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Answer to the European Commission Consultation
on the Green Paper
on the European Research Area (ERA)

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Introduction

1. This note complies with the outline of the Green Paper, dealing with the following items:
 - General remarks
 - General remarks by chapter and sub-chapter headline of the table of contents
 - First elements of response to the questions raised in the Green Paper.

The note takes into account the internal document of the Commission SEC (2007) 412.

General remarks on the Green Paper

2. The Green Paper deals with the European Research Area, which is part of the European Research and Innovation Area, the basis of the Lisbon strategy: the European Research Area thus should be considered according to the viewpoints of an innovation and knowledge economy and society. It is closely linked to the European Area of Education and Training, especially with higher academic education.
3. The Lisbon strategy has been completed by the Barcelona strategy (the 3%) and is linked to the Bologna strategy.
4. The aim of the ERA concept is to create a European “domestic market” of Research.
5. Before speaking about coordination – a word which may have several meanings – the following points should rather be addressed:
 - The integration process of the research supply, so that it could be relevant and excellent at the worldwide level.
 - The fight against the fragmentation of this area (especially its supply, and its demand to a lesser extent –some innovative companies are a priori a minima European, but most of them are international).
 - The stimulation of the demand through a more harmonized approach (including companies).
 - The stimulation and harmonization of the research funding (including companies).
 - The organisation of the local, national and European interfaces of supply and demand.
 - Beyond that, to change the ERA or the ERIA into a reinforced cooperation oriented towards excellence and relevance, with worldwide interfaces.
6. As long as the ERA (or the ERIA) will not be a reinforced cooperation, the inter-governmental will not be avoided at the European level, but in any case, the Open Coordinate Method (OCM) should be kept.
7. Moreover, if the ERA wants to be a basis of support to the European industries « champions and SMEs », it will have to be able to manage the articulation and the differentiation of the supply and demand of knowledge in Europe; the experience of the Common Market has demonstrated that no Member State, except perhaps the more powerful, no region or no city could operate on the whole field of the ERA. Thus there is a need to get organized as “virtual networks”. In some cases, a too strict coordination can result in an opposite effect.
8. On this topic, we should clearly define a “European undertaking participating in the European Research Area”: the presence of R&D centres and production centres is required but is not sufficient. In order to exist, the ERA needs to keep and attract the worldwide R&D centres (World R&D headquarters).
9. The first five characteristics announced seem relevant, but are subject to the following remarks. The drafting of the sixth characteristic - different from the 2000 Communication - raises questions about displayed recommendations in the 7th Research Framework Programme, where a poor interpretation could lead to dilute the ERA into the Global Research and Innovation Area (GRIA) losing the European identity of the ERA:

- The United States of America, India, China, Russia and the New Independent States are still organized in equivalent National Research Areas; India and China are developing National Research Areas through interfaces, but not in a global opening.
10. To sum up, before thinking in terms of opening, we should talk about intensification (the ERA has not yet integrated the countries from the various enlargements for the last 25 years) and about the interfaces between the ERA and the world under three different aspects, and without neglecting the questions of intellectual property which are essential (even copyright):
- The support to the world challenges where the UE is cooperating in, often integrating the neighbouring countries, the developing countries, and particularly the OECD non-European countries.
 - The formal logic of cooperation-competition for the scientific excellence, at the international level, should not neglect the fact that the OECD non-European countries, even the countries from the New Independent States (NIS) and Russia, are our first scientific partners, before India and China.
 - A processing with a strict reciprocity clause with our partners, India and China.

Chapter 1 – A new look at the European Research Area

11. Rather than talking about the opportunities of the research and knowledge globalization only, it would be better to talk, as the Chinese and the Japanese do, with an ideogram, which means « challenge, risk, threat and opportunity ».
12. The Global Research and Innovation Area (GRIA) clearly requires the European Research Area not only to raise the question of Europe's ability to keep a global competitive advantage in terms of knowledge and innovation, but also to position oneself in the Global Research and Innovation Area, specifically on some key issues or domains.
13. The main question is « will the ERA keep a global competitive advantage or will it be obliged to specialize? » In any case, the question will be raised at the Member States level, except maybe for the more powerful, and at the subsidiarity levels too. This issue is linked to the question to know whether the concept of the ERA is multipolar within the GRIA and which alliance would be required.
14. The achieved progress since 2000 on the European Research Area should be acknowledged: these are to be mentioned for any matters directly related to the Commission or activities carried by the Council/CREST. However, the work undertaken at the inter-governmental level, which strives to give solutions to the research fragmentation, as well as the companies' work are not sufficiently underlined.
15. Nothing is said about the quite harmonized evolution of the governance of the national research and innovation systems and their performances, which are much more often in relation with the Open Coordination Method (OCM), or about the new experience of the Network of Excellence (NoE)¹ or about the Technology Platforms – some OECD strategic documents could be useful.
16. One of the failures of the ERA is linked to the insufficient progress which was done in the frame document on the State aids for research and innovation: it is not based enough on the Schumpeter theories and on the theories of the complex dynamic systems – which gives a comparative advantage to the North America area towards the ERA. Moreover, it does not take into account neither its articulation with the new accounting standards IFRS for companies – in 2008, there should be an IFRS document for SMEs! – nor the development of the public financial and accounting systems.
17. Another failure is the non public financing of innovation; the generalization of the Risk Sharing Finance Facility (RSFF) is essential, as it is to create a European financing system for innovation, with articulations at the local and regional levels – as it was done in the 50s and 60s when the Treaties

