

FERSI: essential European road safety research lacking

The Forum of European Road Safety Institutes (FERSI) is concerned that European road safety research is no longer delivering what it ought to, impeding the improvements needed to achieve the European ambitious road safety targets.

Horizon Europe (HE) is Europe's key funding programme of research. Within HE, road safety research is part of the Pillar II cluster *Climate, Energy and Mobility* with Pillar II covering "global challenges and European industrial competitiveness". An unfortunate consequence of this organisational structure of HE is that the budget for dedicated road safety research is alarmingly small. Another consequence is that road safety research, to be funded, must contribute to European competitiveness and, hence, must have a clear focus on technology development and industrial involvement.

Naturally, we acknowledge the importance of technology and industrial involvement for enhancing European road safety. However, we also note that the current focus is rather out of balance and that research into the underlying mechanisms of road safety problems and the (cost)effectiveness of existing and new countermeasures, is either lacking or out of date. The few HE calls that actually do touch on this type of basic road safety issues have a relatively broad scope. Consequently, the requirements for output and impact are often rather unfocused, ultimately leading to questionable selection procedures of the resulting large amount of proposals.

FERSI calls on the various European bodies concerned (DG MOVE, DG RTD, CINEA) to not only critically (re)consider the current scope of the European research programmes, but also the selection criteria and procedures. In addition, FERSI appeals for options for additional funding for basic road safety research. Member States, umbrella organisations and industry can help further urge the point that to keep improving road safety, both technical and non-technical knowledge are essential. To keep this knowledge relevant, elaborating on existing knowledge and conducting new research are crucial.

Why joint European road safety research is important

Major loss of life and health in the road safety system is a problem of a similar nature all over Europe. Moreover, the research methods needed are often too expensive for individual countries. Therefore, joint European research is a cost-effective option. Via research framework programmes, the EU has a long tradition in funding joint European road safety research, and results have found their way into practice and have helped save numerous lives. In addition, EU funded research has helped to build a road safety research community which has fuelled the exchange of thoughts and experiences, and has led to collaboration (far) beyond the funded projects themselves. However, dedicated road safety research has become scarce and is no longer delivering what it should. Perhaps not coincidentally, the road safety performance in most European countries is stagnant or even deteriorating.

Why road safety research is no longer delivering what it should

According to FERSI, the current organisational structure of EU-funded research is one of the main reasons that road safety research is not delivering what it should and why the much needed impact on road safety is beginning to lag behind. In the past, road safety research funding through the EU framework programmes was mainly handled by the Mobility and Transport DG (DG TREN, DG MOVE) itself. This guaranteed a close relation between the major issues and the granted research. Currently, the selection of road safety topics and related research budgets is in the hands of the Research and Innovation DG (DG RTD). These research programmes cover a wide variety of global challenges, with a particular focus on tackling climate change, contributing to the UN's Sustainable Development Goals (SDGs) and boosting EU competitiveness and economic growth.

In the current research programme, Horizon Europe (HE), the area of road transport, that includes road safety, is part of the quite broad Pillar II cluster *Climate, Energy and Mobility*¹. To identify the most relevant road transport issues, DG RTD is advised by ERTRAC, the European technology platform for road transport, with a large representation of commercial parties from car industry and related OEMs and suppliers. For advice in the area of road safety research, ERTRAC regularly updates their '*Safe Road Transport Research Roadmap*'². Both DG RTD and ERTRAC are open to input from research organisations, such as FERSI. However, the constraints of HE and their interpretation by DG RTD seem to have limited the options of ERTRAC and, for example, DG MOVE, to propose dedicated topics and adequate budgets for essential road safety research. Moreover, the impact of road crashes on health care and general well-being, is hardly covered by these advising bodies.

What the consequences are for road safety research

Too much focus on technology and business

Current road safety research calls largely focus on the development and implementation of new technologies, as for example reflected in the required indication of Technology Readiness Levels (TRLs). The research is preferably realised in a collaboration between the research community and the industry, with obvious and understandable economic considerations at the basis.

Of course, we acknowledge the importance of technology and industrial involvement for enhancing European road safety, both for innovative solutions and for innovative research methods. Real time traffic management, co-operative, connected and automated mobility (CCAM), and the related use of big data and artificial intelligence are just a few topical examples. However, many typical road safety issues do not require new technologies and business cases. There is a lot to be gained by improving insight in the underlying mechanisms of road safety issues and the (cost)effectiveness of both existing and new countermeasures. Such improved insights will help national and European public bodies to (re)direct resources and develop an

¹ See https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en for an overview of the HE pillars and clusters.

