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TECHNICAL PAPER FROM THE CPMR GENERAL SECRETARIAT

PROPOSED AREAS OF WORK FOR THE CPMR IN RELATION TO THE EUROPEAN RESEARCH POLICY

On 12 June 2009, the CPMR's Political Bureau approved the setting up of a working group on the Regions within the European Research Area (ERA). The group's work will focus on providing substance for the CPMR opinion being prepared with a view to the 8th FP and other programmes for the post-2013 period.

A letter describing the possible areas of work for the group was sent out to all CPMR Regions on 14 April 2009, inviting them to express their interest. Several Regions have already put their names forward and the group is currently being set up. Participation in the group is open. CPMR Member Regions and other interested organisations are invited to contact the CPMR General Secretariat.

The aim of this Paper is to describe the group's areas of work as they exist at the present time. However, this does not exclude other issues that might be raised by participating Regions. In addition to the areas already defined, there should be discussion, for example, of the analysis of the role of research in regional development based on territorial characteristics. Innovation issues are also subjects of interest. For the moment, the areas of work are as follows:

- Analysis of the results of the Framework Programme for Research and Technological Development (FP) in the Regions;
- The involvement of regional authorities in the FP and other cooperative European programmes (Competitiveness and Innovation Framework Programme (CIP) etc.);
- Governance and synergies between regional strategies, the FP or other cooperative programmes (CIP etc.) and the European Union's regional policy based on a limited number of concrete questions such as, for example, funding for European Research Infrastructures (FERI);
- The "Research" aspect of European policies, an area in which the CPMR is proactive. This issue is covered by the working groups set up by the CPMR to monitor these policies. This link is made in order to give an overview of CPMR's action.

• **A short summary of the areas of work is given on page 4 of this Paper**

Increasing the CPMR's work on these issues is worthwhile for the following reasons:

- Research has taken on significant importance within the European budget, mainly through the FP¹ and the earmarking of regional policy. The problems inherent to research are therefore important in discussions on the European budget and more generally, for many Regions;
- The FP has a significant territorial impact, as has been highlighted in discussions on territorial cohesion;
- Research is a fundamental part of major policies or issues in which the CPMR is particularly proactive (e.g. energy, climate change, the environment, maritime policy, transport, CAP, State aid, development and international issues).

The link with the Geographical Commissions will be vital for this work. It may be established:

- Through discussions on the group's makeup and the contents of questions being studied;
- Through coordination with Geographical Commission meetings and working groups dealing with innovation and research. Areas of work were presented at the last General Assemblies of the Baltic Sea Commission (11/12 May 2009 in Visby, Sweden), Atlantic Arc Commission (14 May 2009 in Santander, Spain), Balkan & Black Sea Commission (11 June 2009 in Odessa, Ukraine) and Intermediterranean Commission (17 July 2009 in Rome, Italy).

It would also be good if other CPMR working groups were to take up the issue of research. The CPMR Aquamarina and Energy groups are for example addressing the challenges posed by research and innovation in their respective work areas.

¹ FP: Framework Programme for Research and Technological Development of the European Union. FP7 has a budget of 50.5 billion Euros for the 2007-2013 period.

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GENERAL OVERVIEW

Axis 1: Territorial analysis of the FP in the Regions

Objectives:

- To discuss the conclusions drawn by the Regions from the studies or articles available on FP results on competitiveness and territorial dynamics within their own territories;
- To progress towards territorial results for the FP;
- To ensure that the Regions are better informed of the results of FP calls for proposals relating to their territories.

Initial meetings have taken place with Regions that have analysed FP results for their territories, and with the European Commission's DG Research, the Joint Centre for Research, researchers and experts. The CPMR was asked by DG Research to present a paper on this topic on 12 February 2009 before the EU-Evalnet network coordinated by the European Commission, with a membership of assessment experts from Ministries of Research in States taking part in the FP. The CPMR then established contacts with the relevant Ministries in several States. Finally, the Conference is currently considering the prospect of an ESPON project on this issue.