¹ And other transnational and highly specialised clusters/forms/structures

entered into force with the creation of regional and local development banks.

18. The attempts by the NoEs, and the attempt by the European Institute of Technology (EIT) aim at tackling research fragmentation by changing the competition-cooperation line in the research supply, and the governance, by reinforcing its competitive advantage in the world, and by creating European research operators.

It is astonishing that these experiences are not addressed or studied more for the future of the ERA: it would be as useful to maintain the European effort on NoEs, including the existing networks, as maintaining the effort on the ERANET schemes, which only deals with research public financing: one could understand how the ERIA really is considered by academic and industrial researchers at the moment.

19. The only drawback of the NoEs is to have been coordinated mainly by French entities (Germany, Spain and the United Kingdom have similar coordination rates to the rest of the FP, the Netherlands having quite a higher coordination rate than their traditional rate in the FP7). Moreover, Eastern European people involved in NoE did not advertise enough on the “breakthrough of their researchers” who participated in this network, which appeared to be another instrument of coordination. But is it relevant to consider their future as inter-governmental or as institutional only?

Chapter 2 – The European Research Area Vision

General remarks

20. There are two basic remarks about this chapter:

- The actual lack of articulation, both with the European Research and Innovation Area - which is the basis of the Lisbon and Barcelona agendas, and with the European Training and Higher Education Area; the ERA is of interest to all these parties, not only to the academic communities from universities, from other higher education organizations and from technical or scientific research institutes. The ERA cannot forget the research within companies (industrials and operators); they should be together with the internal research by public authorities.
- The second remark is that this vision can be a prerequisite to the updating of the 7th FP which has been required by the European Council and the European Parliament.

21. For the rest, ECTRI has no other remark than the one made in point 6 - general remarks on the Green Paper.

Answers to the three questions of chapter 2

Question 1 « *Are these essential elements which should be in the ERA? Are there other elements which should be taken into account in the vision of the ERA?* »

22. The ERA must be fundamentally articulated with the European Research and Innovation Area which gives a goal to the ERA, and with the fact that this ERA should address targeted research, border research, and pre-targeted border research.
23. The ERA should also be articulated with the Bologna process and with the European Training and Higher Education Area.
24. The ERA vision should address the following problems:
- The research demand
 - The very fragmented research supply and the emergence of real (or virtual) European research

networking together or not²

- The demand of research funding
- The articulation of supply and demand
- The ERA regulation.

25. The vision of ERA should explicitly be the reference for the updating of the 7th FP.

Question 2 « *which roles should the policy makers from UE have to establish such a European Research Area, operating for the best the European dimension as part of globalization and national and regional specialization?* »

26. The policies of the European Union should address the global challenges (weather, energy,...) including industrial challenges (automotive, aeronautics, ...) or services (STIC, ...) and the public policies of the three pillars of the European Union (and their articulation with the public policies of the Member States and of the other subsidiarity levels).
27. The frontier research should become a European Union policy as the research infrastructures policy which should not be limited to the ESFRI (European Strategic Forum on Research Infrastructures) ones: economic competitiveness requires other types of research infrastructures.
The whole scientific and technological range should have European critical masses, which justifies the importance of the present and future NoEs³ sustainability.
28. At the national level, we can not have any roles homogeneity – one only has to compare Luxembourg and Malta to Germany, the United Kingdom and France to understand.
29. Generally, the role of national and regional policies (except for large countries) will be to work on dynamic specialisation as well as participating in the construction of European critical masses (the experience of NoEs should be carried on, not only for the new NoEs but for the former ones too).
30. To apply the subsidiary principle to the main action in favour of SMEs, as it was done with the «Ortoli Facility» while helping the high technology SMEs to participate in the construction of European critical masses, without any consideration for their dominant positions, paying only attention to the dominant position abuse.
31. To define the EU policy for science and technology, as actor of a multi-polar world of science and technology, where the poles cover one billion inhabitants, raising the question of the alliance problem for the ERIA.

