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on the European Research Area: New Perspectives
(2007/2187(INI))

Committee on Industry, Research and Energy

Rapporteur: Umberto Guidoni

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MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

on the European Research Area: New Perspectives (2007/2187(INI))

The European Parliament,

- having regard to the Commission Green Paper of 4 April 2007 entitled The European Research Area: New Perspectives (COM(2007)0161),
 - having regard to the Commission staff working document (SEC(2007)0412) accompanying the abovementioned Commission Green Paper,
 - having regard to Decision No 1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013)¹ (FP7),
 - having regard to Council Decision 2006/973/EC of 19 December 2006² concerning the specific programme 'People' implementing FP7,
 - having regard to its resolution of 24 May 2007 on putting knowledge into practice: a broad based elevation strategy for Europe³,
 - having regard to Rule 45 of its Rules of Procedure,
 - having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on the Internal Market and Consumer Protection and the Committee on Regional Development (A6-0005/2008),
- A. whereas the European Council of 23 and 24 March 2000, held in Lisbon, endorsed the objective of creating a European Research Area (ERA),
- B. whereas the European Council of 15 and 16 March 2002, held in Barcelona, agreed on a target of increasing total R&D expenditure to 3% of the Union's GDP by 2010 (two-thirds of which should come from the private sector),
- C. whereas FP7 is designed to support the creation of the ERA,
- D. whereas the creation of the ERA should be accompanied by the establishment of the European Area of Higher Education and the European Innovation Area, thus completing the three sides of the so-called knowledge triangle,

¹ OJ L 412, 30.12.2006, p.1.

² OJ L 54, 22.2.2007, p. 91.

³ Texts adopted : P6_TA(2007)0212.

- E. whereas the ERA encompasses three main aspects: an internal market for research, where researchers, technology and knowledge can freely circulate, effective coordination at EU level of national and regional research activities, programmes and policies and initiatives implemented and funded at EU level,
- F. whereas greater efforts, particularly as regards coordination, are needed in all dimensions of EU research: people, infrastructure, organisations, funding, knowledge sharing and global cooperation, in order to overcome the fragmentation of research in the EU and realise the EU's potential therein,
- G. whereas job opportunities and working conditions are not such as to encourage young men and women to enter the research sector, which means that valuable human resources are going to waste,
- H. whereas R&D funding in the EU is still far behind the Lisbon objective of 3% of GDP,
- I. whereas a broader view of the creation of the ERA is needed, involving all relevant stakeholders,
- J. whereas women are still unrepresented in most areas of science and engineering and in management posts,
- K. whereas the EU's private sector R&D contribution is lagging behind that of its direct competitors,

Creating a single labour market for researchers

1. Would welcome the common definition of research careers and the establishment of an information system on the employment of researchers and research practices throughout Europe and believes this will help the EU reach the highest levels in research;
2. Regrets that figures for expenditure on research and development show that the EU average is only 1.84% of GDP against 2.68% in the USA and 3.18 % in Japan; and that expenditure varies from 0.39% in Romania and 0.4% in Cyprus to 3.86% in Sweden; underlines the importance of increasing the average spending as well as raising expenditure in some Member States; highlights the importance of better focussing the diverse research and development efforts throughout the Union, especially in order to facilitate the transition towards the digital economy; this is fundamental for the creation of appropriate conditions for the achievement of the knowledge-based economy called for in the Lisbon Strategy;
3. Urges the Member States and regions to devise strategies for the development of material and human resources in research and innovation covering, for example, the upgrade and supply of research infrastructures, increased mobility for researchers through greater financial support, local initiatives to attract researchers, the removal of legal, administrative and language barriers, staff exchanges and guaranteed access for all, especially female researchers and the young;

4. Strongly supports the European Charter for Researchers and the Code of Conduct for their recruitment as a means of making the ERA more attractive to researchers; calls on the Commission to publicise the degree to which the Charter and Code of Conduct have been implemented in the Member States;
5. Stresses the need to establish and introduce a single European career path in the field of research and to introduce an integrated information system on job vacancies and training contracts in the research sector in Europe; believes that it is essential to create a single labour market for research workers;
6. Stresses the importance of making the recruitment and promotion procedures for research workers fully open and transparent; calls on Member States to ensure a better balance between men and women as regards recruitment and promotion boards;
7. Regrets that the transatlantic net outflow of R&D investment is still increasing; emphasises the importance of preventing the further outflow of competent European researchers; calls for the adoption of appropriate measures to retain researchers in the EU and to bring them back to the EU, notably by ensuring wide career prospects and attractive working conditions for both men and women;
8. Endorses the plan to increase the geographical mobility of researchers as well as their inter-sectoral mobility (that is, between universities and research organisations and between academia and the business world) as a means of achieving knowledge sharing and technology transfer; calls, to that effect, on the Commission and the Member States to enrich post-graduate and doctoral curricula by encouraging joint research supervision in different countries; and to consider the launching of European postdoctoral fellowships and training schemes building on the highly successful Erasmus programme;
9. Emphasises that a well-functioning internal market is important for successful development of the ERA and that the free movement of researchers in particular is vital; regrets that obstacles still hamper the mobility of researchers within the EU; calls for measures to improve the free flow of researchers, in particular by lifting all remaining transitional restrictions on the free movement of workers, as well as by improving the EU's research infrastructure; supports the creation of the European Institute of Innovation and Technology (EIT);
10. Considers that access to the EU for researchers should not be impeded by existing national barriers, such as insufficient recognition and portability of acquired social entitlements, tax disadvantages and difficulties in relocating families; urges the Member States to design their national legislation on public law employment in such way that researchers from Member States and third countries have comparable working conditions and are not prevented from taking up research work;
11. Recalls that one way of making researchers more mobile might be the creation of a research voucher which could be used by researchers in other Member States and hosting institutions and universities, the voucher thus making available additional financial resources for the actual research that attracts foreign researchers; believes that this would not only make it more interesting for research institutions and universities to host researchers from other Member States and to attract the most talented scientists, but would

also contribute to the development of centres of excellence by making it possible for the most attractive research programmes and institutions to appeal to more researchers and to improve their financial situation; believes that this extra support for researcher mobility should be additional to current mobility funding schemes and that funding could be allocated from the 'Cooperation' and 'Capacity' programmes of the FP7;