Axis 2: FP funding for regional authorities

Objectives:

- To carry out a quantitative analysis of regional participation in these programmes and schemes, especially from a territorial angle. The CPMR's General Secretariat is currently carrying out a wide-ranging statistical survey on this point;
- To formulate proposals for improvements, based on Regions' experience.

Initial contacts were made with the Regions involved in these schemes and with the Units within the European Commission responsible for them. The CPMR intends to develop these contacts further, especially with a view to preparing the 8th FP.

Axis 3: Governance and synergies between the Regions' strategies, the FP and the European Union's regional policy

Objectives: To propose consideration of the following issues:

- ESFRIs for which funding through the Structural Funds is currently being promoted by the European Commission. The CPMR General Secretariat has had initial discussions on this subject with a few Regions and with the European Commission, in Brussels and during the General Assembly of the Atlantic Arc Commission in Santander on 15th May 2009;
- The link between the Regions and the main initiatives for structuring research on a European level (networks of excellence, coordination of research programmes and joint programming, joint technological initiatives and European technology platforms, the European Institute of Technology). The CPMR has had initial discussions with Regions which interact with a number of technology platforms, especially in the hydrogen sector;
- The Regions' research policies (governance and contents);
- The Regions' policies in support of the involvement of public and private players in the FP.

Axis 4: Research dimension of European policies in which the CPMR is active

Objectives: To propose work to improve the research dimensions of policies such as:

- Maritime policy: At the meeting held on 23 January 2009, the CPMR's Political Bureau adopted an opinion on the European strategy for marine and maritime research. Moreover, several subjects looked at by Aquamarina integrate research issues e.g. geographical tools for coastal management, which will be the subject of a seminar to be held on 10 December 2009 in Brussels;
- Energy: The CPMR's Energy Group is hosting a seminar on innovation in marine technologies on 22-23 October 2009 in Cornwall (UK);
- Other topics could also be linked to the problems of research (CAP, the environment, transport, State aid, development and international dimensions).

AXIS 1: TERRITORIAL ANALYSIS OF THE FP IN THE REGIONS

1. THE FP: A PROGRAMME WITH A PROFOUND IMPACT IN TERMS OF COMPETITIVENESS AND TERRITORIAL DIMENSIONS

The FP has a profound impact on European States in terms of competitiveness and spatial dynamics, particularly because it:

- Co-funds stakeholder networks across the European territory, some of which will give rise to long-term synergies (e.g. networks of excellence);
- Benefits territories in which there are public and private players in the research sector with the right characteristics to become part of projects;
- Includes a territorial dimension in some of its aspects such as the Research Potential Programme for Convergence Regions or the Regions of Knowledge Programme which funds projects that must include regional authorities.

The FP has a profound impact on regional territories in terms of competitiveness and spatial dynamics, particularly because it:

- Supports, within territories, the development of actors that can become involved in European projects;
- May strengthen specialisation within regional territories;
- Creates links between players within a given territory through their joint involvement in projects.

2. THE TERRITORIAL IMPACT OF THE FP: AN ISSUE REQUIRING FURTHER ANALYSIS

The territorial dynamics of European research are studied at European level, through ESPON studies for example, or the use of research-related indicators in analyses of the Cohesion Report and the production of regional research indicators in Europe via Eurostat.

Current political debate on territorial cohesion includes the research and innovation dimension. The question of a territorial analysis of the FP is therefore relevant, especially as the Regions are being strongly encouraged to stimulate the involvement of stakeholders from their territories in the FP and implement policies that are consistent with the European policy.

Yet on a European level, there is no regional analysis of the FP. Quite apart from political considerations, this can be explained by statistical difficulties resulting from the “headquarters effect” of involvement in the FP. A participant belonging to an organisation operating from several locations (e.g. national research centre or large corporation) declares the headquarters of the organisation in the administrative documents requested by DG Research rather than the place in which he actually carries out his research. This leads to statistical errors with regard to the actual location of participants.

Although certain Member States may make corrected data available to the Regions, the accessibility and reliability of the data remain difficult in many cases.