Question 3 « *Which initiatives by the UE would be likely to have the leverage bigger effect on the global public and private efforts in order to achieve that vision?* »

32. The European Union initiatives which are likely to have the biggest leverage effects on the public and private global effects to achieve that vision are the following:
- To create a European research supply, making the real (or virtual) European research operators (organised or not in network) emerge, and developing the European law of the European cooperative society of research.
 - To attract (or maintain) the global centres of R&D of industrial companies or operators.
 - To develop the risk sharing finance facility (RSFF)
 - To review, through a « Schumpeterian » and innovative vision of the complex dynamic systems, the frame of the State aids to the RDI, proposing the new frame to the WTO, not the opposite.
 - To create an incentive to the establishment of European private foundations to finance research.

² See note 1

³ See note 1

- To structure and support the emergence and the development of research spin-off.
 - To soften the strict coordination, in order to enable the national and regional research areas to specialize, helping the large countries in selecting their research specialization (or their non specialization), ceasing the transnational obligations of the consortiums, on the basis of a European excellence on a worldwide scale.
 - To develop a European industry and services policy.
 - To open a reinforced cooperation on the European Research and Innovation Area.
 - To make it easier to create research, technological or technical infrastructures or knowledge bases beside the ESFRI « oriented towards stakeholders » not purely academic.
33. Transport industrials and operators, as public authorities and their agencies, need these infrastructures, since the national level, even for Germany and France, has become insufficient.
- To create attraction around excellent and relevant research infrastructures not only in the field of the ESFRI very large infrastructures is a sine qua non condition for Europe's attractiveness:
- It is Japan's strategy to attract talents from Eastern Europe or from the rest of the world around large technological facilities (ex Tsukuba).
- It is the United States' strategy to attract researchers from Europe or from the world around large libraries and documentation centres and data bases for research and public policies.

Chapter 3 – Making ERA a reality

34. The following general remarks and replies apply to that chapter.
35. The questions of the following sub-chapters are only answered, and some general remarks are added in sub-chapter 3.5.

Sub-chapter 3.1 –Realizing a single labour market for researchers

Question 4 « *Is it necessary to implement a more efficient European framework, in order to improve the recruitment conditions, the working conditions and the researchers' sectorial and geographical mobility, including through binding measures? »*

36. *A minima*, the framework is desirable, it is necessary for some aspects of the full free movement of researchers in the European Union, beyond the general agreements in force. And in the Schengen area: it is also necessary to attract researchers to the European Union and the Schengen area.
37. Thus, there is room for recommendations, directives, regulations; but some actions should be encouraged, such as speaking several languages, including scientific languages.
38. It will be very difficult to harmonize the salary levels.

Question 5 « *How can the established principles in the European chart of the researcher and the code of conduct for their recruitment be implemented in an efficient way, in order to develop the full European dimension of the research careers, especially as regards the transnational opening of the job opportunities and the offered financing potentialities to researchers? »*

39. The European charter and the conduct code are a submitted recommendation to voluntary accession. There should be a further harmonization of the publicity and of the recruitment and assessment methods of researchers and other research staff.
40. The development of the PHD co-supervision, and the recruitments of all research staff through a common assessment procedure of applications should be developed.

In the same way, the harmonization of the criteria and procedures for the PHD direction or tutorship should be developed.

At last, bridges should be established between the researchers' assessment national systems in order to avoid the creation of de jure or de facto ghettos: otherwise there will be no European career.

41. The experience of Network of Excellence⁴ and Marie Curie networks should be generalized.
42. The intra European scientific visa should be developed even if the accession agreements do not provide it.
43. Moreover, something should be added as regards research administrators and managers, their training and their professional references: the administrators from some ECTRI Institutes suggested the creation of a European training Academy for these strategic professions for governance to enhance the advantage of our European system as compared with the world systems because these professions have nothing to do with the simple administrative or research activities.

Question 6 « *Should there be a European framework to ensure the portability of the provisions as regards social welfare for researchers throughout Europe?* »

44. Concerning the portability of the provisions in terms of social welfare, the existing systems should be kept at first: the illness risk, the ageing risk and the work accident should be separated as well as the basic and complementary compulsory or contractual pillars.
45. For the people with public status, the coordination will be difficult to achieve; for those with private status, the national frame of collective agreements and national labour codes is a constraint for the researchers' mobility, especially in companies. The Area should be distinguished from the rest of foreign countries as regards « secondment or assignment abroad ».
46. Even if the Nordic area seems to have solved a large part of these problems, for cultural reasons, an actual European model will have to be invented.
What is significant is to tend towards a harmonized model of European framework for research staff (status), which will be automatically acknowledged by the national research operators.

