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Introduction

The Common Strategic Framework (CSF) for Research and Innovation is under preparation by the Commission. A milestone in this process was the public consultation on the Green Paper 'From Challenges to opportunities: Towards a Common Strategic Framework (CSF) for EU Research and Innovation Funding' which closed on 20 May 2011.

Using the input received from that consultation and from the public consultation on the preparation of the Strategic Transport Technology Plan, the Commission services are currently reflecting on the main orientations for the transport research and innovation component of the next CSF proposal, to be adopted by the college before the end of the year.

In this context, the Commission services organised on 16 June 2011 an informal discussion with stakeholders on the transport component of the next CSF.

Participants

More than one hundred people representing transport relevant stakeholders were invited. Fifty-eight people representing all major associations and other relevant organisations across all modes of transport and other transport related issues attended the informal discussion meeting.

Twenty-six participants intervened during the discussion.
Objective of the meeting
The general objective of the meeting was to hear the views of the stakeholders on the transport component of the next CSF. Three presentations from the European Commission (EC) provided the general framework for the discussion. The first presentation provided the audience with an overview of the results of the CSF consultation process, with a focus on the answers from transport stakeholders. The second presentation gave an update on the on-going process for the preparation of the Strategic Transport Technology Plan (STTP). The third presentation advanced some suggestions on how the European Commission intends to address the needs of the transport sector in the forthcoming Common Strategic Framework (CSF) for research and innovation (R&I) and launched two sets of questions to the audience:

A. On the structure and content of the transport component of the next CSF:
   1. Does the approach as presented (green/integrated/competitive) reflect the main challenges?
   2. Does it match the expectations in terms of policy objectives/user needs/industry requirements?
   3. Should the modes be more visible?
   4. Are the more urgent R&I needs addressed?

B. On the innovation dimension:
   1. Do the priority areas represent an adequate spread from basic research to potential application?
   2. How best to foster future deployment (programme content/ type of funding/ partnership composition)?
   3. Which topics require a demonstration component?
   4. What role for Public-Private Partnerships, Joint Technology Initiatives?

Key messages of the informal discussion

A. On the structure and content

A.1 Does the approach presented by the EC reflect the main challenges [for transport R&I: smart, green and integrated]?

A number of contributions referred to the general CSF approach and the role of transport within the CSF. The CSF approach suits well the needs and challenges of the transport sector and the profile of the transport sector clearly justifies considering it as a priority theme within the next CSF policy approach. Transport is rightly considered within the CSF as a key societal challenge, but it should be kept in mind that transport is also a relevant contributor to the "science" pillar of the CSF, and a key condition for competitiveness. Furthermore, from a transport perspective, it would be necessary to highlight the need for close integration of the three pillars of the CSF (societal challenges, competitiveness and social aspects) within our vision of the future.
It is from this perspective that the next CSF should address the challenge of creating more effective transfer paths from research to industry in the transport sector. Furthermore, transport is an "integrator" of enabling technologies developed within other sectors (energy, information and communication technologies…). An adequate environment for further facilitating the integration of all these technologies in transport applications should be pursued, i.e. greatly facilitated within the new CSF.

While the EC presentation on the transport component of the next CSF gives convincing reasons about why it is important for the CSF to include transport as a key theme, and why R&I policies will effectively promote the transport policy’s goals (see the "rationale" slide within the EC presentation), it should be remembered the otherwise obvious principle that transport is necessary to provide people and businesses the mobility they need. The societal importance of transport should be stressed in order to make sure that it gets the deserved attention within the CSF.

Coming to the three main challenges faced by the transport sector (green, integrated and competitive) and their corresponding solutions/strategies (innovative, seamless and smart solutions), the strong relationship among these three aspects was primarily highlighted. More precisely, the following aspects were raised on each one of these three "solution" paths:

- **GREEN/ Innovative solutions.** It was highlighted that innovative solutions should also address materials and manufacturing processes. Innovation in these areas would be critical to strengthen the global competitiveness of the European transport industry. To be effective, innovation requires better integration of the whole research-to-product cycle.

The concept of innovation should not be only technological, but also "social". The "social innovation" concept would include for example social concerns (SMEs, working conditions, road haulers) and should facilitate the link between the CSF and the "real economy": indeed, innovation will probably be the only way for many industries to survive.