Consequently, an analysis of territorial cohesion and competitiveness in Europe does not currently include the results of the FP and, in several countries, it is very difficult for the Regions to analyse their stakeholders’ position in the FP. Yet an analysis of the position of Regions is very important for them (how many projects? In which areas of work? With which players?) if they take account of these aspects in their research strategies in general or use them as a basis on which to specifically improve the support they provide with a view to increasing the participation of players from their territories in the FP.

3. INCREASING INTEREST FROM REGIONS AND OTHER PLAYERS

Now that the 6th FP has ended, a number of players have expressed an interest in analysing impact on a regional or territorial basis. There are, for example, analyses for certain Regions showing the involvement of stakeholders from their territories in the FP or a resolve on the part of other Regions to develop such an analysis (cf. Appendix I), articles on the networks set up by the FP and their territorial dimension (cf. Appendix II) and ongoing work at the joint research centre (IPTS Seville), also on these issues.

AXIS 2: FP FUNDING FOR REGIONAL AUTHORITIES

Certain aspects of the FP more particularly target public authorities, including regional authorities. A distinction is made below depending on whether they give more support to strategic thinking or the coordination of research programmes².

1. FP AND THE FUNDING OF STRATEGIC ANALYSIS IN THE REGIONS (E.G. ANALYSES, ACTION PLANS)

• **Regions of Knowledge**

With a budget of 126 million Euros over the 2007-2013 period, Regions of Knowledge funds analyses, transfers, integration and communication. Regions of Knowledge projects must involve players from the research and business sectors as well as from regional authorities. There is significant involvement of CPMR Member Regions in Regions of Knowledge and this participation is growing.

• **Convergence Regions research potential**

With a budget of 340 million Euros over the 2007-2013 period, this programme finances work benefitting Convergence Regions (personnel exchanges, purchase of research equipment, exchanges of best practice and expertise, and support for the introduction of a research evaluation procedure).

• **OMC-NET**

OMC-NET funds work similar to that funded by Regions of Knowledge but does not require the participation of regional authorities. Again, there is significant involvement of CPMR Regions in OMC-NET and this participation is growing.

2. FP AND THE COORDINATION OF FUNDING PROGRAMMES FOR REGIONAL RESEARCH

• **ERA-NET and joint programming (article 169)**

ERA-NET

ERA-NET is a funding scheme used specifically for the coordination of research programmes. The work funded must cover coordination until such time as a joint research fund can be established by all participants.

Although some CPMR Regions are involved in ERA-NET projects (e.g. Midi-Pyrénées and the Spanish Basque Country), the participation of the Regions in ERA-NET is actually minimal because of practical difficulties and problems of critical mass when it comes to regional programmes. Nevertheless the possibility of Regions coordinating their programmes remains an interesting one and it is worth asking to what extent ERA-NET could be adapted or a more suitable system be introduced.

Joint programming (article 169)³

Joint programming is a mechanism for voluntary cooperation between public authorities. The difference between this and ERA-NET is that it is more directly intergovernmental from the outset, when areas of cooperation are first put forward. ERA-NETs, on the other hand, are launched by the European Commission as part of a call for proposals within the FP.

² The construction of the European Research Area presupposes coordinated research undertaken in several Member States. To achieve this, there are two complementary options:

- The funding of European projects within which European researchers work directly together;
- The coordination of programmes is all the more important given that the FP represents only a tiny fraction of public research expense in Europe (according to the European Commission (COM (2008) 468), less than 6% of total R&D investment and only 15% of European civil R&D financed by public funds come under cross-border cooperation funding (including 10% through intergovernmental organisations and programmes and 5% through the Framework Programme).

³ Joint programming is made possible by Article 169 of the Treaty. Because of this, it is often simply referred to as "Article 169".

In a recent paper⁴, which makes no mention of the Regions, the European Commission increased the importance it places on joint programming within the strategy for the European Research Area, giving the ERA a more intergovernmental direction.