Question 7 « *How could the «flexibility-security» principles (combining the flexibility of labour market with the employment security) be applied to the researchers' labour market?* »

47. This question implies that the Danish general model could be generalized on the researchers' labour market in Europe, which is not necessarily the case.
48. The real problem is the renewal of the generation of researchers and research staff that will dominate all the rest.
49. The scientific labour market will only have to manage the frictions of geographical or intellectual mobility; one of the crucial questions is the training to discipline or thematic change or the training to governance assessment or culture change.
50. That implies the following actions:
 - To harmonize the career starts with the achievement of the Bologna strategy for doctoral students. The problem is to train PhD graduates (Doctors) who can work in other areas than their single academic area.
 - To harmonize the post-Doctoral career with geographical or thematic mobility.
 - To harmonize the criteria for thesis supervision or tutorship.
 - To harmonize the assessment of researchers at the European level.

⁴ see note 1

Question 8 « *How could the number and the quality of the researchers be improved in Europe, attracting young talents, ensuring a real equality of opportunity between men and women, exploiting the researchers' experience and know-how in the end of their career, for example for advice and training roles? »*

51. Paragraph 51 in this note is a first element of reply.
52. The first problem is to redesign training and education in sciences at secondary education level. However, anything experimental, from the domain of observation and non-theoretical is expensive in terms of teaching, obliging to review the references of the education contents.
53. It is fundamental to generalize the initiative called "Getting down to it" by Nobel Prize Georges Charpak, and reinforced by the so called Rocard report, like the introduction of combining school and work experience or technological training to enter scientific and technological higher education programmes. This could be achieved through new common initiatives in the European Education Area and the ERA.
54. Attracting scientists around excellent and relevant research infrastructures, not only in the field of the very large infrastructures of the ESFRI, is a sine qua non condition to make the ERA attractive.
- It is Japan's strategy to attract talents from Eastern Europe or from the rest of the world around large technological facilities (ex Tsukuba).
- It is the United States' strategy to attract researchers from Europe or from the world around large libraries and documentation centres and data bases for research and public policies.
55. The co-tutoring seniors from different scientific cultures and the integration of young talents in the real seniors' research works, including interaction with stakeholders, is one of the successes of a part of networks of excellence⁵; it should be generalized.

Question 9 « *Should joint approaches be elaborated to increase the consistency and the impact of the various initiatives intended to put the European researchers abroad and the foreign researchers in Europe in network? In the same way, is it possible to reinforce the consistency and the impact of the European initiatives in favour of the international mobility of researchers (for example, elaborating joint grants such as Fullbright)? »*

56. The first of the sub-questions raises the problem of the generalization of the existing geographical ERANET networks: one of the problems is that these networks have very wide thematic areas; there should be a scheme by theme area or sub-theme area for the IDEA and COOPERATION programmes of the FP7.
57. For the second sub-question, the answer can be positive, for public grants (national or regional), an initiative of co financing in the updating of the FP7 could be suggested. For the grants from private foundations, the development of an agenda of OMC type (Open Method of Coordination) and « OMC - taxes » could be explored.

Question 10 « *How could the researchers' specific needs be satisfied as regards education and training at every step of their career, starting by the third cycle and doctorate programmes, on the basis of the Bologna process for postsecondary education? »*

58. The first question is to know what the result of the Bologna process will be relative to international competition:
- The European PhD curriculum (including the British curriculum), even if they are different, have nothing to do with the American curriculum.
 - India, China and Latin America are submitted to both influences and didn't choose real PhD

⁵ See note 1

models or their national education areas, except for Mexico.

- Russia and the NEIs have a more continental model, which also adds the « PhD direction certificate » for seniors.
59. The other question, will the « PhD from Bologna » be opened to scientific innovation and/or to technological innovation in their education on training courses and in the desired profile for Doctors?
60. This is crucial, not only for companies, but also for research institutes or academic institutes, even for higher education institutions, and even more for the EIT (European Institute of Technology):
The American PhD is a training for « adventurer researchers » and thus it is « an enterprise system » at the level of the profile, even if some Doctors will remain in the academic community.