12. Points to the need to provide support for young researchers in particular, so as to ensure that they continue receiving grants when they change their place of work within the EU;
13. Believes that the Community regulatory framework on the free movement of researchers within the ERA should be reinforced so as to facilitate the issuance of visas and work permissions to nationals of third countries;
14. Considers it necessary to introduce specific measures to promote greater participation by women in all research activities, with the aim of significantly increasing the proportion of women pursuing research careers;
15. Believes that the fact that the younger generation is less interested in pursuing an education in science and technology is closely linked to the lack of cooperation between the private sector and the academic sphere; calls, therefore, on the Member States and the Commission to increase their efforts to promote frameworks for collaboration between these two sectors;
16. Calls for exchanges of experience among the Member States in order to develop a coherent approach to promoting the participation of the disabled in Community-funded research and an increase in the proportion of disabled people embarking on and pursuing research careers;
17. Considers that public authorities, research bodies and undertakings should promote measures to reconcile professional and private life;
18. Calls on the Commission to investigate how the teaching of sciences in the EU can be improved at all levels; deplors the lack of human resources in R&D in many Member States, which may be attributed to a declining interest among the younger generation in following scientific curricula and engaging in scientific careers; proposes, therefore, the launching of initiatives which familiarise schoolchildren with laboratory and field research; proposes, in addition, the promotion of active and investigatory methods of teaching, using observation and experimentation, the creation of professor-researcher exchange programmes and the support of innovative training methods by local and regional authorities; considers that rapid developments in science risk creating a gulf between ordinary citizens and scientific and technological research; considers that there is a need to promote and support dialogue between scientists and society at large and that, accordingly, scientists should make the results of their research comprehensible to all and available to all;
19. Considers that social conditions for researchers should be improved by creating employment opportunities for the partners of researchers and the provision of support in their search for care facilities or schooling for their children;

Developing world-class research infrastructures

20. Welcomes the progress made in developing research infrastructures with the adoption of the European Strategy Forum for Research Infrastructures (ESFRI) roadmap; nevertheless believes that provision should be made to include new facilities and infrastructures currently being developed by Member States alongside the infrastructures identified by the ESFRI;
21. Urges that funding for new, pan-European research infrastructures only be provided if there are no national infrastructures of equal value providing similar access opportunities for researchers from other Member States;
22. Emphasises the role and importance of the Research Performing Organisations (RPOs) in the European research landscape, alongside the universities and the research funding agencies; calls on the Commission to establish a degree of collaboration with national agencies, universities and RPOs in Europe, in association with regional authorities, before agreeing a common policy and implementation plan;
23. Calls on the Commission to propose a legal framework to facilitate the creation and operation of major Community research organisations and infrastructures and to consider the involvement of existing European institutions and agreements, such as the European Organisation for Nuclear Research (CERN), the European Space Agency (ESA) and the European Fusion Development Agreement (EFDA), albeit that intergovernmental treaties to implement such organisations should be avoided;
24. Recommends at the same time that bodies from countries with less dynamic research sectors but appropriate research potential should be fully involved in the process of building the pan-European research infrastructure;
25. Considers that, in order to ensure long-term operations and continuous improvement, the approval processes for large research infrastructures should cover R&D, information technology and operational funding;
26. Recognises that the EIT will be an important factor in strengthening the EU's research infrastructure;
27. Calls upon the Commission to support RPOs, universities and research funding agencies both to build their strength and to link their resources in building the ERA the goal being to reach global leadership in major scientific areas;

Strengthening research institutions

28. Acknowledges the importance of the ERA's regional dimension and considers that the development of regional clusters is an important means of achieving critical mass, bringing together universities, research institutions and industry, and creating European centres of excellence; believes that the 'Research Potential' and 'Regions of knowledge' programmes and the Structural Funds promoting the research and innovation potential of the regions should be seen as a key contribution to the objectives of FP7;

29. Emphasises the importance of national and regional contact points in strengthening the effects of framework programmes and calls for a deeper cooperation on their part;
30. Calls on the Commission to establish a European forum with high-level national representation, including national research councils, entrusted with the mission of identifying, developing and supporting major pan-European research initiatives, as well as a common system of scientific and technical review to better exploit the results of European programmes; believes that it would be beneficial to put in place a reliable system for validating knowledge and methods of analysis, control and certification and to network centres of excellence in the EU;
31. Calls on the Commission to make sure that networks of excellence and online research communities are fully complementary, by spelling out their objectives, operating rules and funding arrangements;
32. Calls on the Commission to further promote public procurement to support R&D at EU level by virtue of the more consistent use of public instruments and resources;
33. Welcomes the initiative for a European Charter for the use of intellectual property from public research institutions and universities, endorsed by the European Council held in Brussels on 21 and 22 June 2007, provided that it leads to a usable set of rules which in particular take account of the needs of scientific knowledge elaboration and transfer;
34. Draws attention to the role to be played by small and medium-sized enterprises (SMEs) as research bodies; believes it is necessary to strengthen their participation in R&D projects at EU level in line with the objective of earmarking at least 15% of the budget of the FP7 for SMEs;
35. Considers that strong research must be closely linked to innovation, therefore believes that concrete steps towards creation of a fully integrated European research and innovation area should be envisaged;