- **Coordination of regional funding programmes for researcher mobility**

The 7th FP introduced the possibility for the European Commission to fund the coordination of public mobility programmes, including regional programmes. The European Commission can even go so far as to top up the funding for coordinated programmes. In return, the beneficiary programmes must comply, in particular, with the European Charter for Researchers and the Code of Conduct for the recruitment of young researchers. A number of CPMR Regions are involved in projects of this type.

3. EUROPEAN UNION REGIONAL POLICY AND THE REGIONS' STRATEGIC REFLECTION PROJECTS

- **Projects relating to the Territorial Cooperation Objective**

Numerous projects relating to cooperation objectives involve the CPMR Regions and address issues linked to research and innovation policies.

- **Regions for Economic Change**

Launched by DG Regio, this initiative supports projects that are funded under the Territorial Cooperation Objective. Many CPMR Regions are involved in Regions for Economic Change.

AXIS 3: GOVERNANCE AND SYNERGIES BETWEEN THE REGIONS' STRATEGIES, THE FP AND THE EUROPEAN UNION'S REGIONAL POLICY
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A. THE LINK BETWEEN REGIONS AND THE MAIN INITIATIVES DESIGNED TO STRUCTURE PUBLIC AND PRIVATE RESEARCH PLAYERS ON A EUROPEAN LEVEL

A.1. Networks of excellence

Launched under the 6th FP, networks of excellence are designed to stimulate the integration of research organisations throughout Europe. Generally speaking, they do not fund actual research work. The "integration" may consist, for example, of the establishment of a joint, or even single, signature for scientific publications, a communications policy common to all participating organisations, the coordination of research work, the consideration of all questions relating to a possible merger of participating organisations or the setting up of a common European structure.

A.2. The coordination of research programmes and joint programming (Cf. above)

A.3. European technology platforms and joint technological initiatives (Cf. also Appendix III)

European technology platforms bring industry and the research sector together with public authorities on key issues for the future of European competitiveness. There are some forty such platforms, in addition to joint technological initiatives which have reached a later stage of development. The aim is to provide structure for the strategic outlook of the relevant stakeholders.

A.4. The European Institute of Technology

The European Institute of Technology (EIT) is a new component of the objective to bring the three elements in the knowledge triangle together i.e. Education/Research/Innovation (economic development) since they are deemed to be too fragmented in Europe. The EIT will have a steering committee comprising representatives from the scientific and corporate worlds and knowledge communities which will consist of special-interest partnerships lasting from 7 to 15 years between universities, research bodies, public or private businesses, financial institutions, regional and local authorities etc. The knowledge communities will undertake work that integrates education, research and innovation.

⁴ COM (2008) 468 of 17/07/2008: "Towards joint programming in research: working together to tackle common challenges more effectively"

A.5. Links between these examples and the regional level

The link between the regional level and these examples may be based on the following questions:

- What consistency is there between these initiatives, implemented on a European level, and initiatives of the same kind undertaken at regional level?
 - What consistency is there between networks of excellence and the processes introduced to bring research players together on a regional basis (e.g. through the merger of universities)?
 - What consistency is there between the technology platforms and initiatives taken to bring together players from the industrial and research sectors on a regional level (e.g. competitiveness clusters)?
 - What consistency is there between the European Institute of Technology and processes introduced to bring together the three sides of the triangle of knowledge on a regional level (e.g. tendency towards the development and independence of universities)?
- Is it realistic for public authorities to claim to have real impact on stakeholder strategy when they take part in several strategic initiatives implemented on different levels?
- To what extent is it worthwhile for Regions to fund work undertaken within the framework of initiatives implemented at European level? (e.g. funding of theses selected from within the joint programme for doctorates in a network of excellence, funding of projects selected within the framework of technology platforms or the EIT's knowledge communities?).

B. THE LINK BETWEEN REGIONAL AND EU RESEARCH POLICIES

This question can be considered from two angles, each of which is presented below.

B.1. The influence of the European level on the governance of the Regions' research policies

The European research policy has certain characteristics in terms of strategic design, implementation (e.g. through the use of calls for proposals involving independent experts) and evaluation.

