



# **CAPACITIES**

## **7FRDP Specific Programme**

**ECTRI INPUT**



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# Table of contents

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I-	Research infrastructures.....	4
	Support to existing research infrastructure.....	5
	Support to new research infrastructure .....	5
II-	Research for the benefit of SMEs .....	6
	Research for SMEs .....	6
III-	Regions of knowledge .....	7
	Regional “research-driven clusters” .....	7
IV-	Research potential.....	8
V-	Science in society .....	9
VI-	Activities of international cooperation.....	10
VII-	Other issues.....	10

This paper is complementary to ECTRI's previous « ECTRI 7FRDP input » paper (dated 12 November 2004) and its statement of 29 June 2004 regarding EC COM (2004) 353 final.

It is aimed at providing additional inputs to the preparation of the following specific programmes a planned in the EC 7FRDP proposal COM (2005) 119 final (6 April 2005).

- CAPACITIES

The structure of the paper follows that of the the final bullets of COM (2005) 119 final bullets; it addresses some issues raised from the point of view of surface transport research.

It is one of a series of inputs for the 4 following 7FRDP specific programmes

- COOPERATION – ECTRI report 2005-02
- PEOPLE – ECTRI report 2005-03
- CAPACITIES – ECTRI report 2005-04
- IDEAS – ECTRI report 2005-05

# I – Research infrastructures

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## REMINDER

### **Objective:**

**Optimising the use and development of the best research infrastructures existing in Europe, and helping to create in all fields of science and technology new research infrastructures of pan-European interest needed by the European scientific community to remain at the forefront of the advancement of research, and able to help industry to strengthen its base of knowledge and its technological know how.**

### **Rationale:**

Research infrastructures play an increasing role in the advancement of knowledge and its exploitation. For example, radiation sources, data banks in genomics and data banks in social science, observatories for environmental and space sciences, systems of imaging or clean rooms for the study and development of new materials or nano-electronics, are at the core of research. They are expensive, need a broad range of expertise to be developed, and should be used and exploited by a large community of scientist and customer industries on a European scale.

The development of a European approach with regard to research infrastructures, including computing and communication based e-infrastructure, and the carrying out of activities in this area at Union level, can make a significant contribution to boosting European research potential and its exploitation.

The EU can and should play a catalysing and leveraging role by helping to ensure wider and more efficient access to, and use of, the infrastructures existing in the different Member States, by stimulating the development of these infrastructures in a coordinated way and by fostering the emergence of new research infrastructures of pan-European interest in the medium to long term.

*Source EC document COM (2005) 119 final*

## Support to existing research infrastructure

### - **trans-national access and integrating activities**

The experience of two Networks of Excellence that have trans-national access and integration activities built around hard infrastructure research suggests that a part of this programme should not only be dedicated to big sciences but also to focused research because these infrastructures allow to provide adequate and ad hoc excellent scientific knowledge particularly relevant for good public governance or industry development in an international competition.

### - **research e-infrastructure**

ECTRI members are directly involved in the building of this new research e-infrastructure but are also direct users of such an infrastructure that are creating favourable conditions to compete or cooperate worldwide and enhance the efficiency of research work.

## Support to new research infrastructure

From the experience of two Networks of Excellence described above ECTRI could propose design and feasibility studies of such infrastructures - in particular to address joint priorities between ICT and transport issues, both for hard or soft research infrastructure.

The trans-national ECTRI working group on hard research infrastructure thinks there is a need to create an integrated network of research infrastructure useful to prepare scientific knowledge for future testing or certification for new products or systems using new technologies and/or ICTs. That network could be of particular relevance for competitiveness of related industries and competitiveness of public governance making at international level, without speaking of its proper role towards the scientific excellence of Europe in the international scientific competition.

The trans-national ECTRI working group on soft research infrastructures is examining:

- soft research or policy infrastructure around updated or new databases and/or free access models
- creation of a scientific knowledge corpus (multi disciplinary, systemic and holistic) aimed at a customer or user and industry and governments end users
- libraries and electronic access to knowledge
- advanced electronic collaborative environments.

This experience is leading ECTRI to propose to include soft research infrastructures of international relevance, in particular to meet the quality of such investment conducted in North America

## II – Research for the benefit of SMEs

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### REMINDER

#### **Objective:**

**Strengthening the innovation capacity of European SMEs and their contribution to the development of new technology based products and markets by helping them outsource research, increase their research efforts, extend their networks, better exploit research results and acquire technological know how.**

#### **Rationale:**

SMEs are at the core of European industry. They should be a key component of the innovation system and in the chain of transformation of knowledge into new products, processes and services. Faced with an increasing competition in the internal market and globally, European SMEs need to increase their knowledge and research intensity, expand their business activities on larger markets and internationalize their knowledge networks. Most Member states actions relevant to SMEs do not encourage and support trans-national research cooperation and technology transfer. Actions at EU level are necessary to complement and enhance the impact of actions undertaken at national and regional level. In addition to the actions listed below, the participation of SMEs will be encouraged and facilitated, and their needs taken into account, across the Framework Programme.

*Source EC document COM (2005) 119 final*

### Research for SMEs

ECTRI supports this action but draws attention to the fact that in the transport sector the concept of innovative SMEs could be both very small enterprises or of medium size approaching large OEMs: that is to say above the traditional criteria for SMEs in terms of staff or turn-over.