Sharing knowledge

36. Believes that investments in infrastructure, functionality and electronic cross-reference initiatives have enabled major improvements in dissemination and usage of scientific information and that the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities is an example of how opportunities for experimentation with new models have been opened up by the internet; underlines the importance of respecting authors' freedom of choice and intellectual property rights (IPR), ensuring the continuation of quality peer reviews and the trusted secure preservation of refereed work, and encourages stakeholders to work together through pilot projects to evaluate the impact and viability of alternative models, such as the development of Open Access;
37. Agrees with the 'open innovation' concept promoted by the Commission according to which the public and private sectors become full partners and share knowledge provided that a balanced and fair system is developed between open access to scientific results and use of such results by the private sector (fair sharing of knowledge); believes that the rule

of a fair and equitable financial reward for use of public knowledge by industry should be officially recognised;

38. Firmly believes that the legal uncertainty and high costs currently prevailing in the field of IPR contribute to fragmentation of research efforts in Europe; urges therefore the Commission to proceed to an impact assessment of the different legal instruments that can be used to reduce existing barriers to knowledge transfer within the ERA; notes that properly registered inventions can be an important source of knowledge and that legislation on IPR protection, including EU patent law, cannot be a barrier to knowledge-sharing; highlights the vital importance of establishing a Community Patent and a high-quality, cost-effective, innovation-friendly judicial system for European patents which respects the competence of the Court of Justice of the European Communities; notes the Communication from the Commission to the European Parliament and the Council on enhancing the patent system in Europe (COM(2007)0165); notes that the resulting legal framework will provide better incentives for private business involvement in research and will strengthen the position of EU innovators at the international level;
39. Calls on the Commission, in collaboration with the Member States, to establish a European forum whereby European- and national-level processes of civil society engagement in the discussion of science, research, and technology can be coordinated;
40. Considers that, in the context of the ERA, the capacities of Joint Research Centres (JRCs) should be exploited as high-level independent and neutral scientific and technical structures providing common expertise to the EU institutions and supporting decision-making processes on key issues (for example, quality of life, food safety, the environment, consumer protection);
41. Believes that, with a renewed mission supporting and encouraging their activities and focused on optimising the benefits to be derived from their structures, the JRCs could also promote 'truly European opportunities' in the field of training and mobility of young researchers;

Optimising research programmes and priorities

42. Deems it appropriate to implement the principle of the reciprocal opening of national programmes to participants from other Member States since this would be a step towards the exchange of information on existing national programmes and would encourage the evaluation of national research activities by international panels;
43. Notes that many Member States - especially those with less developed R&D structures - fear brain drain within the EU; calls for measures to prevent that by making national research policies complementary rather than competing, especially in order to promote coordination of resources and prevent their duplication and dispersion;
44. Considers it worthwhile to explore potentialities offered by the 'variable geometry' mechanism, as a suitable way of developing adequate flexibility in the realisation of thematic programmes;

45. Stresses the need to enhance complementarity between EU and national research funding;
46. Believes that the opening up of national research programmes and their financing to all researchers in the Member States should start, above all, in the area of fundamental research or so-called 'frontier research';
47. Observes that local and regional authorities should be engaged in creating a research-friendly framework and should make a significant contribution to the realisation of the ERA and that this could be brought about through Community funding programmes such as FP7, but that considerable progress could also be made by means of agreed programmes funded by the Structural Funds; considers, in particular, that the R&D potential of 'scientifically weaker' regions urgently needs to be enhanced through the combined use of Structural and FP7 funds, as well as national and regional investments, in order to efficiently address, among others, local needs in society-driven research;
48. Notes that the objectives of the Lisbon Strategy cannot be achieved without a serious increase in the involvement of the private sector in research activities; calls on the Commission to take actions to enhance the incentives for the private sector to invest and participate in research; supports the view that it is necessary to develop a European lead in technology-intensive markets supported by strong standards of IPR protection; holds the view that expanding Public Private Partnerships within well-functioning markets is important to this end;
49. Urges the Member States to ensure optimal funding of national and regional research activities defined in the Operational Programmes and to ensure the efficient exchange of good practices and cooperation between regions; notes that examples of good practice that are effective in one region cannot be transferred to other regions without adaptation; underlines, therefore, the specific nature of assessments carried out at regional level using reliable, transparent and universally accepted indicators;
50. Stresses the importance of unlocking research potential of all European regions as a means of raising competitiveness of European research;
51. Considers that actions should be taken to update forms and instruments of cooperation and to adapt them to the ERA objectives; recommends that initiatives such as the European cooperation in the field of scientific and technical research (COST) and the pan-European network for market-oriented, industrial R&D (EUREKA) be developed further;
52. Recognises the role that the networks of excellence are playing in creating the ERA through durable integration, thus avoiding fragmentation of research efforts, and calls upon the Commission to continue to support successful networks in order to reach this goal;
53. Emphasises that targeted R&D cooperation could foster important world-wide opportunities for European-led R&D; therefore, urges that national and regional research systems be connected with networks in Europe and beyond while guaranteeing the coherence of national and regional research programmes and priorities of European interest, like in particular the EIT; in this respect, calls on the Commission to

acknowledge the importance of spatial and regional sciences for territorial cohesion, with particular reference to the European Spatial Planning Observation Network 2013 programme; believes that territorial cooperation should be developed as a means of obtaining critical mass and preparing for internationalisation; therefore calls on the Member States to remove cross-border administrative barriers that hinder cooperation between knowledge institutions; recommends the open coordination method for comparing best national practices in this field;