The convergence of various types of research policy is a significant governance issue; it is also important in discussions on the European Research Area. It is by no means an abstract topic. In fact, it raises a number of very real questions for Regions faced with the need to reach significant decisions within the framework of their policies.

B.2. The influence of the European level on the content of the Regions' research policies

Consistency in terms of the research policy content is, of course, equally important for the construction of the European Research Area. This issue is linked to the connection between the FP and the European Union's regional policy, and the regional dimension given to European initiatives used to structure relationships between stakeholders in the research field (networks of excellence, ERA-NET, joint programming), technology platforms and research infrastructures.

Many Regions are making specific efforts to take on board the priorities of the FP and the general impact of the EU research policy when drafting their own policies, including in their use of the European Union's regional policy. It would be possible to find very concrete examples on the part of Regions.

C. THE REGIONS' POLICIES TO SUPPORT THE INVOLVEMENT OF REGIONAL STAKEHOLDERS IN THE FP

Many Regions have introduced specific policies to support the involvement of researchers and businesses from their areas in the FP. Such policies may consist of:

- Support for campaigns to increase awareness of the FP in their areas;
- Project set-up grants for public research entities and SMEs. Such grants might, for example, cover experts' fees and the cost of drafting projects and may, in fact, draw on the credits allocated by the European Union's regional policy.
- Direct provision of project set-up and management experts for universities, research centres or SMEs.

It would be interesting to compare these experiences and, where appropriate, the way in which the European Union's regional policy might support them.

D. RESEARCH INFRASTRUCTURES

ESFRI (*European Strategy Forum on Research Infrastructures*) is a forum with members drawn from research organisations and Member States. Its purpose is to draft a strategic view of the investments required on a European level to fund research infrastructures with a global dimension. ESFRI identified 35 proposals (cf. Appendix IV) in 2005, then a further 10 in December 2008. They have raised a number of questions:

D.1. To what extent should the Structural Funds be used to finance them?

These research infrastructures will use up almost 2,000 million Euros from the 7th FP. However, funding requirements far exceed this amount and funds will therefore have to forthcoming from States and, where appropriate, from regional authorities. Because of this, the European Commission is currently promoting the idea of using the Structural Funds to finance ESFRI infrastructures.

D.2. How can ESFRI infrastructures be linked to the various communities of researchers located across Europe?

For the moment such networking is only feasible through FP schemes designed to establish networks for infrastructures in general and the use of concepts such as the Regions of Knowledge in the field of infrastructures. These two European sources of funding are useful but require to be made more comprehensive.

D.3. How can synergies be generated between the European funding policy for ESFRI infrastructures and national and regional research policies?

The development of infrastructures with a European dimension would be even more worthwhile if it generated synergies with investments in infrastructures at national and regional levels. A recent report on the regional dimension of ESFRI⁵ sets out two interesting subjects of discussion:

- The identification of geographical areas in Europe that could form the basis for the organisation of synergies between European infrastructures and the strategies drafted by the States and Regions. The report talks of “meta-Regions” and gives three examples – Central Europe, the Black Sea and the Baltic;
- The identification of regional research infrastructures that would partner ESFRI infrastructures.

⁵ Report of the ESFRI Regional Issues Working Group - September 2008

APPENDICES

A. APPENDIX I – EXAMPLES OF STUDIES OF TERRITORIAL RESULTS OF THE FP

1. Examples of data produced by, or available to, the Regions

East of England (Extract from a document forwarded by the *East of England Office* in Brussels)