² Downloadable at <https://www.ertrac.org/ertrac-working-groups/road-transport-safety>

effective policy mix of education, enforcement and engineering. Road safety research should be multidisciplinary, combining knowledge from disciplines such as engineering, psychology, policy administration, statistics, physics, infrastructure design, urban planning, economics and education. Besides leading to a variety of innovative solutions and consequently to saved lives, it will lead to new technologies that can be successfully marketed. Road safety might also be improved by design of a less complex and more robust road system. Sometimes, less is more.

This type of basic road safety research is hardly financed anymore by the European research programmes. For instance, in the HE Working Programme 2021-2022 of the cluster Climate, Energy and Mobility, there were five topics primarily focussed on road safety. Their total budget was around 56 M€ of which just one project (2022-D6-01-06 area B) focused on European road safety without explicit coverage of technology development and/or economic growth. The indicated budget for this project was around 4 M€. So, in two years only 7% of the total budget was awarded to basic road safety research projects like DRUID and SafetyNet - projects that, for instance, gave us insight in prevalence and risk of driving under the influence of alcohol and drugs and set the stage for the current KPI (key performance indicators) approach of DG MOVE. These figures clearly show that there is a substantial and, according to FERSI, undesirable imbalance between technology-based and non-technology-based road safety research projects.

A too wide and unclear scope

In addition, the scope of the very few dedicated road safety research calls is generally very wide and the intended focus often unclear - a striking difference with, for example, calls on CCAM topics. For instance, topic HORIZON-CL5-2021-D6-01-02 (on CCAM) had an indicated budget of 12-15 M€ for one project that must cover two outcome bullets. Topic HORIZON-CL5-2022-D6-01-06 (on vulnerable road users) had an indicated budget of 4 M€ per project. It comprised two areas of which the (only) non-technology/business topic area B had no less than five outcome bullets. Such a wide scope probably reflects the uncertainty of the EC in what they want to get out the project(s), and, hence, what the focus must be.

One consequence of such a wide scope is that it discourages proposals examining one specific topic in depth, hindering the development of truly novel approaches and coming to novel results. Another consequence is that covering all the aspects in the call description within the available budget is only possible if a project also uses *existing* knowledge, which can be seen as conflicting with the overall aim of developing and implementing *new* technologies and enhancing their TRLs. These types of proposals are likely to be qualified as non-innovative, not beyond state-of-the-art, et cetera., but by doing so, the usefulness of existing knowledge in tackling current road safety problems is also disregarded.

Furthermore, preparing a full proposal for these wide scope calls demands a substantial amount of time, effort (and funding) for all involved, but in particular for the intended coordinator. And, since such wide scope calls often generate a large number of proposals, the chances of being awarded become quite slim. It also poses a challenge to assess which specific expertise at what level of detail is required for delivering the desired results. Typically, once awarded, the consortium will be very large, imposing a substantial administrative burden on the coordinator.

This burden could be shared more equitably with the EC if the scope were narrower and if there were more, but smaller, consortia.

As a result, more and more often the role of coordinator is being delegated to commercial parties who are specialised in strategically using clever wording to get proposals awarded. However, these parties do not have any expertise in the project's research area. Although an advantage of commercial parties is that they are generally quite efficient, their lack of research expertise may also affect the scientific quality and relevance of the project as a whole. This undesirable consequence is exacerbated if calls are not very precise, leaving room for interpretation and providing insufficient guidance to evaluators.

Questionable selection criteria and procedures

A wide scope and an unclear focus of a call also have an effect on the selection criteria and procedures. Most experts on a particular topic will already be involved in a proposal themselves making them unsuitable as evaluators. As a result, evaluators may be involved who are insufficiently aware of the state of the art, research needs and research methods in a particular area. Consequently, they may be unable to accurately assess the feasibility of the proposals, given the time and budget constraints. Consequently, less specific and more general proposals, understandable to laypeople, tend to win over those that are more detailed and require expertise to appreciate their value. In addition, an unclear focus may hinder evaluators' ability to determine whether a proposed project can achieve the required outcomes and desired impacts and to weigh proposals with different emphases. Finally, we acknowledge the efforts to clarify the process of submitting and evaluating proposals, but the selection procedures lack transparency. In particular, the transparency related to the evaluators, other proposals and the winning proposal is considered insufficient. The current Evaluation Summary Reports only provide very general arguments for the identified shortcomings and strengths, which limits their learning potential.

What different organisations and stakeholders can contribute

There are various organisations and stakeholders that are involved in, or concerned with, promoting high-quality and pertinent European road safety research. FERSI urges all of them to take action and assume responsibility in order to ensure that road safety research fulfils its intended purpose and contributes to the ambitious goals for European road safety, both in the short and long term.

