commitment to research further along the innovation chain, closer to the market. This development has resulted in successful technological breakthroughs, while the business community is delighted with the system's flexibility and user-friendliness. Another key factor is the actual close involvement of small and medium-sized enterprises in projects launched under the EUREKA Cluster programmes.

However, in common with the jtis, the EUREKA initiative also has to be adapted particularly in the case of the cluster programmes so as to facilitate the necessary commitment of knowledge-based institutions. The obstacles to their participation can be overcome as a

result of European resources from the EU FP being earmarked specifically for the participation of knowledge-based institutions. Accordingly, EU FP funding may be deployed, within a separate portfolio the European Commission manages, for the benefit of European cooperation in 'cross border' business-oriented projects between a) quality knowledge-based institutions and b) between knowledge-based institutions and businesses, wherever they are in Europe, and so independent of the national or regional restrictions of government funding.

2.3. Joint Programming

Joint programming can make a major contribution to the creation of a European research area, producing a huge impact as a result of building critical mass around research and technologies, so wide support can be mobilised for urgent major social challenges. The biggest impact can be achieved via a skilful interaction and a better complementary relationship between the efforts under the EU FP and the parallel initiatives of the Member States and regions. Joint programming should be regarded as a process which is the responsibility of the Member States but has to be followed up by the European authorities and under specific conditions be consolidated as a result of committing EU FP resources.

It is important for the joint research programming process to result in a well-rounded ERA, with as many countries and regions as possible taking part and scope for participation in quality research sectors anywhere in Europe and possibly outside Europe. Here, too, the European authorities have to be an arbitrator as the engine behind the ERA. The European authorities can guarantee this role thanks to the commitment of EU FP resources. Tough conditions have to be set for the commitment of European resources for the Member States' Joint Programming initiatives: ensuring the Member States and regions, especially the smaller ones, are involved to a fair extent in setting priorities and the management system for the initiatives, ensuring requirements for the participation of businesses and knowledge-based institutions and ensuring scientific quality criteria in any assessment.

The importance of the European authorities' commitment as a key player or arbitrator in the process are reflected in the initiatives that may be regarded as foreshadowing the Joint Programming, particularly the public/public partnerships undertaken under art. 185, and the Joint Programming initiatives the Member States establish pursuant to the ERA 2020 Vision. Participation in art. 185 initiatives is currently being thwarted owing to the many and varied intricate regulatory requirements for participation, funding and IPR, while the

opportunity for key research players to participate hinges on the national and/or regional funding agencies and authorities.

2.4. SME R&D instruments

The smes' participation in all the EU FP programmes and instruments has to be encouraged as much as possible: first of all by developing user-friendly regulations for applicants and project management. Once again, a general target figure may be set for smes' participation in the various EU FP programmes and instruments but there is room for improvement for the follow-up of this target figure. More specifically, it is vital to follow up the extent to which the registered participation relates to smes (both high and low tech) in the actual R&D activities of the projects.

The future EU FP also needs to re-establish a horizontal R&D programme to bolster the innovation capacity of less research-intensive smes and to do so in cooperation with knowledge-based institutions owing to their status as R&D practitioners. The regulatory requirements of the current 'Research for the benefit of smes' programme has to be streamlined to a significant extent. One of the crucial things in this respect is to have a much shorter time of response between the application and the final notification of contract and hence the start of activities.

The complementary relationship required between the European R&D instruments and those of the Member States' instruments shows the need for continuing support for the EUROSTARS (EUREKA) programme.

2.5. A R&D innovation programme

The acknowledged continuum between R&D efforts and the R&D-driven promotion of innovation underlines the need for the EU FP8 to feature an innovation programme specifically focused on facilitating the transfer and application of R&D findings. The current 'Competitiveness and Innovation Programme (CIP)' has to undergo a root-and-branch assessment, while the R&D-relevant innovation measures regarded as positive have to be included in a separate innovation promotion programme.

Businesses require better support during the follow-up stage of R&D projects. In addition to the aid instruments available to the Member States and regions, the innovation programme has to roll out suitable instruments for technology validation and demonstration projects close to the market. The instruments absolutely have to provide a continuum of support in the innovation chain, so consortia of projects carried out under the Cooperation programme can proceed smoothly toward the instruments of the innovation programme, via a constantly accessible application procedure, without the need for a new long-drawn-out assessment process.

The programme also has to feature an innovative procurement instrument, related to and integrated into initiatives taken against the background of the European Commission Directorate-General for Industry's Lead market scheme.

The partnership between Europe and the Member States and regions for the purpose of promoting innovation should form the background for a better commitment and more visibility for the regional development resources of the Structural Funds in favour of innovation in the business sector and wider society.