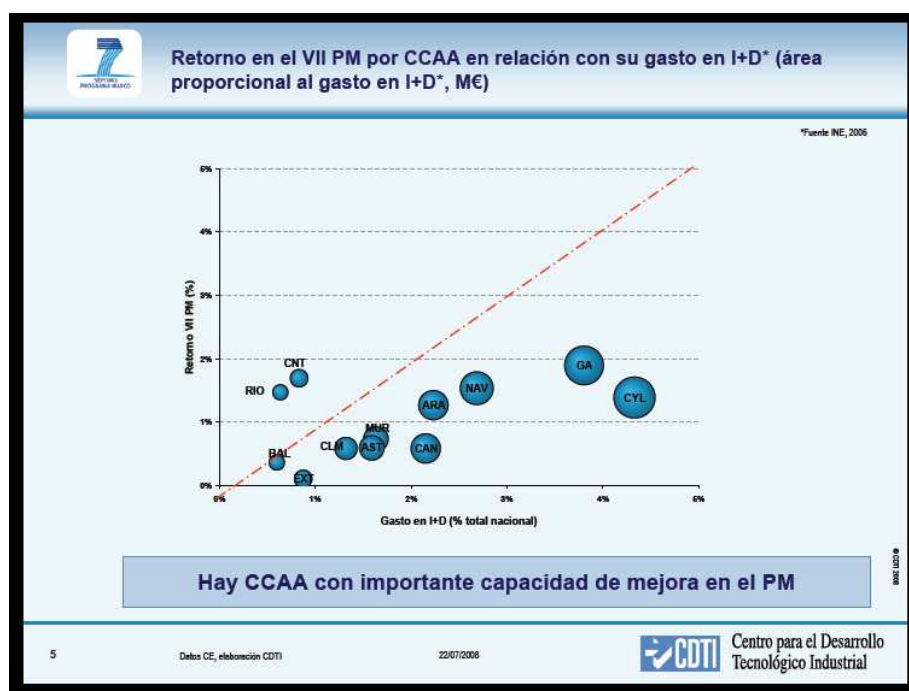
Financial breakdown of the FP7 in the *East of England*: infra-regional results per sector

Activity Type	All Sectors		Higher Education		Industry		Research Centres		Other		Undefined	
UK – United Kingdom	8,801	2,371.7 m	4,878	1,411.1 m	1,618	315.7 m	1,272	447.8 m	954	187.2 m	79	9.9 m
UKH - East of England	963	246.7 m	511	139.8 m	156	26.6 m	225	66.3 m	67	13.8 m	4	173,857
UKH1 - East Anglia	708	185.5 m	393	109.2 m	104	19.9 m	170	49.0 m	37	8.2 m	4	173,857
UKH2 – Beds & Heris	201	51.3 m	84	24.4 m	42	5.4 m	55	17.3 m	20	4.2 m	0	0
UKH3 – Essex	54	9.9 m	34	7.2 m	10	1.2 m	0	0	10	1.2 m	0	0
UKC – North East	278	75.0 m	209	63.3 m	37	4.4 m	2	0.4 m	29	6.7 m	1	162,380
UKD – North West	627	143.3 m	448	120.5 m	124	14.1 m	11	1.2 m	42	7.4 m	2	94,924
UKE – Yorks & Humber	538	152.3 m	404	132.2 m	73	9.7 m	30	6.8 m	26	3.0 m	5	663,214
UKF – East Midlands	478	122.2 m	244	82.1 m	88	12.2 m	108	17.8 m	33	9.7 m	5	251,858
UKG – West Midlands	447	102.4 m	261	69.8 m	111	17.1 m	27	6.9 m	46	8.5 m	2	68,665
UKI – London	1,545	556.4 m	912	271.1 m	340	91.0 m	375	121.5 m	310	71.2 m	12	1.5 m
UNJ – South East	1,517	463.0 m	811	231.4 m	360	70.8 m	143	121.6 m	197	38.8 m	6	558,731
UKK – South West	679	182.2 m	258	63.5 m	129	33.1 m	194	70.5 m	95	14.7 m	3	403,748
UKL – Wales	230	48.9 m	158	39.5 m	42	4.0 m	11	2.6 m	17	2.6 m	2	103,190
UKM – Scotland	686	189.4 m	419	134.4 m	81	17.4 m	135	31.0 m	49	6.4 m	2	325,320
UKN – Northern Ireland	161	33.5 m	117	27.9 m	29	4.0 m	2	0.1 m	13	1.4 m	0	0
UKZ – Extra Region (?)	4	1 m	0	0	4	1 m	0	0	0	0	0	0