Sub-chapter 3.2 – Developing world-class research infrastructures

Question 11 « *How could the EU operate efficient choices concerning the PanEuropean research infrastructures, and their financing on the basis of the highlighted needs by the ESFRI. This latter aspect implies the Community (including the potential synergies with the instruments of the policy of cohesion) the Member States, the industry, the EIB and other financial institutions? »*

61. The PanEuropean research infrastructures highlighted by the ESFRI – even if there are not questioned – are insufficient for frontier and focused research, which requires “hard” technological research infrastructures like in Japan (simulators and simulator capacity, ...) and « soft » research infrastructures like in the United States (big libraries, formatted big databases for research and public policies).
62. In parallel with the ESFRI and with a committee of choice evaluation as regards to the ESFRI's infrastructures, two assessment and prospective committees should be created, the first one for soft infrastructures, the other one for the large technical and technological infrastructures.
To create attractiveness around excellent and relevant research infrastructures not only in the domain of the very large infrastructures of the ESFRI is one of the conditions of Europe's attractiveness:
It is Japan's strategy to attract talents from Eastern Europe or from the rest of the world around large technological equipments (ex Tsukuba).
It is the United States' strategy to attract researchers from Europe or from the world around large libraries and documentation centres and data bases for research and public policies.

Question 12 « *Should a Community juridical framework be developed, in order to make it easier to design and to implement new kinds of research infrastructures of PanEuropean interest, especially electronic infrastructures? Which other changes should be imposed on the level of the legislation policies in order to encourage the private sector to invest more in research infrastructures? »*

63. Concerning the first part of question, in addition to the tools such as Art 171 or intergovernmental treaties, it would be useful to develop an amendment to the regulation on the European Cooperative Society (ECS) to incorporate directly the ECSs with a goal of research infrastructure management (or even inter-institutional) because the technical and financial responsibilities are clearly defined with such a legal instrument.

Question 13 « *Should common and transparent principles be defined for the management and the accessibility of the infrastructures of European interest? »*

64. This would be ideal, but many existing infrastructures are managed in a commercial way by their owner; they belong to the owners' assets, including their intellectual property.
65. A charter could be recommended around management, technical accessibility, commercial accessibility, intellectual property, possible rules for ethical use, quality management and metrology,

and for reasonable pricing.

Question 14 « *How to ensure that research infrastructures will be improved in the long term; for example, through scientific and technical programmes which are associated to them, and through the European electronic infrastructures?* »

66. A first solution is to submit them to the following approaches:

- Quality,
- Metrology, including the scientific bases of the measures or the measurement for those which are measuring,
- Ethical or ergonomic use of the knowledge and data for the big data- or knowledge-bases, and their potential free access.

67. A second solution is to organize « benchmarks » networks of these infrastructures or of designing of new infrastructures.

Question 15 « *Should a global forum on research infrastructures be created, with the participation of third countries and international organisations, where the Europeans could talk as one (as they did for ITER research project on nuclear fusion)?* »

68. This question may seem relevant for the ESFRI infrastructures, including the electronic infrastructures; on the contrary, the category of the developed infrastructures in § 61 belong to the European comparative advantage towards the world.

Sub-chapter 3.3 – Strengthening research institutions

Question 16 « *Which is the best way, in terms of cost-effectiveness ratio, to reinforce the research institutions in order to enable them to become excellent, entering the global competition?* »

69. The fundamental problem of the enhancement of research institutions is to create a governance to enable them to change the cooperation – competition limit to create institutional real networks, resulting in various stages of virtual or real integration, reaching the critical mass on the global level.

70. The goal is to create real or virtual European research operators on the basis of the national operators, bilateral, trilateral or multilateral bodies, or on the basis of networks such as the virtual centres of excellence or the EIT Knowledge Innovations Communities (KICs).

71. The tools are secondary as compared with the political will to act both at the EU and the Member State levels.

The virtual or real centres of excellence do not look like the centres which were created in the 1960/70s: one of their comparative advantages will be their governance in parallel with their excellence and their relevance.

The experience of the FP6 NoEs⁶, from the outer viewpoint of the ERA, is the change of the governance into a European comparative advantage participating in the global excellence.

72. It is the only means, not only for the European small countries, but also for the six larger countries (Germany, France, United Kingdom, Spain, Netherlands and Italy or Scandinavia) to keep a general scientific and technological landscape organized in specialization networks⁷, and to keep or to access to a global dimension.

⁶ See note 1

⁷ See note 1

Question 17 « *What are the best ways to encourage the research operators to create virtual excellence centres, for example in the context of the proposed European Institute of Research and Technology, of the «excellence networks» of the 7^e Framework Programme, and to create national and regional initiatives, pooling the structures which put together the research management capacities from several institutions?* »

73. For networks of excellence⁸, all the lessons should be drawn from the NoEs of the FP6, from their nearly Darwinian expansion, and this approach should be considered as an integration process approach, demonstrating the usefulness to go on supporting the existing NoEs.
For the EIT, the traditional role of traditional actors is insufficient and it might be necessary to think “outside the box”.
74. For both of them, we have to test new funding solutions schemes to tackle the funding gaps using private foundations, or the RSFF.
75. Lastly, it would be useful to go back to the in depth definition for a type of European cooperative society with a scientific or technological orientation.
76. We have to organize competition to foster the governance on management capabilities especially on inter-institutional governance (cf. § 43 and 57 of that note).
77. There should be a networking of the research and regional innovation clusters in order to proceed to a specialization of excellence and relevance.

