



## **ECTRI ANSWER TO THE EC GREEN PAPER CONSULTATION**

### **“From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding”**

**May 2011**

The European Conference of Transport Research Institutes (ECTRI) is an international non-profit association that was officially founded in April 2003. It is the first attempt to unite the forces of the foremost multimodal transport research centres across Europe and to thereby promote the excellence of European transport research. Today, it includes 28 major transport research institutes or universities from 20 European countries. Together, they account for more than 4,000 European scientific and research staff in the field of transport. ECTRI is committed to provide the scientifically based competence, knowledge and advice to move towards its vision to have “an efficient, integral European transport system that provides completely safe, secure and sustainable mobility for people and goods”.

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## EXECUTIVE SUMMARY

After having released its position paper on FP8 in February 2011<sup>1</sup>, which aimed to emphasize and elucidate the need for transport research in the next Framework Programme (FP), as well as for the next FP's organisation as whole, *the European Conference of Transport Research Institutes (ECTRI)* would like to contribute to the EC Consultation on the "Green Paper From Challenges to Opportunities: For a Common Strategic Framework for EU Research and Innovation funding".

We would like to do it based on our broad involvement and commitment to European transport research and our perception of the transport system. We hope that these answers will provide the Commission services with a clear, relevant and, above all, objective position representing the transport research providers, in Europe today.

ECTRI is a Brussels-based Association of 28 major transport research providing organisations located in 20 European countries. ECTRI represents the main surface transport related scientific community in Europe. ECTRI works with all transportation stakeholders from academia, industry, public agencies, and other areas. Its activities encompass a multidisciplinary, interdisciplinary, and systemic approach to transportation issues in Europe independently of any specific mode or vested interest (industrial or otherwise). The central approach taken in ECTRI's activities, reflected in its membership criteria, is "multimodal", considering the interdependencies and interactions between Transport modes, and looking at the transport system in an integrated way. ECTRI's representatives participate in all major European transport-related Technology Platforms, including rail (ERRAC), road (ERTRAC), water (WATERBORNE) and the e-Safety Forum. Its members are deeply implicated in Framework Programmes with about 120 transport-related running projects in FP7 and about 115 in FP6.

ECTRI is also advising on policy formulation, and has produced to this end, major thematic and process inputs to the European Research Area's (ERA) completion and to the Framework Programme and transport policy related papers (all these contributions are listed in annex 1, p. 9). The present answers to the Common Strategic Framework (CSF)' consultation built on these previous contributions and on current developments may be summarized as follows:

1. Simplification of rules and continuity of CSF instruments are essential in order to maintain the attractiveness and efficiency of the future EU research and innovation programmes.
2. The CSF should address the whole knowledge triangle and involve all research and innovation actors (research centres, university and industry), and cover not only frontier research but also focused technical research.
3. The creation of "Focused Joint Research Initiatives" ("so called FJRI") could be an endeavour to enhance the excellence and the relevance of the ERA for research providing organizations.
4. The CSF should set up adequate partnerships tools between stakeholders with clear funding instruments and Strategic Research and Innovation Agendas (and related implementation) in order to tackle societal challenges.
5. Besides agenda-driven programmes, the CSF should leave space for "new ideas" research.
6. The CSF should give a specific attention to the market uptake phase of innovation, especially to the demonstration stage, but also to the exploitation and valorization of research results. A broad approach to innovation including non-technical aspects as acceptance, marketing, standardization is needed.
7. In addition to ESFRI, the CSF could include programmes allowing the setting-up of world-class research infrastructures in Europe in the field of transport.
8. International cooperation is important to tackle global issues; the CSF should assure that competitiveness aspects are addressed by a careful consideration of Intellectual Property Rules.

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<sup>1</sup> See [ECTRI POSITION on FP8: "Towards a Common Strategic Framework for EU Transport Research and Innovation Funding", February 2011](#)

### **Question 1**

**How should the Common Strategic Framework make EU research and innovation funding more attractive and easy to access for participants? What is needed in addition to a single entry point with common IT tools, a one stop shop for support, a streamlined set of funding instruments covering the full innovation chain and further steps towards administrative simplification?**

The simplification of the financial and administrative rules is definitively a must and should be achieved effectively: shorter time to contract and reduced administrative burden are essential as well as the acceptance of the external auditors' approved methods of accountability.