2.6. Research training and mobility of researchers

The next EU FP once again has to feature a key component focused on researchers' career development and mobility in the various stages of their career. The research training and mobility programme is one of the obvious success stories of the previous Framework Programmes owing to the impact in terms of the scope and being widely known among members of the research community. It is vital for the programme or component to be included in the EU FP again as researchers are key factors (instruments) in a research company, as the programme lends support to research in all links of the knowledge chain and because the programme can make a tremendous contribution towards the cooperation required between knowledge-based institutions and businesses.

The promotion of training quality and mobility objectives are regarded as cross-sectoral objectives hence the future programme has to be focused again on researchers in all the scientific disciplines.

Cooperation between knowledge-based institutions and businesses underscores the need for the programme to include a better framework for intersectoral mobility (i.e. Between knowledge-based institutions, business and other key social players) in the future. This framework has to be refocused on the mobility of researchers in the various stages of their career development. The programme nonetheless requires a significant adjustment in terms of streamlining the regulatory requirements. Against this background, more resources have to be invested in initial research training for researchers, and once again there has to be a strong emphasis on ensuring the involvement of businesses and/or civil society players in deciding the research theme and mobility prospects.

The research training and mobility component also calls for a strong complementary relationship to be developed with activities decided upon by the Member States and regions. The EU FP resources have to be harnessed to fund programmes of the Member States and regions focused on the mobility of initial and post-doctoral researchers although this European co-funding should not replace firmly-based European programme research training and mobility.

2.7. Instruments in support of research excellence: the European Research Council

Frontier research is the starting point and fertile ground for any subsequent links in the knowledge chain, hence a key component of the following European Framework Programme. The research community is broadly satisfied with the European Research Council (ERC) and its aim of promoting excellent world-class research. What is more, the ERC's status as the sole instrument covering European competition in frontier research makes it unique for providing European value-adding opportunities. Hence the next EU FP should once more earmark a significant level of resources for the ERC.

The ERC and its instruments must retain an unambiguous and focused character so it can adopt a profile in relation to the other instruments in and outside the EU FP. What should continue to be the most fundamental item is the emphasis on excellence. This has to continue being the sole selection criterion for ERC grants in the future. One of the ERC's unique features is also the focus on the 'investigator driven' character of the activities. The ERC's original rationale and characteristics, not least research excellence as the sole selection criterion and the focus on frontier research, has to be a decisive factor for the future development of the ERC's policy and instruments

The recent ERC decision to develop a new type of financial grant, including one for innovative joint research projects conducted by a (limited) consortium of research groups, is therefore given a cautious reception. Once again, the ERC projects in this new support framework must be chosen solely on the basis of excellence, while the framework should never become an alternative for the proposed high-risk 'bottom up' projects in other components of the EU FP, particularly within the Cooperation section. Towards this end, research is sought within the grand challenges, where the impact of innovative application options (in the longer term) serves as a selection criterion, alongside research quality.

The unique character of the ERC component has to be retained as do the principle of research freedom and the 'Principal Investigator' as a decisive factor for the research theme. In the light of this, ERC funding under the next EU FP should primarily be focused on grants for 'Starting Independent Researcher Grants' and 'Advanced Investigators Grants'.

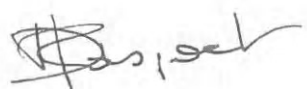
2.8. Large-scale research infrastructure

The efforts made under the European Strategy Forum on Research Infrastructures (ESFRI) are highly significant for the future European R&D policy with respect to large-scale research infrastructures. However, in the wake of the stage spent discovering the needs there has to be a stage spent consolidating and implementing the recommendations of the ESFRI forum, and the large-scale infrastructures now recognised as necessary. The implementation stage is possible only if there is a joint and synergistic commitment at European policymaking level, with their European resources, and policymaking level in the Member States and regions. In common with the European authorities in the past, the future EU FP has to offer selective and conditional support for building large-scale research infrastructures. In this case, too, the commitment of European resources has to be subject to conditions, while the European authorities participate as an arbitrator.

In practical terms the European value-adding status has to be ensured in this case too, and more specifically the involvement of the Member States in various ways, including the choice of infrastructures, setting priorities, the establishment, usage and access opportunities.

The EU FP has to offer continuing support to ensure wide access opportunities are allowed for the available large-scale infrastructures.

A significant level of resources is required to develop and maintain large-scale research infrastructures. Accordingly, under the partnership between Europe and the Member States and regions for promoting innovation, the regional development resources of the Structural Funds have to be more effectively deployed, particularly but not exclusively for developing and maintaining large-scale research infrastructures.



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