DG MOVE

For DG MOVE it is important to realise that the current EU research programmes fail to address important road safety research areas. A few examples:

- While, the collection of data on Key Performance Indicators in Baseline/Trendline is a good and essential start of a valid safe systems approach, the KPIs need (further) validation and updating to allow for better recommendations on effective countermeasures.

- Current in-depth information on road crashes stems from limited regions (e.g., Hannover/Dresden in GIDAS, or the Registre du Rhône data in France) and is not representative for all of the EU. EU-wide in-depth information on road crashes involving all road users is needed.
- Sharing (assumed) best practices is not enough to ensure the effective implementation of evidence-based knowledge. It requires policy research to understand how to best put this knowledge into practice. In this respect, an action evaluation programme on road safety policies within European countries could be very relevant and useful.

FERSI suggests that DG MOVE adopts a dual strategy to ensure comprehensive coverage of relevant road safety research. The first strategy would be to increase the influence on the topics and budgets for road transport research in HE and subsequent programmes by establishing a closer contact. There are several umbrella road transport organisations that, in turn, could advise DG MOVE. The second strategy would involve multinational funding that is topped up and coordinated by the EC, similar to past initiatives such as SARTRE and Baseline/Trendline. Successful examples of this approach include the previous ERA-NET ROAD programmes and the regular road safety calls by CEDR.

DG RTD

The general aim of the RTD research programmes, including the current HE programme, favours projects that involve technology and business opportunities. Although these criteria are relevant, they are definitely not the only relevant criteria for road safety research. Road safety research also needs to address human fallibility and vulnerability via behavioural insights and subsequent design of roads, vehicles, legislation, education etc. Because of the a huge gap between the funding of technological and industrial projects and more basic, but essential non-industrial ones, FERSI recommends DG RTD to additionally call for non-technology-driven road safety research proposals and provide appropriate budgets. Furthermore, the few calls for general dedicated road safety research are often very broad, leading to projects that may fail to tackle the most critical issues. FERSI recommends limiting the scope of individual calls and being more precise about the intended outcomes. This would increase the likelihood that the projects awarded will actually deliver their intended outcomes, making it more appealing for high quality expert researchers to co-ordinate a project.

CINEA

CINEA is the executive agency responsible for the implementation of the HE programme. As such, they run the call and selection procedures. Obviously, not every proposal can be awarded: “You win some, you lose some”. However, everyone involved, especially the intended coordinator of a consortium, will aim to achieve the best proposal and the best chance of success. When too many proposals are unsuccessful, too much vital (research) capacity is lost. FERSI recommends making the selection procedures more transparent and evaluation reports more informative. This could make proposal writing more efficient and increase the predictability of success. Furthermore, to ensure that real experts are involved in the proposal evaluation, FERSI recommends reconsidering the selection of evaluators and extending the options for involving experts from outside Europe.

Member States

National governments are among the most important user groups of European road safety research that suffer from a lack of essential research and knowledge. FERSI recommends that Member States, for example via the High-Level Group on Road Safety, explore the possibility of pooling national R&D budgets in a concerted effort to enhance and expedite the information required for effective road safety management. Their National Contact Point should urge the EC (DG RTD, CINEA) to increase R&D topics and budgets towards public interests to restore balance with the interest of the private sector.

ERTRAC

Within the constraints of the EC, the ERTRAC platform is doing its best to identify the most relevant research topics for road transport. FERSI recommends ERTRAC to organise an evaluation of the road transport research in the Horizon Europe programme to date, involving both members of the working groups, as well as users of the intended research results. Such an evaluation would shed light on the number and type of awarded road transport related projects, the type of consortia involved, the budget allocations, and the anticipated contribution to the originally intended outcomes and impacts. The results would provide the EC (DG MOVE, DG RTD, CINEA) with important feedback.

Industry

The industry's active participation, lobbying efforts, and financial contributions towards joint EU-funded research indicate their recognition of the significance of collaborating with publicly funded universities and research organisations. Research organisations play a crucial role in providing good quality road safety data, (in-depth) knowledge on factors contributing to crashes and a comprehensive fusion of information (the systems approach) that help industry to design and build safer roads and vehicles – the type of basic research that is no longer funded adequately by the EC. It is evident that the added value of research institutes for industry is often reliant on EC funding. For many European research organisations EC funding is essential for their existence and once expertise is lost, it becomes challenging to regain it. Hence, FERSI recommends that the road transport related industry supports the funding of research aimed primarily at societal goals.