Besides simplification, which is a key issue, the EU research and innovation funding will be more attractive if it remains open to all research actors including the research providers. In particular, the tools and instruments of the future CSF should promote an equal participation of all actors from the knowledge triangle: research providers, universities and industry. Accordingly, special attention could be devoted within the CSF to the so-called "Focused Joint Research Initiatives" (FJRI) and the "European Innovation Partnerships" (EIP), besides the Joint Programming Initiatives (JPI) currently being set up.

The EU research and innovation funding should cover all specific parts of the knowledge triangle and address not only frontier research but also focused technical research.

ECTRI has good experiences with regard to the current FP instruments and advocates therefore the limitation of the number of new tools and funding instruments in the future CSF; CSF should concentrate on improving the existing ones (cooperative projects, coordination and support action and Marie Curie actions), especially through simplification measures.

ECTRI thinks that both focused research programmes that are "driven by agenda" (such as Strategic Research Agendas), as well as "bottom up" or "more bursting focused ideas" are necessary if we want to tackle successfully the societal challenges.

### **Question 2**

**How should EU funding best cover the full innovation cycle from research to market uptake?**

The Common Strategic Framework should not look at market uptake as the only necessary end; research is also necessary on topics that may not produce directly market products. The CSF tools should tackle the full innovation cycle (not necessarily linear) from basic research to market implementation, with the involvement not only of EC funds, but also of the EIB instruments, and those of Member States and Regions. In order to achieve these goals, the CSF funding will have to be interlinked with the Member States' and Regional Authorities' funding.

Looking at market uptake, it would be interesting to strengthen the "demonstration stage" at the end of relevant European projects by including a further development of test beds, demonstrators, European large scale actions in addition to the current Fields Operational Tests (FOTs) efforts. We also need specific research projects to evaluate the progresses and developments made in each step of the innovation cycle. Standards and smarter regulations, (including tools for policies development, monitoring and assessment) are also instruments that will pave the way from lead market to a global competitive European market.

### **Question 3**

**What are the characteristics of EU funding that maximize the benefit of acting at the EU level? Should there be a strong emphasis on leveraging other sources of funding?**

The added-value of EU funding is very clear to ECTRI when it is used for:

- cooperative research for global European competitiveness and grand societal challenges including demonstrations, simulations and large scale actions,
- cooperative research to support the enhancement of focused research through networks of research organizations,
- focused research infrastructures and test beds,
- the networking of research infrastructures and the preparation of test beds.

A credible funding level is needed to meet the ambitious goals. A broadening of sources, e.g. through a coordinated approach with the structural and/or cohesion funds, could be supportive with this respect. This would give space also to build up new or maintain expensive but internationally recognised research infrastructures. However, broadening the set of instruments to leveraging other sources would be counterproductive; narrowing would definitely be a pro.

### **Question 4**

**How should EU research and innovation funding be used to pool Members States' research and innovation resources? Should Joint Programming Initiatives between groups of Member States be supported?**

As EU funding is only a limited part of the total European research budgets, the present experiences with linking Community funding to other sources through instruments as ERANETs, JPIs, EUREKA and COST, are promising.

ECTRI members are involved in various joint programming activities at EU level (such as COST Transport and Urban Development, EUREKA, ERANET-Transport and ERANET-Road, JPI Urban Europe) and can provide further technical inputs to the various actors when needed.

### **Question 5**

**What should be the balance between smaller, targeted projects and larger, strategic ones?**

ECTRI clearly supports a mix of all instruments such as small, targeted projects as well as larger strategic ones. The larger strategic ones should be "agenda-driven" and therefore based on Strategic Research Agendas produced by:

- the European Technology Platforms (ETPs) i.e. ERTRAC, Waterborne, EIRAC, ERRAC, EPOSS, SmartGrids, etc,
  - forums like the eSafety Forum,
- or based on standardization and policy needs.

