



## Research and Innovation Framework Programme 10 (FP10)

### ECTRI POSITION PAPER ON FP10 & FUTURE PARTNERSHIPS

**May 2024**

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 29 major transport research institutes or universities from 20 European countries. Together, they account for more than 3,000 European scientific and research staff in the field of transport. ECTRI as the leading European research association for sustainable and multimodal mobility is committed to provide the scientifically based competence, knowledge and advice to move towards a green, safe, efficient, and inclusive transport for people and goods.

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## 1. Introduction

ECTRI has agreed on a strategy 2021-2030 in December 2020<sup>1</sup>. In this frame, one of the ECTRI's missions is *"to provide independent, evidence-based advice to decisions makers in Europe"* with a strategic objective *"to shape European programmes and policies"*. The implementation of such strategy is supported by the **ECTRI Task Force on European Policy**.

Composed of senior researchers from the ECTRI Members, the Task Force (TF) promotes the positioning of ECTRI regarding the development of the European Research Area and the transport research agenda for Horizon Europe and future Framework Programmes against the background of transport policy developments.

## 2. Setting the scene

### 2.1. ECTRI and framework programmes

As an international non-profit association including 29 research institutes and universities from 20 different European countries, ECTRI has regularly issued position on the achievements and future directions of the European Research and Innovation Policy in the field of transport of people and goods and its interaction with European Transport Policy, with a focus on interconnecting policy challenges with emerging new research topics.

Across these years ECTRI's position papers have consistently highlighted two key topics: (a) the potential of European transport research to accelerate the transition towards the integrated multimodal low-carbon transport systems envisioned by the European Transport Policy and (b) the need to preserve and increase a sustained effort to basic, low-TRL transport research to achieve such vision and to preserve the competitiveness and innovativeness of the European transport sector in the long term.

For example, in 2016, the ECTRI's position paper on the third work programme (2018-2020) of Horizon 2020 called to address the slow progress achieved in the implementation of integrated and multimodal transport systems by overcoming existing modal silos in transport research and look for a more balanced approach between disruptive innovation and industrial short-term interests. In 2018, the ECTRI's position paper on the forthcoming Horizon Europe requested sufficient resources for this programme and a balanced participation of the industry and the research community in its key instruments, so that the European Commission's growing interest in high-TRL research would not compromise long-term innovation goals: ECTRI asked for a sensible way to support low-TRL research, that allows preparing fundamental results that can be picked up and developed into mid and higher-TRL in later stages. The setting up of the European Innovation Council was seen as an opportunity to address high-TRL research from a dedicated structure, without compromising in Horizon Europe the strategic and long-term and low-TRL focus of Research and Innovation Framework Programmes. It also recommended keeping defence research separated from Horizon Europe, due to its different scope and participation requirements, and suggested the setting up of a mission on *"integrated low carbon and socially inclusive mobility for all"* as a way to effectively

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<sup>1</sup> ECTRI Strategy 2021-2030, December 2020 - [https://www.ectri.org/wp-content/uploads/2021/01/2020-12-07\\_ECTRI-STRATEGY\\_2021-2030\\_Final.pdf](https://www.ectri.org/wp-content/uploads/2021/01/2020-12-07_ECTRI-STRATEGY_2021-2030_Final.pdf)

move towards a sustainable European transport system. This was subsequently complemented, in the aftermath of the COVID crisis by an ECTRI vision for transport research: *“Zero greenhouse gas emissions, zero local air pollution, zero fatalities and zero seriously injured from road accidents, zero negative transport externalities which are not internalized in the market, zero social inequities (including zero gender gaps) and zero “structural waste” in a sustainable and multimodal/intermodal mobility system for passengers and freight”*.

In 2019, in the framework of the setting up of a new Partnership on Cooperative, Connected and Automated Mobility, ECTRI stressed the need for a good balance of low- to high-TRL, and expressed its concerns for transport-related partnerships that thus far had focused heavily on high-TRL research and innovation in order to produce tangible results in minimal time. As partnerships were expanding and presented a tendency to absorb a growing part of EU-research funding in their respective domain, the overall effect could be that low-TRL would be underrepresented, hampering bottom-up developments and hence stunt new and fresh ideas to provide new innovations in the future.