54. Considers that a broader approach to establishing priorities for strategic decisions on public funding is needed and that the European Technology Platforms and Joint Technology Initiatives, among others, would benefit from the stronger involvement of public and private organisations, such as universities, RPOs and SMEs, in order to develop long-term strategies; emphasises the need to increase R&D investment and boost innovation in Europe; refers in this context to the combination of the European Territorial Agenda and the Lisbon objectives taken up in the strategic guidelines for cohesion policy, both being preconditions for ensuring competitiveness; stresses the need to combine the ERA's top-down approach with the bottom-up approach of regional policy; highlights the need to improve the coordination of research activities and programmes, such as the European Technology Platforms and the 'ERA-NET' programme;
55. Believes that foresight and strategic agendas elaborated by the research community should be taken into consideration when designing work programmes and calls for proposals in FP7;

Opening up to the world: international cooperation in S&T

56. Considers that R&D cooperation can help to achieve specific Millennium Development Goals and therefore believes that it is important to align EU scientific co-operation policies with EU foreign policy and development aid programmes;
57. Calls on the Commission to strengthen research cooperation to foster dialogue, peace, security and economic and social development; believes that such cooperation will further enable the EU to address highly relevant issues, such as regional sustainable development, health, food security and climate change;
58. Calls on the Commission to initiate, implement and support measures to improve the level of participation of scientists from developing countries in international collaborative science and R&D projects and promote access to existing intellectual property globally; underlines the importance of attracting researchers from third countries to the EU, particularly from the European neighbourhood countries, *inter alia* through a faster transposition of the Council Directive 2005/71/EC of 12 October 2005 on a specific procedure for admitting third-country nationals for the purposes of scientific research¹, taking full account of the needs of researchers; supports the Commission's proposal for the creation of a blue card system which would be of great value for human resources in S&T not covered by the directive;

¹ OJ L 289, 3.11.2005, p. 15.

59. Hopes that the ERA, from the point of view of its openness to the world, will favour the outermost regions (ORs) and the Overseas Countries and Territories (OCT) in order to make the most of the advantages and riches offered by these European or partner regions, by incorporating them coherently into scientific and technological cooperation actions in the context of ‘networks of excellence’;
60. Considers that the EU neighbouring countries and countries that are more aligned with the EU's geopolitical priorities, such as those of the Mediterranean basin and Eastern Europe, Africa and Latin America, should be encouraged to participate in the ERA through further promotion of scientific and technological cooperation agreements; considers that countries that are more aligned with the EU's geo-political priorities, such as those of the Mediterranean basin, should be encouraged to participate in a ‘broader ERA’ that may gradually extend its coordination schemes, knowledge-sharing principles and researcher mobility beyond the strict boundaries of the EU and its associated countries;

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61. Instructs its President to forward this resolution to the Council and the Commission.

EXPLANATORY STATEMENT

Research, society and economic growth

The role of science and technology in the society has been strongly influenced by the view that sees Research and Development (R&D) mainly as an instrument of economic competition: research is worthwhile only if able to promote innovation. This analysis leads to favour applied research rather than basic investigation, the development of new technologies rather than the discovery of new scientific theories, a short term perspective instead of a long period commitment.

The debate has been focused almost entirely on the economic value of R&D, more and more attention has been paid to instruments to protect Intellectual Property Rights (IPR's). In recent years, deep changes took place regarding the system of IPR's: widening areas of protected knowledge and granting a broader range of rights to patent holders. Patentable topics has been widened including software and databases (those related to genetics and geophysics) and even basic science has been involved (like mathematics and biology).¹

But two divergent positions exist on the matter. On one side, it is due to guarantee incentives to inventors: if the economic return for the author is not protected, there is a risk of slowing down innovation. On the other side, broadening IPR's can create undesired obstacles to the spread of knowledge, the very basic ingredient for innovation. An excessive extension of patents could generate a distortion of resources allocated for technical innovation, investments that are routed towards areas with bigger private return rather than on those with greater interest for the whole society².

The rapporteur believes that it is important to go back to the main mission of scientific research: the creation of new knowledge³. It is necessary to re-evaluate a diffused preconception that sees a linear relationship between R&D and innovation. Indeed,

¹ The increased economic value of IPR's has led to a significant increment of patents: the number of requests at the European Patent Office increased from 70,000, in 1990, to 129,000 in 2000; the same happened in US were patents increased from 62,000, in 1980, to 90,000, in 1990, and 166,000 on 2001. Also the relative controversies for patents and copyrights increased, at least in the United States.

² In the Oece meeting of January 2004, was stated that the IPR's system should not reduce access to new knowledge. Governments were asked to adopt appropriate measures to guarantee that scientific data from public financed research were made available to everyone

³ "...universities and the endowed research institutes must furnish both the new scientific knowledge and the trained research workers. These institutions are uniquely qualified by tradition and by their special characteristics to carry on basic research. They are charged with the responsibility of conserving the knowledge accumulated by the past, imparting that knowledge to students, and contributing new knowledge of all kinds. It is chiefly in these institutions that scientists may work in an atmosphere which is relatively free from the adverse pressure of convention, prejudice, or commercial necessity. At their best they provide the scientific worker with a strong sense of solidarity and security, as well as a substantial degree of personal intellectual freedom. All of these factors are of great importance in the development of new knowledge, since much of new knowledge is certain to arouse opposition because of its tendency to challenge current beliefs or practice. Industry is generally inhibited by preconceived goals, by its own clearly defined standards, and by the constant pressure of commercial necessity. Satisfactory progress in basic science seldom occurs under conditions prevailing in the normal industrial laboratory..." (Vannevar Bush, *The Endless Frontier*, 1945).

correlations do exist but they involve higher levels of complexity and potentially have to do with areas well outside the realm of science. Therefore, the perception of research as a sort of "panacea" to solve economic and social problems needs to be corrected.

On the other hand, we cannot imagine leaving R&D only in the hands of scientists working in their "ivory tower". Although it does not directly address visible and immediate economic dividends, R&D is a fundamental factor for the creation of the *knowledge based society* in Europe.