## III – Regions of knowledge

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### REMINDER

#### **Objective:**

**Strengthening the research potential of European regions, in particular by encouraging and supporting the development, across Europe, of regional “research-driven clusters” associating universities, research centres, enterprises and regional authorities.**

#### **Rationale:**

Regions are increasingly recognised as important players in the EU’s research and development landscape. Research policy and activities at regional level often rely on the development of “clusters” associating public and private actors. The *Pilot Action on “Regions of Knowledge”* demonstrated the dynamic of this evolution and the necessity to support and encourage the development of such structures.

The actions undertaken in this area will enable European regions to strengthen their capacity for investing in RDT and carry out research activities, while maximising their potential for a successful involvement of their operators in European research projects.

*Source EC document COM (2005) 119 final*

### Regional “research-driven clusters”

ECTRI is particularly supporting this idea of clusters.

Within this action could be developed regional transport research clusters operating not only at a national level but also at inter regional and trans-national levels in order to render a strong visibility of research available to industry at the European level and possibly sustaining Europe R&D industrial centre. Relevant to it is the idea of European corridors, where a cluster of actors in neighbouring countries or areas with relevant problems join together, seeking for common and/or integrated solutions.

The initial experience of ECTRI through its membership and particularly through involvement in three Networks of Excellence shows that the transport research clusters are crucial but also to organise within the academic field a good integration between frontier research people, focused research people and technical centres people.

It is particularly relevant for the various segments of automotive, rail and shipbuilding industries and their suppliers as well as the operators.

## IV – Research potential

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### **REMINDER**

#### **Objective:**

**Stimulating the realisation of the full research potential of the enlarged Union by unlocking and developing the research potential in the EU's convergence regions and outermost regions, and helping to strengthen the capacities of their researchers to successfully participate in research activities at EU level.**

#### **Rationale:**

Europe does not fully exploit its research potential, in particular in less advanced regions remote from the European core of research and industrial development. In order to help researchers and institutions of these regions to contribute to the overall European research effort, while taking advantage of the knowledge and experience existing in other regions of Europe, this action aims at establishing the conditions that will allow them to exploit their potential and will help to fully realise the European Research Area in the enlarged Union.

*Source EC document COM (2005) 119 final*

Because of its real experience in these activities, ECTRI is very supportive of the type of activities planned in this domain:

- trans-national two-way secondments of research staff
- incoming researchers from other EU countries
- research equipment and updating
- ToK conferences and workshops
- evaluation of facilities
- instatiation reports on how to apply knowledge, s/w and h/w to achieve the EC level and how new developments abide to European architectures.

From its inception, ECTRI has initiated such activities with some CEECs with development of bilateral and multilateral activities. It is today clearly involved in sustaining such development with all CEECs and WBCs, and considers that by these approaches in the transport field, Hungary, the Czech Republic, Poland and the former east part of Germany already reinforce and develop their research capacities.

# V – Science in society

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## **REMINDER**

### **Objective:**

**With a view to building an effective and democratic European Knowledge society, the aim is to stimulate the harmonious integration of scientific and technological endeavour, and associated research policies in the European social web, by encouraging at European scale reflection and debate on science and technology, and their relation with society and culture.**

### **Rationale:**

The influence of science and technology on our daily lives becomes increasingly profound. Products of the social activity and shaped by social and cultural factors, science and technology nevertheless remain a remote domain far from the daily concerns of a large part of the public and of policy decision makers, and continues to be the subject of misunderstandings and unfounded hopes and fears. Contentious issues relating to emerging technologies should be addressed by society on the basis of well informed debate leading to sound choices and decision.

*Source EC document COM (2005) 119 final*

ECTRI supports the planned activities because of their particular relevance for transport related research:

- accessibility study inclusion as horizontal in all research actions (as are today Ethical and Gender issues), to avoid the creation of new barriers to E&D people as well as other groups (ethnic minorities, illiterate, PC illiterate, etc.) by emerging technological and organisation
- gender research and gender role in research
- triggering curiosity amongst young people
- science related questions and civil society
- debate on science and technology and their place in society
- globalisation and role of universities
- science related questions and policy makers, media

## VI – Activities of international cooperation

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### REMINDER

**Objective:**

**This international policy has two interdependent objectives:**

- **To support European competitiveness through strategic partnerships with third countries in selected fields of science and by engaging the best third country scientists to work in and with Europe.**
- **To address specific problems that third countries face or to have a global character, on the basis of mutual interest and mutual benefit.**

*Source EC document COM (2005) 119 final*

ECTRI supports these activities of international cooperation and targeted countries that shall not be included in COOPERATION and PEOPLE and particularly:

- Candidate Countries,
- Western Balkan Countries
- countries neighbouring the EU and the New Independent States
- emerging economies of Asia and Latin America.

## VII – Other issues

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Because of the partnerships for research or scientific based expertise at national, European and international levels formed by its members with various transport research stakeholders (public governance, industry, academia), ECTRI supports the following additional issues:

- monitoring and analysis of research-related public and industrial strategies
- coordination of research policies (national, regional, local levels)
- strengthening and improving the organisation of European science system for scientific advice and expertise and contributing to better regulation
- science and society issues