Andalusia and Spanish Regions

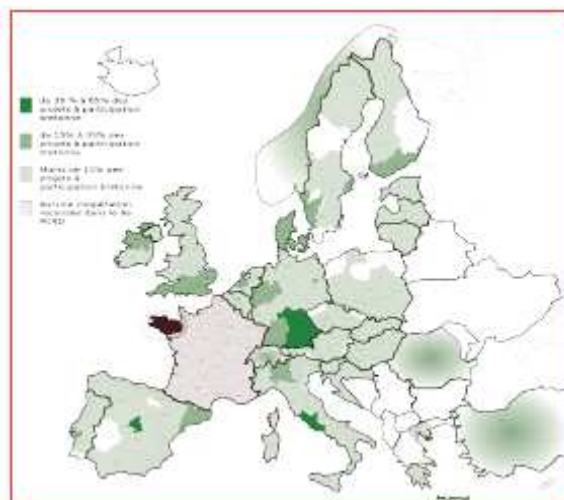
(Extract from a document forwarded by the Andalusian representative in Brussels)

Initial financial breakdown of the FP7 per Spanish Region compared to R&D investments



Brittany Region (Extract from a report by Brittany Regional Council and Technopolis France)

Map showing the density of cooperative projects generated by the 6th FP



2. Examples of scientific articles on the territorial dimension of FP projects

- 2008 - Georghiou L. - *“Critical mass in the European Research Area”*
- 2007 - Frenken K. - Hoekman J. - Van Oort F. - *“Towards a European Research Area”*
- 2006 - Thomas Roediger-Schluga and Michael J. Barber - *“The structure of R&D collaboration networks in the European Framework Programmes”*.
- 2004 - Michael J. Barber - Andreas Krueger - Tyll Krueger and Thomas Roediger- Schluga - *“Network of European Union-funded collaborative research and development projects”*
- 2004 - S. Breschi and L. Cusmano - *“Unveiling the texture of a European Research Area: Emergence of oligarchic networks under EU Framework Programmes”*
- 2000 - Varga A. - *“Local Academic Knowledge Transfers and the Concentration of Economic Activity”*
- 1999 - Garcia-Fontes W. - Geuna A. - *“The dynamics of research networks in Europe”*

B. APPENDIX II - EXAMPLES OF FP PROJECTS INVOLVING CPMR REGIONS

Regions of Knowledge

Examples of projects implemented in zones corresponding to Geographical Commissions:

Regions of Knowledge I (2005):

IN.TRACK: ISLANDS, Knowledge society and innovation

Intrack project partners, acknowledging the important common challenges posed by the knowledge-based economy to insular regions, commit to accomplish the goals of a diversified economy built on Information Society and the converging technologies, while strengthening an innovation culture built on private-public partnerships aimed at enhancing the societal orientation towards education, research and continuous training. Partners: The Instituto Tecnológico de Canarias, s.a. - ITC, The Foundation for Research and Technology - HELLAS (FORTH), Consorzio Catania Ricerche, Centro de Empresas e Inovação da Madeira. LDA. - CEIM

RAIN: BALTIC AREA, Knowledge society and innovation: LA MER BALTIQUE

RAIN aims at building expertise and tools for common action between regional agencies and authorities in some Regions. Partners: Estonia (Tallinn City Government), Finland (ICT Turku Ltd, Regional Council of Southwest Finland), Germany (Patent und Verwertungsagentur Mecklenburg Vorpommern), Latvia (Institute of Physical Energetics, Latvian Academy of Sciences, and Lithuania (Klaipeda Science and Technology Park).