Question 18 « *Is a European initiative necessary in terms of regulation to make the creation of public-private partnerships easier?* »

78. Facilitating the creation of public/private partnerships requires two steps: (i) to review the framework of the State aids for RDI (cf. § 8, 16, 32 of that note), (ii) to stimulate the private and public funding, including through the foundations (cf. § 17, 32 of that note). The clusters were excluded, but not enough, from the frame of the State aids.
79. It should be recognized that Schumpeter’s economic theories are more significant than the market’s economic theories for competition and for the creation of the comparative advantage.
In extreme cases, innovation not only changes the structure of the markets, but it also makes markets emerge or disappear.
80. An initiative on the various types of partnership, including the responsible partnership is strategic a minima through a charter.

Question 19 « *How can the EU and the Member States better stimulate the establishment of European and global virtual research communities, which fully exploit the potential of the calculation, information and communication infrastructures?* »

81. This can be achieved, giving free access to the calculation, information and communication infrastructures, taking financial risks, including with public money on these virtual communities.

Question 20 « *Should measures be taken to elaborate: (i) principles concerning the autonomy and the management of research by research institutions, especially universities; (ii) common criteria concerning the financing and the assessment of the research institutions, especially universities, giving more weight to the links outside the academic community, and to the factors linked with results and performance?* »

82. The answer is positive, but adjusting the governance and treating the higher education institutes and other Research or Technology Organisations (RTOs) according to their specificity.

⁸ See note 1

83. In the transport domain, even among the academic area, the American, the Canadian, the Chinese (including Hong Kong) and the Australian let the need appear to have multi-disciplinary focused and frontier research institutes according to the ITS model from UC Berkeley; in Europe, and also in Japan, in China, in Canada and in the United States, there are also transport focused research institutes outside the university.

Sub-chapter 3.4 – Sharing Knowledge

Question 21 « *Should policies and practices be implemented on the EU level in order to open more and to guarantee the access to raw data and reviewed by peers publications, resulting from research works with public financing and to ensure their circulation? »*

84. Yes they should be, under two conditions :

- Not to confuse the free access with the absence of intellectual property.
- To preserve the intellectual property of the public aid contracting parties from the procedure of public purchase.

Question 22 « *What should be the figure of a European frame, based on the good practices and the identified models, to share knowledge between research institutions and industry? »*

85. The matter is complex (see the issue of the Community patent) and the question of commercially sensitive process should be properly addressed. A first step could be a charter.

86. Attention should be paid to the preservation of all of the models, the models of knowledge commercial sharing, the models of knowledge free sharing and the whole range of models, with an additional point to deal with for the frame of State aids.

87. Attention should be paid so that the dissemination and commercialization of research works will remain within the ERA in priority. The access cannot be free and used elsewhere without reciprocity.

Question 23 « *Should some questions linked with R&D, such as the compliance delay, the regimes of joint property and the research exception be examined in a European perspective? »*

88. The reply is positive, with the interfacing of the ERA with the rest of the world as a perspective.

Question 24 « *Which conditions should be created in order to promote innovative research in packaging, teaching, debate and assessment of sciences and technologies by the Europeans, and to enable the Europeans to be taken into account for the public decision making based on established facts? »*

89. The first point would be to assess the whole programme « EU Sciences and Society » and the counterpart Member States' programmes for the last 15 years.

90. It would be desirable that during the FP7, the DG INFSO launches a call « contents and media » on these subjects, and that the DG RTD considers the innovations in terms of dialogue with society in Europe and in the rest of the world.

91. A good OMC exercise could be an alternative.

92. Public decision making in Europe always relies on established facts, although the real problem is to rely on scientific established facts, which in fact is not the same approach: the case of climate change is a typical example.

Sub-chapter 3.5 – Optimizing research programmes and priorities

93. The questions raised are very oriented and hardly opened and only deal with the programmes and the priorities linked with these programmes. They ignore the whole work of structuration of supply, including the inter-organizational activities between research bodies and universities: « Big Science » is not the only concerned topic in the future of the ERA.
94. They ignore the question of non public funding, especially the role of the programmes by private non-profit sponsors and by others.
95. They do not separate enough the research types (frontier research, focused research with commercial objective, focused research with societal or public policy objective). The European whole factory needs the three types of research.
96. One should not confuse the inter-governmental level, the research programme inter-governmental level, the inter-governmental research supply and in the latter field the research centres inter-governmental level and other levels.