There is convincing evidence that public-funded research produces considerable social benefits. However, these benefits are often thin, heterogeneous, difficult to characterize and to measure, and mainly indirect. Public research must be considered more like a source of new ideas, methods and, above all, as a mean to train people to solve complex problems.

Unfortunately there are no simple models to describe the nature of the benefits stemming from public funded research and it is even more difficult to establish the amount of resources and the areas on which to invest, also because there are considerable differences among countries and fields. The literature available indicates that the financing of research, like many other public funded fields (such as *security* and *defence*), is not easy to justify only in terms of "*measurable economic benefits*".

The need for research governance

EU governments have set the ambitious Lisbon agenda, which emphasises the key role of the transition to the knowledge-based economy in securing sustainable growth, more and better jobs and greater social cohesion.

Such ambitions and such a vision of the future are vital if policy in Europe has to reflect major societal concerns. However, the part that R&D can play in this process will be constrained if a number of key factors, which currently prevent Europe from achieving its full S&T potential, are not adequately addressed.

The rapporteur believes that the innovative performance of Europe, and thus its growth potential, depends upon the development of a "*balanced system*" of knowledge production and distribution. The role of the Commission and MS's then is to invest in human capital, intensify relationships, and optimise the flows of knowledge. Europe has to search for alternative criteria to measure the effectiveness of policy instruments, especially looking at the catalyst effects of public support, also referred to as "*behavioural additionality*"¹.

A factor contributing to Europe's weakness in Science and Technology is the lack of sufficient investment in R&D². If Europe wants to tackle the tough economic, social and environmental challenges it faces at the beginning of the twenty-first century, it will need to spend more on research.

¹ Muldur, U., Corvers, F., Delanghe, H., Dratwa, J., Heimberger, D., Sloan, B., Vanslebrouck, S., "A new Deal for an Effective European Research Policy - The Design and Impacts of the 7th Framework Programme", 2006

² The United States and Japan not only invest more of their GDP in R&D than the EU (2.67% and 3.20% respectively in 2003 compared with 1.90% for the EU), but have also increased their R&D intensity since the mid-1990s, leaving Europe seriously lagging behind.

The steps taken at the Lisbon European Council in 2000 were a reaction to these concerns about Europe's underinvestment in the knowledge economy, and this was further reinforced at the Barcelona summit in 2002, where the EU set itself the objective of reaching an R&D intensity of 3 per cent by 2010. However, the growth in its R&D spending since 2000 has been insufficient to achieve this target¹.

Yet much of the gap in spending compared with its competitors relates to R&D financed by industry. Market failures prevent the private sector from investing in research at the socially optimum level. Governments have an important role to play: both by providing incentives and conditions which encourage more private investment in R&D, and by stepping in to support R&D in cases where business would not otherwise do so.

But, above all, the role of governments is creating the conditions to allow new knowledge to be created and made available to all society. Indeed, knowledge and innovation have the characteristics of a "*public good*", that is, something that should be accessible to everybody in a society.²

"The need for public support of research also derives from the system nature of innovation, and from the importance to invest in human capital and networks to ensure the absorption of knowledge. The process of knowledge production is much more complex than the linear model suggests. There are many feedback effects between the various stages in the innovation process, which is best considered as a system, where institutional relationships and the flows of knowledge between actors are of critical importance."³

"Against the background of limited resources for R&D it has become even more important to ensure that scarce funds are spent as effectively as possible. However, the already negative effects of Europe's relatively low investment in research (...) are compounded by a number of structural deficits inherent in the European R&D system. These systemic weaknesses make Europe a less-attractive place for R&D investors and researchers, and produce a wasteful fragmentation of research efforts.

At the heart of the problem is the issue of *research governance* in Europe. In particular, the question arises of how best to allocate policy competences and resources across the different organizational levels of public authority - local/regional, national and EU."⁴

ERA Contribution

In the EU there has been an increasing awareness of the need to better organize the multi-level governance systems for research in order to ensure greater complementarities of policies, to reduce fragmentation of funding and to avoid duplication of efforts.

¹ Between 2000 and 2003 the average annual growth of EU-25 R&D intensity was just 0.7%, a trend which, if continued, would lead to an intensity of only about 2.2 % in 2010.

² Muldur, U., Corvers, F., Delanghe, H., Dratwa, J., Heimberger, D., Sloan, B., Vanslebrouck, S., "A new Deal for an Effective European Research Policy - The Design and Impacts of the 7th Framework Programme", 2006

³ idem, p. 48

⁴ idem p. 51

There is also evidence of the increasing regionalization. The success of areas like Silicon Valley and Cambridge has convinced governments of the need to create more of these innovative knowledge clusters.

"On the other hand there has been a significant growth in the scale and scope of the EU level of intervention. Since the 1st Framework Programme in 1984, European research policy has expanded in terms of its ambition and its budget. ... However,.... research and innovation policies continue to be pursued largely in parallel -at national, EU and regional levels- leading to what some have called a "governance gap" of poor integration and coordination between these different levels"¹.

Unlike the United States or Japan, European research still represents a "puzzle" of national public systems. National activities, governed by 27 varying legislative, regulatory and financial structures, are still largely undertaken independently of one another^{2 3}.

The EU already helps to compensate funding trans-national collaborative research under the FP's. However, the financial support the EU can offer today is limited. Community efforts represent a *28th research policy*, with a budget of only around 6% of public funding, it cannot be sufficiently dynamic to have a truly integrating effect on national policies.

The European Research Area (ERA) initiative was launched in March 2000 to tackle these issues, but despite the progress achieved in these years, greater coordination and cooperation had to be achieved throughout Europe.