C. APPENDIX III – LIST OF JOINT TECHNOLOGICAL INITIATIVES AND EUROPEAN TECHNOLOGY PLATFORMS

Joint technological initiatives:

- Innovative Medicines Initiative (IMI)
- Embedded Computing Systems (ARTEMIS)
- Aeronautics and Air Transport (Clean Sky)
- Nanoelectronics Technologies 2020 (ENIAC)
- Fuel Cells and Hydrogen (FCH)
- Global Monitoring for Environment and Security (GMES)

Technology platforms:

- Advanced Engineering Materials and Technologies - **EuMaT** 
- Advisory Council for Aeronautics Research in Europe - **ACARE** 
- European Biofuels Technology Platform - **Biofuels** 
- European Construction Technology Platform - **ECTP** 
- European Rail Research Advisory Council - **ERRAC** 
- European Road Transport Research Advisory Council - **ERTRAC** 
- European Space Technology Platform - **ESTP** 
- European Steel Technology Platform - **ESTEP** 
- European Technology Platform for the Electricity Networks of the Future - **SmartGrids** 
- European Technology Platform for Wind Energy - **TPWind** 
- European Technology Platform on Smart Systems Integration - **EPOSS** 
- European Technology Platform on Sustainable Mineral Resources - **ETP SMR**
- Farm Animal Breeding and Reproduction Technology Platform - **FABRE TP**
- Food for Life - **Food** 
- Forest based sector Technology Platform - **Forestry** 
- Future Manufacturing Technologies - **MANUFUTURE** 
- Future Textiles and Clothing - **FTC** 
- Global Animal Health - **GAH** 
- Industrial Safety ETP - **IndustrialSafety** 
- Integral Satcom Initiative - **ISI** 
- Mobile and Wireless Communications - **eMobility** 
- Nanotechnologies for Medical Applications - **NanoMedicine** 
- Networked and Electronic Media - **NEM** 
- Networked European Software and Services Initiative - **NESSI** 
- Photonics21 - **Photonics** 
- Photovoltaics - **Photovoltaics** 
- Plants for the Future - **Plants** 
- Renewable Heating & Cooling (RHC)

- Robotics - **EUROP** 
- Sustainable Nuclear Technology Platform - **SNETP** -
- Sustainable Chemistry - **SusChem** 
- Water Supply and Sanitation Technology Platform - **WSSTP**   
- Waterborne ETP - **Waterborne** 
- Zero Emission Fossil Fuel Power Plants - **ZEP** 

D. APPENDIX IV – LIST OF ESFRI INFRASTRUCTURES

35 ESFRI projects were identified in 2005 and a further 10 in December 2008.

Projects proposed in 2005:

- Facility for Antiproton and Ion Research (FAIR)
- Facility for intense secondary beams of unstable isotopes (SPIRAL II)
- European deep-sea neutrino telescope (KM3NeT)
- Extremely Large Telescope (ELT) – for optical astronomy
- Pan-European Research Infrastructure for Nano-Structures (PRINS)
- European Spallation Source (ESS) – neutron source
- European XFEL – for hard X rays
- IRUVX FELs Network – from infrared to soft X rays
- ESRF upgrade – synchrotron
- High Performance Computer for Europe (HPCEUR)
- Marine vessel for coastal research – essentially Baltic Sea
- Research Icebreaker Aurora Borealis
- European Multidisciplinary Seafloor Observatory (EMSO)
- European infrastructure for research in and protection of biodiversity
- Advanced infrastructure for brain and whole body imaging
- Bio-informatics infrastructure for Europe
- European network of advanced clinical research centres
- European network of bio-banks and genomic resources
- High security laboratories for emerging diseases and threats to public health
- Infrastructure for functional analysis of a whole mammalian genome
- Model testing facilities for biomedical research
- European Research Observatory for Humanities & Social Sciences (EROHS)
- European Social Survey (ESS)

Projects proposed in December 2008:

- Upgrade of the European Incoherent Scatter radar system (EISCAT 3D upgrade)
- European Plate Observing System (EPOS)
- Svalbard Integrated Arctic Earth Observing Facility (SIAEOS)
- European Marine Biological Resource Centre (EMBRC)
- European Infrastructure of Open Screening Platforms for Chemical Biology (EUOPENSCREEN)
- European Biomedical Imaging Infrastructure – from molecule to patient (EuroBioImaging)
- European High Security BSL-4 laboratories
- European Carbon Dioxide Capture and Storage Laboratory Infrastructure (ECCSEL)
- European Magnetic Field Laboratory (EMFL)
- Cherenkov Telescope Array (CTA)