Question 25 « *Should common principles be elaborated and applied to examination by peers, quality guarantee, and the joint assessment of European, national and regional research programmes? Should these programmes be opened to the participants from other Member States, according to which modalities? »*

97. The reply to the first half question is positive, but it should be addressed according to the three types described in § 95 above.
98. In the second question, the “how” is more significant than the “what” which should be replied to by the affirmative.
99. The ERANET experiences of bilateral cooperations around responsible partners and of reciprocity with clear rules of intellectual property should be taken into account.
100. But the result should be not to dilute a specialization process which is indispensable for the excellence and the relevance of the ERA in the world.

Question 26 « *Should common principles be established for the liability in terms of research public financing, in order to simplify even more the rules and procedures and to increase the effectiveness and the efficiency of this financing? »*

101. The question should not only be asked for public funding (and for private financing with tax incentive) but for the other private financings.
102. At the level of the EU programmes concerning the ERA and the ERIA, this question should be replied to by the affirmative.
A-minima, a charter should be prepared in relation with a change of the frame of the State aid to RDI
103. A second step could be an ERANET of public agencies financing research (with the eventual addition of private non profit funding).
104. The Open Method of Coordination could be used profitably.

Question 27 « *Which participation processes should be implemented to enable the public authorities to list the main societal problems, deciding which ones require to put together the resources and capacities? »*

105. This question is too large; it is a question about Europe's final integration; so it is better to pay attention to the integration process as it is.
106. A-minima, the question of common exercises of prospective, technological forecasting and foresight is important: it amounts to suggesting both a participation in the OECD family from the European Community and an approach of type ERANET foresight, especially in the Open Method of Coordination.
107. Besides the normal political institutional process in Europe, and the stakeholders game, from the ERA viewpoint, the research with a societal or a public-policy goal should not only be oriented towards the EU but also towards the Member States or towards other subsidiarity levels needs.
108. The prospective, the foresight, the joint technological forecast are initiatives which should be fostered, but the emergence of different viewpoints should be left free, even if there are not necessarily correct.
109. At the level of the instruments or the funding schemes, many of these questions should not be restricted to coordination and support actions, but we will need actual collaborative projects, and need to use the Network of Excellence scheme on these subjects.
110. The production of new ideas and innovations is fundamental for the ERA. Moreover, scientific works can explain why some public policies are not that easy to be determined, constructed or managed: as an indication, most of the remarks based on the update of the EU White Paper on transport policy are based on the research results which were not funded by the FP.

Question 28 « *On these societal matters with community or global dimension, how would it be possible to establish and test principles and modalities for the joint programming of research, with the participation of all of the interested stakeholders (research institutions, companies, civil society, etc.) gathering all of the financial contributions from the UE, the Member States, the regions, the companies and the philanthropic sector? »*

111. This question raises fundamental problems concerning question 27 (cf. § 105 of this note).
112. One of the solutions is to attempt developing the equivalent of the European technological platforms, but as an EU and Member States « policy » not as an EC policy only.
The main obstacle is not to remake the politics and policy debate but to prepare a polity-policy debate, using the most advanced scientific knowledge (reservoirs) and the private or public organisations which are used to being ideas or prospective reservoirs or think-tanks.
113. Another solution would be to create the equivalent of the authorities that some Member States have created in terms of public debate at the European level.

Question 29 « *Should the European Community seek to join the research inter-governmental organisations? »*

114. The question as it is asked would call an affirmative answer, but the inter-governmental programmes should be separated from the inter-governmental research centres and other questions should be asked about relevance and excellence.
115. On the inter-governmental programmes such as EUREKA or COST, or as regards the OECD programmes, there is some potential in the present Treaties, in the Article 168, which will have to be rewritten if there is a reinforced cooperation on the ERIA. COST is already financed in the frame of

the EU.

116. Concerning the inter-governmental research centres, the questions of the governance excellence and of the organisation paradigm of the scientific production of reference should be raised: a new inter-governmental or European centre should be created differently from the centres created during the previous century, the result of the FPs having changed the paradigm of European research.
117. The paradigm of the EIT and of many NoEs⁹ has changed the situation, and if the general conclusion was to answer by the affirmative, for the inter-governmental centres, it would be desirable to analyze this concept for every organization: some inter-governmental centres do not raise any problem, some other could.
118. On the contrary, it should be suggested that the sustainability of the existing NoEs, and of course the sustainability of the future EIT KCIs, is in a package where the European Community would establish its presence or open its interventions to fields other than the « Big Science » ones.