- **INTEGRATED.** The concept of integration received attention from many participants. One of the core ideas should be that transport "products" are put together in order to provide "services". Integration should thus refer primarily to the provision of efficient transport services. Secondly, the "integration" concept should also mean making better use of existing research and innovation efforts within and outside the EU: accordingly, more attention should be given to "convergence and complementarity activities" (formerly known as "horizontal activities" within FP7), aiming at supporting international cooperation, as well as cooperation between national and EU activities. Thirdly, "integration" should also include cooperation among research themes (energy, ICTs, socio-economic…): indeed, lack of integration is a major barrier to full deployment of innovative solutions.
"Reliability", including reliability of transport infrastructure, is also a crucial issue for the transport system and hence should be considered when broadening the "integration" concept.

- COMPETITIVE. This dimension should take into consideration the fact that the EU transport industries' competitiveness is currently decreasing in many areas, and that a focus on global competitiveness is therefore necessary. In particular, the question of the global competitiveness of the European transport infrastructure construction industry, including maintenance and retrofitting, could be quite relevant as emerging economies expand. Research on materials and manufacturing processes is also crucial.

The concept of "Innovation Union" is at the edge of conflicting with competition rules, particularly if the deployment phase is to be reached. Adequate competition will require to facilitate and promote access to research opportunities for all, and to limit the current "advantage" of those players who have more knowledge of the R&I funding system and have more experience in acceding to research funding resources.

A.2. Does it match the expectations in terms of policy objectives, user needs, industry requirements?

POLICY OBJECTIVES.

In terms of policy objectives, it should be kept in mind that there are modal, intermodal, and modal-change issues, which should all be consistently addressed within the structure of the programme. In the future, the EC should try to emphasise the coherence among transport policy guidelines, the contents of the research work programmes and the identification of research topics: for example, modal change has been and still remains a key policy objective, but it was not quite well addressed in FP7.

From this perspective, the EC should keep trying to make a coherent use of the various transport policy documents while identifying research topics. (The recent experience of NAIADES for inland waterborne transport is mentioned to this respect).

There could be a gap between the extremely ambitious goals of the new White Paper on transport and the path towards their realisation. More reflection on how to address these goals in practice and how to prioritise actions is urgently needed. In fact, the STTP may be considered as a first step in this direction.

Re-regionalisation is an issue spreading all-over Europe. Within the R&I cycle, and particularly at the deployment stage, the EC should make an effort to further involve more local/regional stakeholders. This is a challenging task, as both, different government levels and technological sectors, are currently following contradictory paths.

USER NEEDS.

This is a most relevant aspect, and there were concerns about the necessity to give more attention to the users' needs within the transport component of the CSF. From this perspective, it would be necessary to give more relevance to research on socio-economic
impacts and behavioural aspects of transport and mobility: behavioural research should definitely come back to the research agenda, including demand-management topics. These topics have gained relevance in the recent White Paper on transport, and should therefore be supported by research and innovation activities within the next CSF.

The question of users' needs and the need for research on mobility behaviour raised some comments on the importance for users to have alternative choices in order to cope with their mobility needs and to give adequate consideration also to users' preferences (what people want in terms of mobility).

Research on users' needs should address some basic questions, particularly in a new context of uncertainty on mobility costs due to the threats of high-price energy prospects. Why is mobility happening and how can affordable mobility be provided in different future scenarios should be central within the research agenda.

Probably this focus on users' needs further supports the idea mentioned above of keeping a view of transport as a sector providing services, and not merely products to the market. To be consistent with this approach, demonstrations should not be limited to technological products, but also include novel systems and processes: the human factor should thus become stronger, more relevant in research and innovation.

The focus on users' needs should include people's accessibility and affordability needs: the "seamless travel" concept is a way of addressing these social issues, but the EC should consider how to involve users' needs and views along the whole innovation process.

**INDUSTRY REQUIREMENTS.**

The perceived attempt of the EC to move towards a "research for the industry" concept was very much welcomed. It was highlighted that within the transport industry there are many specificities (not only in terms of transport modes, but also geography- global, European, national and local industries-, parts of the mobility market addressed, etc), which implies different needs in terms of R&I funding and the difficulties for market uptake.