## 2.2. Horizon Europe: What we appreciate

The implementation of Horizon Europe has allowed to mainstream climate challenges within transport research topics in both the work programme for cluster 5 (climate, energy and mobility) and within the roadmaps or Strategic Research and Innovation Agendas (SRIA) of the European Partnerships in the transport field. ECTRI very much welcomed this as an opportunity for collaborative and integrative research with the energy and climate sectors, although it also raised concerns about the danger that such clustering could lead to reducing funding and a battle on money between the sectors. The forthcoming mid-term evaluation of Horizon Europe may provide some light on to what extent this integration has successfully translated into research results. At any rate, this could be a positive indication that transport research is being further aligned with the key European Union’s political priority to become carbon neutral by 2050.

The operation of different European Partnerships<sup>2</sup>, the European Institute of Innovation & Technology’s (EIT) Knowledge and Innovation Communities (KIC)<sup>3</sup> and missions<sup>4</sup> could provide stronger and more permanent structures to the transport research ecosystem through supporting strategic and medium-term cooperation agreements among participants. Furthermore, the experience of some of the members of the transport research community participating in such structures suggests that the most successful partnerships thus far are those in which a sufficiently high number of partners with different backgrounds are strongly involved in the decision-making process and activities of their partnerships.

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<sup>2</sup> European Partnership for an Industrial Battery Value Chain (BATT4EU), Clean Aviation Joint Undertaking, Connected and Automated Mobility (CCAM), the Europe’s Rail Joint Undertaking, Single European Sky ATM Research 3 Joint Undertaking (SESAR3), Zero-emission Road transport (2ZERO). Other European Partnerships are somehow associated to the transport sector, such as the European Partnership on Clean Hydrogen, the Clean Energy Transition Partnership (CETP) and the European Partnership Driving Urban Transitions (DUT).

<sup>3</sup> Mainly the Urban Mobility KIC (EUR 189 million EIT funding), and to a certain extent, Climate Change KIC and Digitisation KIC.

<sup>4</sup> One of the five approved missions “100 Climate-Neutral and Smart Cities by 2030” have a relevant transport component although limited to urban mobility.

### 3. Why FP10 should build upon and revise the Horizon Europe approach to transport research

#### 3.1. The withering of collaborative transport research

The expansion in the number of partnerships and other structures, and the EU resources assigned to them, has come at the expense of a reduction in the budget allocated to collaborative research in the transport sector. Whereas in Horizon 2020 collaborative transport research<sup>5</sup> accounted for 71% of the budget, the information available thus far for Horizon Europe<sup>6</sup> indicates that calls for collaborative transport research is receiving 16% of the budget, with 22% going to “co-programmed” topics with partnerships (CCAM, ZEW and ZZERO) and 62% to institutionalized partnerships (Europe’s Rail, Clean Hydrogen, Clean Aviation, SESAR-3).

Budget distribution seems closely associated to a growing loss of relevance of basic low-TRL research topics activities in favour of high-TRL topics closer to immediate technological implementation, in what appears to be a political short-sighted focus on “ribbon-cutting” projects yielding immediate industrial results.

New challenges arising from global instability have put increasing pressure on the Horizon Europe budget (e.g. in the form of reassigning resources for Defence-related purposes more or less loosely associated to research) and such pressure is likely to increase in the forthcoming Framework Programme (FP-10), considering the pervasiveness of these global challenges.

The current focus on results leading to immediate implementation, together with research budget freezing and cuts, if continued, will further reduce the already weakened low-TRL activities; lacking the decisive input from basic research, the whole transport innovation ecosystem is likely to further weaken and focus on low-risk incremental innovation, unable to provide the disruptive technological changes necessary for climate-neutral transport by 2050. Public funding is an essential enabler for such basic research, since its outcome is typically associated with higher risk, and by that less likely to attract private funding.

These trends, weakening the funding of basic research, are accelerated by the blurring of the borders between research and industrial policies, with the latter gaining ground from the former, especially in those partnerships established with an overwhelming dominance of industrial partners in decision making and agenda setting. There is nothing wrong in the EU supporting its industry, and in better aligning research with final markets, but this should be done with additional resources, instead of transferring resources from strategic research to the industry. Doing so is a short-sighted policy which is not supporting the ambitions of European climate and transport policies and unlikely to guarantee the competitiveness advantage of the European transport industry in the long term.