Sub-chapter 3.6 – Opening to the world: international cooperation in sciences and technologies

Question 30 « *How can the European Commission and the Member States collaborate in order to: i) determine priorities for the international cooperation in the scientific and technological domain, in close coordination with the other aspects of the external relations; ii) ensure a coordinated and effective use of the instruments and resources; iii) speak with a single speech in multi-lateral initiatives?* »

119. This question is surprising because the present institutions and the practice the EU has of organizing committees generally enable to solve this question. The project of the Constitutional Treaty deals with the question in a better way: there is a need to come back to the full principle of actions in the agreements S&T UE countries with known and negotiated appendixes in agreement with the Council and the Parliament.
120. The problem to be addressed is the same as the problem of the internal policies of coordination between the structural funding and the FP, and for the external policies between the FP and their instruments.
121. On the latter point, speaking through a single speech at multilateral initiatives requires an inter Member States consensus, the role of the European Council being fundamental at the strategic level.

Question 31 « *How can the European Commission and the Member States collaborate in order to explore the potential initiatives concerning international research programmes on global problems, with the participation of the Community, the Member States and third countries?* »

122. In the existing condition of the Treaties, there can be two levels:
- The level of the scientific community in Europe.
 - The level of the stakeholders and institutions roles, which requires a consensus, if actions should be taken quickly, but the interest conflict remains.
123. The « bottom up » should be complied with and one of the basic problems is that all the Member States may not be concerned by a global or multilateral problem.
124. This refers to the questions concerning the alliances of the ERA, these of sub-chapter 3.6: the intellectual property, the balance between the European identity and the processing of global challenges.

⁹ See note 1

Question 32 « *How should the orientation of scientific and technological cooperation be adjusted with various groups from partner countries on specific objectives? Should the potentiality of complementary regional approaches be considered? »*

125. This topic raises the question of the transparency of international debates.
It all depends on the relations between the EU block and the other blocks (ex. ACP, Mediterranean,...) and on the international forums (UNO, G8, OECD family, ...).
126. It reaffirms that the scientific and technical agreements or the scientific part of the agreements between the EU block or EU – countries will be detailed in terms of S&T cooperation and objectives: cooperation is not the same for aeronautics, rail, maritime or automobile and it cannot be achieved anyhow.
127. This also raises the questions concerning alliances of the ERA, those of sub-chapter 3.6: the intellectual property, the balance between the European identity and the processing of the global challenges.
128. Some agreements will have to be quite general alliances, others will be strict agreements on scientific, technical or economical niches, and lastly multilateral agreements will concern specific problems.

Question 33 « *How to integrate for the best the neighbouring countries in the European Research Area as part of the European neighbourhood policy? »*

129. The ERA integration policy of the neighbouring countries in the sense of the European neighbourhood policy should be reserved to the Balkans countries non member or non candidate.
For the others, the association according to geographical zones of sub-regional blocks should be privileged.

Question 34 « *How to improve the effectiveness of the bilateral agreements, signed by the EU in the scientific and technological field? Can alternative or complementary instruments be used, such as joint calls for proposals, with the participation, if possible, of the Member States? »*

130. To make them more effective, they should be more detailed in terms of issues, related with the interests of the European stakeholders, in terms of intellectual property and in terms of governance and management.
131. The case of the joint call for proposals should be provided in the bilateral agreement management section, with the process, the participation rules and the funding mode.
132. The Memorandum of Applications which has not been through the European institutional factory should be banned if they are not planned in the EC agreements or procedures.
133. In some cases, the question of « Open sky » equivalent agreements can be raised.

Question 35 « *How to promote European joint scientific and technological cooperation agendas in the frame of multilateral organisations and agreements, as well as regional organisations ? »*

134. If the European Communities are not members of the organisation or multinational agreements through mandate or treaties, the European agendas develop in an inter-governmental way only, even if the Communities have the status of observers.

135. One of the institutional problems which will remain is linked to the fact that the ERA leads to specialization and that a European agenda can only be the agenda of some Member States who have the required expertise.
136. One of the solutions would be to integrate such an issue in the frame of a reinforced cooperation.

Chapter 4 – Moving ahead: public debate and further steps

137. We acknowledge what has been announced in chapter 4, in particular the reform of EURAB.
138. As regards the second paragraph, beyond the sets of statistics, data and information which are useful to the development of the European Research Area, it would be highly desirable to develop sets of indicators on the ERA: the experience of the NoEs¹⁰, which were obliged to think of innovative sets of indicator clusters concerning governance and integration, beyond projects follow-up, should be used.

¹⁰ See note 1