One key requirement from the industry is the simplification of funding schemes and instruments. Within any review of those instruments the Commission should associate the research and innovation administrations, and the R&I community. Most stakeholders are already familiarised with at least some of the existing instruments, and any simplification should build on that rather than creating brand-new rules and templates. Within any simplification effort, the EC should try to keep the perspective of the users' needs rather than that of the bureaucrats'. Simplification is particularly critical for SMEs, as they may be running out of the FP, due to its bureaucratic complexity. Last, but not least, quick access of the beneficiaries to the approved research funds should be considered within any simplification effort: it was mentioned that getting funding in the EU currently takes longer than in any other region of the developed world.
A key component of the European transport R&I industry is the "supply side" of the R&I chain (research institutions...). Currently, this "supply side" is receiving limited attention within the CSF, and there is a risk for these institutions to lose relevance in the global context, in spite of the blooming global opportunities arising worldwide. Accordingly, specific instruments should be deployed to support the action of these stakeholders within the European context and at the global level, including instruments for networking and global outreach, such as "joint research initiatives" or "global mobility/presence".

A.3. Should the modes be more visible?

Many participants contributed on this particular question. Most of them agreed that the current approach ("beyond transport modes") was adequate at this stage, emphasising the relevance of the transport sector as a whole within the whole R&I policy and not being too specific. However, as the process progresses, it would be necessary to be more precise on how to address the R&I cycle, and then both, intermodal and modal issues, as well as freight and passenger specificities, would need to be considered in greater detail, including:

- the particular potential of each transport mode and its specificities, mainly from the perspective of each mode's industry;
- the particular role played by the industry (and other stakeholders) within each transport mode;
- the different dimension of the industry (from global to local), depending on the transport mode considered;
- the characteristics of the particular transport markets addressed (for infrastructure, vehicles, terminals);
- the innovation cycle differences that may arise from one transport mode to another;
- intermodal issues, such as the fact that transport vehicles and infrastructures can be used in different ways depending on the services they will provide (e.g. use of different vehicles within a public transport system, road capacity management...).

In certain cases, the different questions that will have to be addressed will be more intermodal in nature, and in other cases more relevant for particular modes. This should be dealt with by keeping an adequate balance between modal and general issues, and preserving the current vision of transport as a coherent, integrated sector.

A.4. Are the most urgent R&I needs addressed?

Yes, they are, in general terms. Transport has a strong, particular R&D profile, and this is rightly highlighted in the current approach. Transport is certainly not merely an area for application of technological developments provided by other research themes, but a sector with its own research needs. From this perspective, an "enabling framework" is necessary for transport R&I, including research infrastructures, funding, etc, as it is also the case for other priority research themes.
Within this general framework, a number of participants mentioned some particular transport R&I needs:

- The relevance of the demonstration stage, which should become a key component of research, and its continuation towards market uptake, particularly through public procurement.

- More adequate consideration to the technological dimension within intermodal integration topics: ticketing, passenger information, use of vehicles... The same could apply to modal change issues.

- The need to design specific research instruments in order to reinforce the supply side of European transport research (already mentioned above: joint research initiatives, mobility of research institutions and their networking...).

- The inclusion of "convergence and complementarity" activities, in order to support international cooperation (outside the EU), or cooperation between national and international transport research programmes.

- Support to the development of smart transport infrastructures. This includes cooperation with the ICT sector, which is moving fast forward. Adequate flexibility is needed to put in place cooperation instruments which can help the transport sector to effectively integrate those information and communication technologies.

- This challenge of cooperation between transport and other research themes for the integration of enabling technologies may also be crucial within the deployment stage of some products, e.g. integration of developments on electric vehicles, energy production (renewables) and distribution, and users’ needs and satisfaction.

- Provide for adequate attention to specificities (not only modal: also passenger vs. freight, geographical perspective, various industries, terminals...) and avoid "over-generalisation".

B. On the innovation dimension

B.1. Do the priority areas represent an adequate spread from frontier research to potential application?

Indeed, it was felt that the transport component of the future CSF would have as its main challenge to propose a well structured set of goals and its corresponding identified R&I needs in terms of priority areas. The structure should be flexible enough to take on board new challenges as they could emerge in future.

The priority areas should give more attention to the major societal challenge of "inclusive, innovative and secure societies", and address the question of "social innovation" in transport. This is already discussed globally within the Innovation Union flagship initiative, but it would be necessary to better translate the concept to the transport sector within its R&I priority areas.
One concern is that the current articulation of challenges and solutions (green/integrated/competitive transport) could in practice favour an uncoordinated development of the priority areas in the three suggested directions; from this perspective, it was suggested that the concept of integration should be present also within the other two prescribed solutions (green and competitive) while allocating research topics to them.

Furthermore, integration (including standardization) across modes would also need new technological tools, for example to allow for comparisons among modes on a life-cycle basis. There are currently some developments (e.g. within the Clean Sky JTI) which could yield some kind of spill-over to other transport modes, thus confirming the potential for a more systematic approach.