The clustering of transport with climate change and energy in Horizon Europe could in principle strengthen the opportunities for wider and more horizontal research topics and

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<sup>5</sup> Including Pillar 3 and SC4, budgets as at start of projects.

<sup>6</sup> Including topics within Destination 5 and Destination 6.

multidisciplinarity. Unfortunately, the real integration of these topics (e.g. across Destinations) has not materialised and, ironically, clustering has resulted in a less creative approach to some transport challenges, as dimensions different from climate and energy, which were occasionally addressed in the past in some research topics of the working programmes, have more difficulties now to be identified as deserving consideration under the new cluster. Considering the topics included thus in the working programmes under Destination 5, Destination 6 and the co-programmed topics with CCAM, ZEWT and 2ZERO, this might be the case for the interactions among transport and geographical, land use and spatial development processes. Furthermore, as these are more likely to be low-TRL topics, much closer to policy than to industrial priorities, they are unlikely to be taken on board in most partnerships' agendas.

Among the research topics that seem to have been neglected with Horizon Europe thus far, it is worth mentioning the development of more sophisticated transport policy assessment frameworks, which could provide decision makers with stronger evidence of the actual impact of the European transport policy compared to its objectives: a topic in which the use of artificial intelligence (AI) tools could be explored to address the multidimensionality of transport impacts. Another topic deserving stronger attention is related to the application of sufficiency principles to transport policy, which could be translated into action plans in areas within the transport system where demand needs to be curbed; the synergies between the low-carbon energy and sustainable transport transitions, and their social implications in terms of affordability and accessibility is another horizontal topic unlikely to be addressed under the current Horizon Europe structures.

### **3.2. The number of coordinating structures in the transport research ecosystem is growing, but their interaction dwindles**

The research coordination and implementation structures have steadily grown since FP6. It started with the modal European Technological Platforms at the turn of the century, followed by a growing number of contractual and institutional partnerships, and now also including EIT's Knowledge and Innovation Communities, and the Climate-Neutral Cities mission. There seems to be some overlapping about the scope and activities of these coordinating structures, their differences in terms of membership and objectives are not always clear.

It could be useful to explore their potential synergies and complementarities and to call for a streamlining of their roles in the transport research consultation and implementation processes, especially for those receiving or managing substantial public contributions from the EU research and innovation budget, and to explore ways to assess their efficiency and, eventually to increase their accountability and transparency.

Monitoring and evaluation are more relevant for those partnerships with very long (up to 10 years) EU financing programmes. There is a tendency to focus partnerships' assessments on the private resources that have been leveraged by each partnership, although most of the private resources leveraged would have been spent by the industry anyway. The relevant-although difficult- assessment question to respond would rather be about the difference that has been made by the partnerships in terms of research results or knowledge progress, i.e.,

‘what research outputs would have not been developed without the public funding accorded to the partnership?’

Although the proliferation of coordination structures can probably be associated to the empowerment of stakeholders in transport research policy, such empowerment has probably not been balanced. Those stakeholders with more resources tend to be present in a higher number of such structures, and to be more influential, as they are able to dedicate more means (in terms of staff’s dedicated time or ad hoc studies) to them. As partnerships require significant engagement and appreciate most the contribution of its more resourceful members, there is a risk in terms of openness and transparency if such engagement is provided by a reduced group or a handful of powerful industrial entities. Furthermore, decision making structures in some of these partnerships give priority to founding members or require high membership fees or contributions. The coordination structures may therefore represent a barrier rather than a channel for the participation of smaller stakeholders in policy discussions, to suggest innovative research topics and even to restrain the access to research funding opportunities for them.

The prevalence of a short-term perspective and industrial-centred culture in the existing coordination structures makes them self-focused in their respective domains, strengthening the siloed, modal approach to transport research. Strategic cross-cutting topics like safety or multimodality are not sufficiently addressed now, and this cannot be balanced by collaborative research under the working programme, as the remaining budget is being reduced. A positive reaction by some partnerships has been the setting up of *joint calls*; although positive, for the time being these calls tends to lack focus, with limited research content and a tendency to provide too general statements without a clear understanding of the complexity of strategic long-term challenges. Eventually, joint calls could offer an opportunity to establish some bridges among modal silos, channelling the knowledge generated by one modal partnership in projects of another one, but this is not being the case thus far.