The ETPs and the eSafety Forum have created very valuable Strategic Research Agendas that should be largely used within the CSF and updated as the CSF progresses. In addition to the large projects based on Strategic Research Agendas, there is a clear need for smaller projects, especially on multimodal issues. In the transport sector, the balance between the small and larger projects may vary depending of the modes.

ECTRI finds that the proposal of the “level 0” type of projects (bottom-up initiatives, exploratory/new ideas) such as proposed by the aeronautics sector is of interest and could be extended to the other transport modes. This will allow innovation and creativity in the supply side of the ERA and boost the participation of the most innovative European scientists.

### **Question 6**

**How could the Commission ensure the balance between a unique set of rules allowing for radical simplification and the necessity to keep a certain degree of flexibility and diversity to achieve objectives of different instruments, and respond to the needs of different beneficiaries, in particular SMEs?**

According to ECTRI, the first important point is to have dedicated financial rules for research and innovation.

To keep a degree of flexibility and diversity to achieve instruments’ objectives, the following issues are also of utmost importance:

- Annual work programmes and strategic research and innovation agendas have to be regularly updated during the next Multiyear Financial Framework period.
- Instruments have to address the different parts of the whole Knowledge Triangle and the full innovation cycle, so they have to be appropriate to all the main stakeholders involved in the programme i.e. industry, suppliers, service operators, system providers, infrastructure operators, academia (not only frontier but also focused).

The stakeholders should not be deterred by risk aversion or risk taking; the instruments should take into account the practices of the different stakeholder communities.

### **Question 8**

**How should EU research and innovation funding relate to regional and national funding? How should this funding complement funds from the future Cohesion policy, designed to help the less developed regions of the EU, and the rural development programmes?**

ECTRI believes that the “networked” research organizations programmes should be co-funded at EU level in order to complete the European Research Area (ERA). This funding should concern the ERA’s agendas related to mobility for researchers, world-class infrastructures, knowledge sharing, strengthening of the research institutions and the international cooperation.

In addition, the research and innovation funding could be articulated between the EU, the Member states and regional/local authorities particularly for “test beds” and “demonstrations”.

The creation or development of “test beds” and of “research and innovation infrastructures” could be funded at EU level by the cohesion and regional funds in addition to the main funding by Members States or regional and local authorities. Demonstrations could be funded at EU level.

Intergovernmental competitive research programmes could be co-funded by EU (for SMEs or JPIs).

### **Question 9**

**How should a stronger focus on societal challenges affect the balance between curiosity-driven research and agenda-driven activities?**

According to ECTRI, it is critical that “agenda-driven” activities are carried out within the CSF. The role of the ETPs and Advisory committees like the Transport Advisory Group (TAG) in our domain will be of great importance to provide future research agendas.

Curiosity-driven research such as being currently done within FP7 by the ERC represents only one part. In the transport domain, which is not currently covered by the ERC, there is space for more bottom-up research (“new idea”-driven research). In fact, “new ideas” (above mentioned “level 0”-projects) which are generated besides the curiosity-driven research are to be scientifically assessed and developed, and could be tackled by the CSF. For instance the transformation and adaptation of frontier research outputs into adequate focus research outcomes, as well as transversal topics like the research and innovation organisation and system, could be considered in the CSF.

#### **Question 10**

##### **Should there be more room for bottom-up activities?**

Indeed ECTRI considers there should be more room for bottom-up activities, such as developed in answers to questions 5 and 9.

The CSF should also consider that bottom-up activities may be included in agenda-driven activities, especially when various ideas and paths exist for the implementation of such agendas.

#### **Question 11**

##### **How should EU research and innovation funding best support policy making and forward-looking activities?**

Forward looking activities are critical for the setting-up of societal challenges-driven research agendas. In this respect, ECTRI considers it essential to have research and innovation partnerships between industry and research organizations (to support policy & standardization) or only between research organizations (to support policy making).