The "integrated" concept could also serve to avoid the current division of topics within FP7, when it is proving to be a barrier for R&I on a particular area. Joint calls have thus far attempted to address this, and further development of "enabling technologies" could require the continuation of these instruments in future, as needed. However, specific technologies should not be singled-out in the programme.

Two particular priority areas currently not mentioned were proposed by some participants. They are both of a cross-modal nature and mainly related to the "competitive" aspect of the challenges and solutions proposed by the EC: research on transport infrastructure, including maintenance and retrofitting as well as climate change impact, and materials and manufacturing processes. These were perceived as a key for global competitiveness and for the provision of affordable mobility.

B.2. How best to foster future deployment: programme content/ type of funding/ partnership composition?

PROGRAMME CONTENT

Again, flexibility was singled-out as the main challenge for the programme content and management. It was highlighted that the transport sector is now facing the challenge of a long-term vision (2030, as proposed by the White Paper on transport) and that the R&D policy will have a rather long (7-year) horizon. Transport is facing a particularly dynamic context, and transport R&I activities should be able to adapt quickly to political and social change, if necessary. This would mean both, flexibility at the management level, and flexibility within the research projects themselves to adapt to potentially changing objectives.

In order to foster future deployment, demonstration should probably become a key component of research activities. Specific instruments should be tailored to the different parts of the innovation chain, and particularly to system demonstration. Public procurement could certainly become more relevant, making use of mechanisms already in place in other parts of the world. International cooperation should in this respect gain in importance.

Deployment needs will probably require improved cooperation among transport and other research sectors, through joint calls or other instruments.
TYPE OF FUNDING

The fact was raised that the EU R&I policy has already a long history behind and that great efforts have been dedicated to put together the EU, national and industry budgets under a coherent strategy, particularly in the last 10 years. Further efforts should build upon this experience, fostering, rather than slowing down, the existing momentum.

The consideration of some innovative instruments of "financial engineering", including leasing of technologies, and further involvement of the EIB in the CSF were mentioned. It was also stressed that, at least for some transport modes, funding needs increase as research approaches the demonstration and deployment stages, and that funding should be tailored to this fact.

As one of the main CSF prospected features includes the complementarity of various funding sources, the adequacy of various funding sources to research needs was discussed. Some concerns were raised on the ability of structural funds to efficiently address research needs: in particular, the control systems and bureaucracy of structural funds seem to be today too complicated, should they be mobilised for research and innovation needs. On the other hand, it was felt that structural funds could be used at the implementation stage (or within public procurement) to foster the use of innovative solutions in EU-funded transport infrastructure projects.

PARTNERSHIP COMPOSITION

The consortia should include so-called "deployers" (i.e. stakeholders which will actually implement and make use of the innovations, and integrate them within transport services available to the users); the "deployer" is the link at the end of the chain, and should not merely be facing new products or concepts, but be actively involved in their design. (In this respect, some past experiences have been disappointing, for example in the field of smart charging and E-tolls solutions for roads: good research results, but not usable because the deployers were not consulted).

Fostering the involvement in R&D programmes of new member states (and some of the old member states) was mentioned as a potential goal for the next CSF. However, it was highlighted that those concerns could be better addressed within other policies (notably cohesion policies) rather than R&I.

B.3. Which topics require a demonstration component?

Most contributions suggested that demonstration should become a fully integrated part of the research cycle, rather than a component limited to some particular topics. Demonstration would not be limited to "transport products" but also include novel systems and processes. Therefore, CSF instruments should be tailored to the different parts of an "integrated innovation chain". The involvement of end users (including clients) would be most necessary at the demonstration and deployment stages, but they should probably be involved at an earlier stage, particularly where deployment of innovation seems to be facing more significant barriers (e.g. deployment of green solutions in the shipping industry).
B.4. What measures should we foresee to foster the use of results?
Apart from the already-mentioned suggestion to get end users (including clients) better involved, and to provide the necessary funding for the sometimes expensive demonstration and deployment stages (see above), it was suggested that the "human factor" should be adequately addressed throughout the whole innovation cycle. Furthermore, the promotion of standards as a tool for the deployment of research results in the market should become a stronger element, more visible in the new programme.

B.5. What role for PPPs, JTIs?
Continuation of the JTI scheme was requested by some participants: JTIs, as well as PPPs, were seen as an effective instrument to help the industry in changing the way it has traditionally faced research, and to embark on a strategic, long-term perspective. In particular, the possible development of a JTI for rail transport was evoked.