Not to forget that research areas that do not have the privilege of being directly addressed by a partnership risk *falling behind the chairs*. One example is the multifaceted subject of road safety, a high priority policy topic for the EU but not backed by a resourceful industry beyond the relevant but relatively limited area of vehicle design, resulting in dimensions such as infrastructure design or vulnerable road user protection being neglected.

### **3.3. Why a European focus on transport systems remains relevant**

Looking at transport as a system and not as a bunch of different modes has been a key trait of the EU transport policy and is at the basis of its ambitious decarbonization efforts. The research community has been pivotal in developing such perspective, and the thus far disappointing results in terms of materialization can be attributed more to the lack of political leadership and to the conservative mindsets in an influential part of the transport industry than to the lack of delivery of research results. Under Horizon Europe, research is becoming more modal, and the multimodal vision is losing traction. It does not need to be so, and in fact, revitalising multimodal research remains important because (1) a strengthened multimodal transport system remains the best path towards decarbonisation, (2) decision

makers need sound research results to get assured about the advantages of taking bolder political action, (3) multimodality provides flexibility in the transport system, and hence increases its resilience to changes as much in climate as in the global political and economic environment, (4) multimodality probably provides the most relevant competitive advantage to the EU industry in the global economy, provided the industry is willing to leave its comfort area and explore disruptive changes.

To be fair, this does not mean that a systems perspective is completely absent in the existing partnerships, but it seems to have lost centrality in terms of mainstreaming societal aspects, spatial development and land use or mobility behaviour and in terms of developing policy and technical instruments to manage such complexity.

## 4. ECTRI's recommendations

### 4.1. On partnerships and the transport research ecosystem

For the remaining of Horizon Europe and for the future FP-10, ECTRI recommends the European Commission to consider the following:

- Look for simplification, streamlining the current coordination landscape (including contractual partnerships, institutional partnerships, KICs, missions, technological platforms) and encouraging interaction among them and across modal silos<sup>7</sup>.
- Be ambitious in the assessment of current partnerships' performance, looking for the added value provided in terms of strategic research outputs, identifying good practices and lessons learnt and encouraging their transferability among partnerships.
- Establish some common (compulsory or as recommended good practice) rules for partnerships' governance, management and funding, to strengthen transparency, accountability, openness, public participation and balance among stronger and smaller stakeholders.
- Increase openness and broader participation in the various forms of partnerships, it could be considered to establish some requirements to make sure that the resources are available (e.g. a percentage of the strongest partners' contribution to the partnership be earmarked to fund executive bodies and to support the participation of weaker partners, or part of the European Commission's contribution dedicated to such purposes).
- Establish a clearer differentiation between research and implementation. Fully acknowledging the importance of bringing research results closer to implementation, the resources dedicated to both should be clearly differentiated, to avoid the misuse of research resources for deployment activities with marginal innovative added value<sup>8</sup>.

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<sup>7</sup> Joint calls are unlikely to strengthen interaction and to provide significant innovation, as the experience shows that they include either too wide and unfocused topics or an aggregate of modal topics.

<sup>8</sup> For example, NetZero and CAESAR provide some good practice on deployment with such innovative value.

## 4.2. On the revitalisation of collaborative transport research, with a focus on multimodality

Since the vision of a European multimodal transport system was formulated in the 1992 Transport White Paper, the outcomes of the European transport policy have fallen well below its self-stated objectives. Such difficulties in achieving the multimodal vision would deserve a stronger mobilisation of the transport research community. Research could serve to update and materialize the vision of European multimodality (e.g. to develop instruments able to deal with the complexity of multimodal systems and to provide solutions better tuned for addressing the strong differences among Member States, which in the past have made it difficult to negotiate ambitious pieces of EU legislation within the Council), the practical implementation challenges (along different regions and markets, incumbent and emerging operators'...) or the spatial development impacts of multimodality (e.g. whether multimodality is spatially neutral, whether it promotes cohesion and decentralisation, or whether it further reinforces the EU centralisation processes).