"More links had to be established between the different players (public authorities, firms, universities, research institutes) at all policy levels (regional, national, Community, inter-governmental) in the European research system."⁴

On the other hand, the context has evolved considerably since 2000:

- Globalization has accelerated and knowledge is a key component of this new global dynamic. An increasing share of global R&D will be located outside Europe⁵and, given the current trends, Europe's share of research will one day represent less than 10% of global knowledge production.

¹ Muldur, U., Corvers, F., Delanghe, H., Dratwa, J., Heimberger, D., Sloan, B., Vanslebrouck, S., "A new Deal for an Effective European Research Policy - The Design and Impacts of the 7th Framework Programme", 2006

² The example of basic research illustrates these issues. Its funding is dispersed across the Union, and consequently, many projects lack the necessary critical mass. The amount spent by Johns Hopkins University on basic research exceeds the individual efforts of 18 EU MS's, and is greater than the combined efforts of the 10 new MS's.

³ Muldur, U., Corvers, F., Delanghe, H., Dratwa, J., Heimberger, D., Sloan, B., Vanslebrouck, S., "A new Deal for an Effective European Research Policy - The Design and Impacts of the 7th Framework Programme", 2006

⁴ idem, p. 263

⁵ China and India have emerged as global S&T actors. India increased its R&D spending threefold over the last decade, building on average economic growth of 8% since 2003. China is one of the world's largest spenders and it is expected to catch up with the EU by 2009 in terms of R&D intensity (since 2004, is producing 3 times more engineers than the US and has the same number of full time researchers as all EU MS's together) .

- Various socio-economic challenges are grown – increased socio-economic disparities, climate change, ageing, and risks of infectious diseases – and there is a consensus that stronger concerted actions are needed at EU and global level, notably in science and technology.
- The European research landscape has evolved with the launching of the 7th FP, containing new measures such as the European Research Council (ERC), but also through various ERA specific measures, as well as the wider diversity of scientific cultures that have come with the expanded EU¹.

The EU has a long tradition of excellence in R&D, but this excellence is often scattered across Europe, with 80% of public research being conducted at national level, mainly under national or regional research programmes. This all too often means that the potential of EU research is not fully exploited.

The Commission Green Paper points out crucial issues cutting across all dimensions of the ERA:

- The creation of an '*internal market*' for research - an area of free movement of knowledge, researchers and technology - with the aim of increasing cooperation, stimulating innovation and achieving a better allocation of resources;

The development of a European research policy deeply rooted in European society. It should support advancement in fields of a major public concern, such as health, energy and climate change.

- A restructuring of the research fabric in Europe is needed to achieve a balance between competition and cooperation and in order to develop world-class excellence.
- European research must fully benefit from Europe's diversity, which has been enriched with the recent EU enlargements.

These issues should be the core of an institutional and public debate aimed to prepare initiatives for 2008, as we approach the review of the first three-year cycle of the renewed Lisbon Strategy and the launch of the second cycle.

While the original ERA objectives remain valid today, a more dynamic approach is needed.² "This calls not for a piecemeal raising of effectiveness and impact, but for making effectiveness and impact the key priorities.... action should be taken where most effective.

¹ With the accession of Romania and Bulgaria, the EU population has risen to around 490 million people, the world's third largest population area after China and India. The EU is the world's leading market in terms of demand for knowledge-intensive products. Studies have shown that demand for such products is a major driver of R&D location and investment decisions. The problem is, however, that a single EU market for S&T intensive products does not exist yet. Several barriers persist: different national legislation, different technical standards, specificities in local markets, etc.

² Muldur, U., Corvers, F., Delanghe, H., Dratwa, J., Heimberger, D., Sloan, B., Vanslebrouck, S., "A new Deal for an Effective European Research Policy - The Design and Impacts of the 7th Framework Programme", 2006, p. 263, 264

This means a reallocation of responsibilities and assumes going beyond the existing structure of the European research system...."¹

"This *"New Deal"* would involve a more ambitious approach towards the realisation of the European Research Area..... Unlike the original ERA initiative, it does not simply promote the establishment of links between existing European S&T players, each with their own existing roles and responsibilities..... It is, above all, important to keep an open mind about the outcome of this debate and inquiry. It could mean an expansion of national or regional activities in some areas. It could lead to an increase in EU-level actions in others. It may even result in a need to build new, common European S&T institutions"², looking at organizations like CERN and ESA, good examples of success stories.

"The *New Deal* would mean preparing these decisions together based on solid, shared evidence, and bravely facing"³ the changes. The EU ability to do so could herald a new phase for European research.⁴

¹ Muldur, U., Corvers, F., Delanghe, H., Dratwa, J., Heimberger, D., Sloan, B., Vanslebrouck, S., "A new Deal for an Effective European Research Policy - The Design and Impacts of the 7th Framework Programme", 2006, p. 264

² idem, p. 266.

³ idem,

⁴ idem,

29.11.2007

OPINION OF THE COMMITTEE ON THE INTERNAL MARKET AND CONSUMER PROTECTION

for the Committee on Industry, Research and Energy

on The European Research Area: New Perspectives
(2007/2187(INI))

Draftsman: Bill Newton Dunn

SUGGESTIONS

The Committee on the Internal Market and Consumer Protection calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions in its motion for a resolution:

1. Warmly welcomes the Commission Green paper on the European Research Area: New Perspectives (COM(2007)0161); underlines that the creation of the European Research Area (ERA) is vital to achieve the objectives of the Lisbon Strategy for Growth and Jobs;
2. Underlines that a well-functioning Internal Market is important for a successful development of the ERA and in particular that the free circulation of researchers is vital; regrets that researchers still have obstacles hampering their mobility within the EU; calls for measures to improve the free-flow of researchers, in particular by lifting all the remaining transitional restrictions on the free movement of workers as well as improving the EU's infrastructure of research; supports the creation of the European Institute of Technology .
3. Regrets that the transatlantic net outflow of R&D investment is still increasing; underlines the importance of preventing the further outflow of competent European researchers; calls for appropriate measures to retain and re-attract researchers in the EU, notably by ensuring wide career prospects and attractive working conditions for both men and women;
4. Underlines the importance of attracting researchers also from third countries to the EU, particularly from the European neighbourhood countries, inter alia by way of a more rapid transposition of the Council Directive 2005/71/EC of 12 October 2005 on a specific

procedure for admitting third-country nationals for the purposes of scientific research¹, taking full account of the needs of researchers; also gives supports to the Commission's proposal for the creation of a blue card system which would be of great value for human resources in S&T not covered by the directive;

5. Highlights the vital importance of establishing a Community Patent and a high- quality, cost-effective, innovation-friendly judicial system for European patents which respects the competence of the Court of Justice of the European Communities; notes the Communication from the Commission to the European Parliament and the Council on enhancing the patent system in Europe (COM(2007)0165); notes that the resulting legal framework will provide better incentives for private business involvement in research and will strengthen the position of European innovators at the international level;
6. Highlights the importance of a legal framework for intellectual property in scientific publications which guarantees the best possible access to scientific information while safeguarding the major role played by EU undertakings in scientific publishing;
7. Regrets that figures for expenditure on research and development show that the EU average is only 1.84% of GDP against 2.68% in the USA and 3.18 % in Japan; and that expenditure varies from 0.39% in Romania and 0.4% in Cyprus to 3.86% in Sweden; underlines the importance of increasing the average spending as well as raising expenditure in some Member States; highlights the importance of better focussing the diverse research and development efforts throughout the Union, especially in order to facilitate the transition towards the digital economy; this is fundamental for the creation of appropriate conditions for the achievement of the knowledge-based economy called for in the Lisbon Strategy;
8. Notes that many Member States - especially those with less developed R&D structures - fear brain drain within the EU; calls for measures to prevent this by making national research policies complementary rather than competing, especially in order to promote the coordination of resources and prevent their duplication and dispersion;
9. Notes that consumers are one of the important market driving forces who, through the exercise of choice, can generate incentives for innovation; calls on the Commission and Member States to take further steps to stimulate public debate on the importance of the ERA;
10. Notes that the objectives of the Lisbon Strategy cannot be achieved without a serious increase of the involvement of private business in research activities; calls on the Commission to take actions to enhance the incentives for private business to invest and participate in research; supports the view that is necessary to develop a European lead in technology-intensive markets supported by strong standards of intellectual property protection; holds the view that expanding Public Private Partnerships within well-functioning markets is important to this end.
11. In stimulating innovation, draws attention to the enormous potential available by engaging public procurement as a driver of new products and services; believes that,

¹ OJ L 289, 3.11.2005, p. 15.

within the ERA, research organisations should be encouraged to work closely with public authorities and to participate in development contracts.

12. Highlights the specific and major role of SMEs for achieving the objectives of the Lisbon Strategy through active participation and development of the ERA; welcomes the Commission's incentives towards attracting SMEs to the technology transfer process in Europe.
13. Underlines the need of strengthening coordination between national and regional research programmes and encourages the Commission to work closely with all stakeholders to ensure better coherence in research on issues of European interest.

RESULT OF FINAL VOTE IN COMMITTEE

Date adopted	27.11.2007
Result of final vote	+: 37 -: 0 0: 0
Members present for the final vote	Charlotte Cederschiöld, Corina Crețu, Mia De Vits, Janelly Fourtou, Vicente Miguel Garcés Ramón, Evelyne Gebhardt, Malcolm Harbour, Anna Hedh, Iliana Malinova Iotova, Pierre Jonckheer, Kurt Lechner, Lasse Lehtinen, Toine Manders, Arlene McCarthy, Nickolay Mladenov, , Catherine Neris, Bill Newton Dunn, Zita Pleštinská, Zuzana Roithová, Leopold Józef Rutowicz, Heide Rühle, Christel Schaldemose, Andreas Schwab, Eva-Britt Svensson, Alexander Stubb, Marianne Thyssen, Horia-Victor Toma, Jacques Toubon
Substitute(s) present for the final vote	Emmanouil Angelakas, André Brie, Wolfgang Bulfon, Ieke van den Burg, Colm Burke, Giovanna Corda, András Gyürk, Filip Kaczmarek, Manuel Medina Ortega
Substitute(s) under Rule 178(2) present for the final vote	Roland Gewalt,

18.12.2007

OPINION OF THE COMMITTEE ON REGIONAL DEVELOPMENT

for the Committee on Industry, Research and Energy

on The European Research Area: New Perspectives
(2007/2187(INI))

Draftsman: Miroslav Mikolášik

SUGGESTIONS

The Committee on Regional Development calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions in its motion for a resolution:

1. Stresses the key role of the regions in developing and structuring the European Research Area and helping to overcome fragmentation in European public research;
2. Rejoices at the fact that one of the major innovations of the Treaty of Lisbon is the recognition of the European Research Area as a means of achieving the European Union's R&D objectives; refers to the Seventh Framework Programme for Research and Development and the measures falling under that programme, such as the Joint Technology Initiatives, the network of pan-European research infrastructures and the Regions of Knowledge initiative, and highlights the need for improved private-public partnerships in order to foster business-research relations and develop regional growth;
3. Urges the Member States and regions to devise strategies for the development of material and human resources in research and innovation covering, for example, the upgrade and supply of research infrastructures, increased mobility for researchers through greater financial support, local initiatives to attract researchers, the removal of legal, administrative and language barriers, staff exchanges and guaranteed access for all, especially female researchers and the young; accordingly supports initiatives such as the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, as well as the activities of regional mobility and reception centres for researchers; also urges the Member States to develop better working conditions for researchers, introducing the necessary measures to reconcile professional and family life;