The dialogue between policy makers (EU and national governments) and research providers is of major importance for fruitful research for policy support. The research providers, such as ECTRI members, have an important role in providing advice to both national governments and the EU in policy formulation.

#### **Question 14**

##### **How should EU funding best take account of the broad nature of innovation, including non-technological innovation, eco-innovation and social innovation?**

It is important that at the EU level demonstration, innovation modeling, simulation, and even large scale activities should take into account the broad nature of innovation. In the problem definition phase, the scope of innovation should not be limited in order to make it possible to include non-technological innovation, eco-innovation or societal innovation. They need at least thorough assessment and evaluation research. It is also essential that the EU funding takes into account all the aspects involved in the innovation process like acceptance, legislation, standardization, marketing and dissemination.

ECTRI supports the setting-up of European Innovation Partnerships aimed at developing a full strategic research innovation and implementation agenda for European large scale activities of importance for the EU future. The EIPs need to be supported by corresponding EU funding.

### **Question 15**

**How should industrial participation in EU research and innovation programmes be strengthened? How should Joint Technology Initiatives (such as those launched in the current Framework Program) or different forms of 'public-private partnerships' be supported? What should be the role of European Technology Platforms?**

Today the European Technology Platforms (ETPs) and the Public Private Partnerships (PPPs) play an important role within FP7. Their role, as well as the participation of the industry, service providers and infrastructure operators as is currently the case, should be preserved and even broadened within the CSF (notably by including the education and innovation topics such as done in the transport domain by the eSafety Forum). However, we feel it essential that all stakeholders are represented and involved in ETPs and PPPs in an equal and balanced manner. In this context, ACARE can serve as a role model.

If the use of PPPs is to be expanded then they should be flexible in their setting-up and simple to manage and access; ECTRI believes that this will ensure the continuity of industry participation in EU research and innovation programmes. In surface transport and ICT research, flexible PPPs have been successful (e.g. European Green Car Initiative, Future of Internet, Factories of the Future) because of their simplified management and governance.

In addition, in order to keeping the ETPs running actively within the CSF, the EC should keep its financial support to the ETPs' secretariats. ECTRI members will keep actively supporting the ETPs by providing inputs to their research agendas and to the PPPs by providing excellent researchers.

### **Question 20**

**How should intellectual property rules governing EU funding strike the right balance between competitiveness aspects and the need for access to and dissemination of scientific results?**

Intellectual Property Rules (IPR) shall be at the forefront of international cooperation. ECTRI recommends taking care of the type of cooperation agreements which include an automatic transfer of IPR outside the EU and the European Economic Area (EEA). When addressing this issue it is important to make a distinction according to the outcomes and leverage of the planned research. When possible open access should be envisaged, but if the results are near patent or software copyright the outcome should be protected, especially when it forms a competitive advantage for Europe.

### **Question 21**

**How should the role of the European Research Council be strengthened in supporting world class excellence?**

ECTRI considers it important for future transport research to look at interdisciplinary issues. However it appears difficult to tackle interdisciplinary research within the ERC panel domains as set up in the current framework programme. It could be improved by taking the example of the US model from the National Science Foundation (NSF). NSF has created the transport department (and others) that include excellent scientists of the domain coming often from the so-called National Laboratories. In addition, COST could also evolve towards a European foundation having a role in focused research in different technological areas.

### **Question 23**

**How should the role of Marie Curie Actions be strengthened in promoting researcher mobility and developing attractive careers?**

Researcher mobility and attractive career can be achieved by switching between academia and industrial laboratories. The current Marie Curie and Industry Academia Partnership and Pathways (IAPP) and Initial Training Networks (ITNs) as well as the IRSES (International Research Staff Exchange Scheme) are critical in this respect and should be maintained. Also some initiatives like the European Charter of Researchers, the scientific visa, Mobility Centers' network, and the European portal for researchers' mobility (euraxess) have been successful and should be continued.

The main issues today are to remove the legal constraints existing to intra-EU and international mobility of researchers. A legal framework for the ERA completion (drawn from the current version of the Lisbon Treaties) could tackle this issue in taking away (at least partly) those legal barriers to researchers mobility. In particular, harmonized rules and conditions for recruitment in public research institutions or for pension funds transfer, as well as for doctoral education in EU, are necessary to remove remaining obstacles to mobility.