In the past, ECTRI suggested the setting up of a European mission to create the future multimodal transport system including visions of zero emissions of greenhouse gas and air pollution, zero fatalities and serious injuries and zero use of unproductive time in transport. In the current framework, reactivating collaborative research on multimodality could provide the basis for better tailored and more nuanced transport policies with stronger chances to achieve their targets by exploring options for innovation and solution uptake, use, adoption, acceptance, appreciation. Most if not all the currently key transport research topics (greening, digitalisation, resilience, inclusiveness) are in fact closely associated to multimodality and would benefit from being considered under this common umbrella.

Currently, multimodality is being considered mostly at the urban area. This is the case of the DUT partnership (the 15-minute city concept), the Climate-Neutral and Smart Cities Mission and the EIT Urban Mobility. This is positive, but it leaves untouched long-distance passenger mobility and freight transport, which are precisely the areas where a low-carbon transition is proving harder to be addressed. Research on multimodality needs to include transport at short, medium, and long distances, all modes and all needs: commuting, tourism, business trips, long-haul goods transport and local distribution are all equally requiring innovative responses.

The revitalisation of collaborative multimodal transport research could be further supported by the following actions of the European Commission:

- Strengthen collaborative transport research in FP10 and get a fairer and more strategic distribution of resources between low-TRL and high-TRL outputs. Under the current scenario of a limited budget, the deployment of partnerships has resulted in a significant reduction in the resources allocated to collaborative transport research, as such research modality is not a priority for the industry. This needs to be corrected.
- Increase the budgetary resources available for collaborative research and increase the consistency within clusters and between clusters and their administrative units, so that

priorities can be better identified<sup>9</sup>. Otherwise, internal reorganisation within the European Commission and clustering of research areas is likely to lead to fighting among topics for dwindling resources rather than to integration.

- Further strengthen fluent communication between transport policy and transport research. In past framework programmes, a Transport Research Expert Group contributed to provide some useful contributions to that. This is even more relevant in a context in which transport research is embedded within a cluster including other related- but clearly different- areas.
- Fluent communication should not be confused by the subordination of research to short-term political objectives. The timeframe and objectives are clearly different and should remain so. Transport research delivery is frequently medium-to-long term focused and needs to accept occasional failure as an unavoidable risk of the research process, whereas transport policy is often capture by short-term considerations and risk-adverse. Therefore, their adequate framework for interaction is long-term policy strategies and plans.
- Provide the transport research administration with the necessary resources for implementing an effective policy. The administrative organisation<sup>10</sup> is likely to influence the distribution of resources. The fact that the research administration, mirroring the structure of the research programme, brings together all transport modes within the same administrative unit does not necessarily mean adopting a multimodal approach, and may merely reduce the staff and resources available for each mode, as well as the technical in-house knowledge available on the subject.
- Encourage more strategic cooperation between the research community and the industry, which could be possible if the current focus on ready-to-implement market products is nuanced by an interest on providing sustainable solutions in the market with a medium to long term sustainable perspective.

### 4.3. On the management of collaborative transport research in FP10

Together with the rest of the research community, ECTRI has welcomed the European Commission's efforts to simplify the administrative burden associated to the preparation and submission of proposals and to the implementation of research projects. Based on its members' experience, ECTRI recommends the following:

- Lump sum funding has offered a convenient alternative for HE beneficiaries but has also raised new challenges and needs to be adapted. The long lead time between proposal preparation and end of project may generate financial unbalance, especially in times of high inflation or when involving international collaborations, travel, equipment

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<sup>9</sup> At least in what refers to cluster 5 (climate, energy, and mobility) and cluster 6 (food, bioeconomy, natural resources, agriculture, and environment) within Horizon Europe.

<sup>10</sup> There are several possible structures at both, the policy and the research levels. The usual organization in the European Commission, like in many national governments, has complemented the traditional mode-base structure with horizontal units on policy, coordination, investment, or innovation. Should transport modes become increasingly integrated, an organization along the lines of users' profiles or geographical coverage could become more relevant.

procurement and other expenses in foreign currency. The bureaucratic burden in lump sum funding could be further lightened, based on the current experience from HE.

- Generally, the outcomes of implementing the two-stage process have been disappointing to many within our research community, as it has resulted in longer selection processes without significantly reducing the burden of proposal preparation. A return to the 1-stage procedure would be our preferred option for future but, should the 2-stage process remain for certain topics, it could at least be streamlined, so that the final decision does not take so long as it currently does.