4. Notes the importance of schools and in particular of universities and higher-education establishments and their fundamental role in promoting research and careers in research, innovation and technology transfer, particularly at regional level; underlines also the importance of local and regional authorities in spreading scientific culture and promoting dialogue between the scientific community and society; underlines, therefore, the need for the relevant public authorities to invest in these sectors in order to strengthen research tools and improve infrastructures;
5. Calls on the Commission and the Member States to foster the development of regional academic and scientific research centres, regional research-driven and technology-transfer clusters and centres of excellence, while encouraging closer pan-European cooperation among such centres; insists in this regard that attention also be paid to smaller projects in less favoured regions and that a decentralized structure be encouraged; calls on the Member States and the regions to improve knowledge sharing among such centres, particularly by means of researcher mobility, and to develop virtual networks and research communities;
6. Hopes that the ERA, from the point of view of its openness to the world, will favour the outermost regions (ORs) and the Overseas Countries and Territories (OCT) in order to make the most of the advantages and riches offered by these European or partner regions, by incorporating them coherently into scientific and technological cooperation actions in the context of ‘networks of excellence’;
7. Urges the Member States to ensure optimal funding of national and regional research activities defined in the Operational Programmes and to ensure the efficient exchange of good practices and cooperation between regions; notes that examples of good practice that are effective in one region cannot be transferred to other regions without adaptation; underlines, therefore, the specific nature of assessments carried out at regional level using reliable, transparent and universally accepted indicators;
8. Emphasises the need to increase R&D investment and boost innovation in Europe; refers in this context to the combination of the European Territorial Agenda and the Lisbon objectives taken up in the strategic guidelines for cohesion policy, both being preconditions for ensuring competitiveness; stresses the need to combine the ERA's top down approach with regional policy's bottom up approach; highlights the need to improve the coordination of research activities and programmes, such as the European Technology Platforms and the “ERA-NET“ programme;
9. Stresses, furthermore, the need to coordinate at national and regional levels the funding provided under the Research Framework Programmes and from the Structural Funds, whilst bearing in mind the specific priorities of the regional networks within which those funds are deployed;
10. Emphasises that targeted R&D cooperation could foster important world-wide opportunities for European-led R&D; therefore urges that national and regional research systems be connected with networks in Europe and beyond, while guaranteeing the coherence of national and regional research programmes and priorities of European interest, such as the European Institute of Innovation and Technology; in this connection, calls on the Commission to acknowledge the importance of spatial and regional sciences

for territorial cohesion, with particular reference to the ESPON 2013 programme; believes that territorial cooperation should be developed as a means of achieving critical mass and preparing for internationalisation; therefore calls on the Member States to remove cross-border administrative barriers that hinder cooperation between knowledge institutions; recommends the open coordination method for comparing best national practices in this field.

RESULT OF FINAL VOTE IN COMMITTEE

Date adopted	18.12.2007
Result of final vote	+: 45 -: 0 0: 0
Members present for the final vote	Emmanouil Angelakas, Stavros Arnaoutakis, Elspeth Attwooll, Jean Marie Beaupuy, Rolf Berend, Wolfgang Bulfon, Bairbre de Brún, Petru Filip, Gerardo Galeote, Iratxe García Pérez, Eugenijus Gentvilas, Ambroise Guellec, Gábor Harangozó, Marian Harkin, Filiz Hakaeva Hyusmenova, Mieczysław Edmund Janowski, Rumiana Jeleva, Gisela Kallenbach, Tunne Kelam, Evgeni Kirilov, Miloš Koterec, Constanze Angela Krehl, Jamila Madeira, Mario Mantovani, Miroslav Mikolášik, Lambert van Nistelrooij, Jan Olbrycht, Maria Petre, Markus Pieper, Pierre Pribetich, Wojciech Roszkowski, Elisabeth Schroedter, Grażyna Staniszevska, Catherine Stihler, Margie Sudre, Kyriacos Triantaphyllides, Vladimír Železný
Substitute(s) present for the final vote	Jan Březina, Brigitte Douay, Den Dover, Emanuel Jardim Fernandes, Lidia Joanna Geringer de Oedenberg, Zita Pleštinská, Samuli Pohjamo, Grażyna Staniszevska, Iuliu Winkler,
Substitute(s) under Rule 178(2) present for the final vote	

RESULT OF FINAL VOTE IN COMMITTEE

Date adopted	19.12.2007
Result of final vote	+ : 43 - : 0 0 : 0
Members present for the final vote	Šarūnas Birutis, Jan Březina, Renato Brunetta, Jerzy Buzek, Pilar del Castillo Vera, Jorgo Chatzimarkakis, Giles Chichester, Dragoş Florin David, Den Dover, Lena Ek, Nicole Fontaine, Adam Gierek, Umberto Guidoni, Fiona Hall, David Hammerstein, Rebecca Harms, Gunnar Hökmark, Mary Honeyball, Ján Hudacký, Romana Jordan Cizelj, Pia Elda Locatelli, Angelika Niebler, Reino Paasilinna, Atanas Paparizov, Anni Podimata, Miloslav Ransdorf, Vladimír Remek, Herbert Reul, Mechtild Rothe, Paul Rübig, Catherine Trautmann, Claude Turmes, Nikolaos Vakalis, Alejo Vidal-Quadras
Substitute(s) present for the final vote	Danutė Budreikaitė, Joan Calabuig Rull, Edit Herczog, Toine Manders, Lambert van Nistelrooij, Pierre Pribetich, Dirk Sterckx, Silvia-Adriana Ţicău, Vladimir Urutchev
Substitute(s) under Rule 178(2) present for the final vote	