### **Question 25**

**How should research infrastructures (including EU-wide e-Infrastructures) be supported at EU level?**

The European Strategy Forum on Research Infrastructures (ESFRI) is an important instrument. However, there is a need of other research infrastructures in addition to the ones covered by ESFRI. Nevertheless the costs of the research infrastructures are so expensive that they are out of scope of the current FP financial scheme. Accordingly, other sources of funding should be used for the creation and development of research infrastructures, such as the Trans-European Network (TEN) schemes and Cohesion and Regional funds.

In order to improve EU competitiveness, there is a need for an extended research and innovation infrastructures agenda (including test beds and innovation ecosystem infrastructures). The CSF should also cover both soft and hard infrastructures. The current Capacities Programme within FP7 has been successful and should remain in the future CSF; the i3 "infrastructure integrated initiative" should nevertheless be opened to all domains.

### **Question 26**

**How should international cooperation with non-EU countries be supported e.g. in terms of priority areas of strategic interest, instruments, reciprocity (including on IPR aspects) or cooperation with Member States?**

The EU should take a pragmatic and realistic approach to international cooperation. There are some important elements when engaging in such cooperation:

- Some societal challenges are global and can only be tackled at international level.
- International cooperation can globally enhance the European leadership in standardization.
- Economic competitiveness can be improved as long as IPR issues are well dealt with.
- Harmonization of scientific evidences is sometimes essential for rule making and their acceptance of new policies.
- In some cases, shared research and innovation background infrastructures could be useful.



- Possibility of common education and trainings and the improving data management and sharing can have synergies effects that are important while considering the cuts in public funding.

The CSF should aim at setting up a world class and international research infrastructure in Europe in the field of transport such as the CERN for nuclear research.

### **Question 27**

**Which key issues and obstacles concerning the ERA should EU funding instruments seek to overcome, and which should be addressed by other (e.g. legislative) measures?**

ECTRI believes that there is a need to financially support the creation of “Focused Joint Research Initiatives” (“FJRI”) to enhance the excellence and the relevance of the ERA supply side of research organizations.

On the other hand, also the demand side, such as ETPs and forums such as eSafety which are addressing research innovation, should be supported, for instance through financing of their Secretariat.

As suggested in answer to question 25, ECTRI supports an extended agenda on European research and innovation infrastructure, in addition to the ESFRI agenda.

On the other hand the mobility of research staff from academia and/or industry could best be supported by a legal framework for the ERA completion (drawn from the current version of the Lisbon Treaty that provides a strengthened legal basis for the ERA) that would tackle this issue by taking away (at least partly) those legal barriers to research staff mobility as mentioned in question 23.

## ANNEX 1

ECTRI has put forward various documents on which the present paper is built and that we believe remain relevant for the current discussion on the CSF such as:

- ECTRI contribution to STTP “Strategic Transport Technology Plan”, March 2011
- ECTRI Position Paper on FP8, February 2011
- “Creating a European Transport Research Alliance (ETRA), towards MERITE, Main European Research Initiative in surface Transport”, November 2009
- ECTRI position on the EC Communication on “The Future of Transport” COM (2009) 279 (final), September 2009
- “Brno Declaration”, May 2009
- “Lyon Declaration”, December 2008
- ECTRI contributions to FP7:
  - Research gaps in transport research efforts, January 2009
  - Input to Workprogramme 2008, June 2007
  - Input to Workprogrammes, transport and ICT, April 2006 and addendum, June 2006
  - Input to Specific Programmes, June 2005
  - Input to FP7 preparation, November 2004
  - Opinion on the proposed architecture of the 7<sup>th</sup> FRDP, COM (2004) 353 Final, July 2004
- ECTRI answer to the EC Consultation on the Green Paper on the European Research Area (ERA), August 2007

All these documents are available on the “publications page” of the ECTRI website ([www.ectri.org](http://www.ectri.org)).