

Mobility and Transport as a Priority Theme in the Eighth Research Framework Programme

Executive Summary

Mobility and transport of people and goods is one of the great achievements of mankind and securing its sustainable future is essential for social and economic development. Ensuring sustainable mobility and transport should therefore be recognised as one of the Grand Societal Challenges for Europe, requiring the application of dedicated attention and resources of the European Union to this priority topic in the Eighth Framework Programme. Automotive R&D is a primary component of the Mobility and Transport theme and EUCAR therefore makes the following specific recommendations:

- Set up coherent programmes of transport R&D as an integral element of the Eighth Framework Programme.
- Include a dedicated automotive R&D initiative with a budget share consistent with the sector's contribution to the EU economy.
- Ensure that EU automotive R&D is oriented towards providing solutions for the sector's societal demands, including mobility, transport, environment, energy efficiency and competitiveness, by integrating expert input from the industry.
- Support relevant Innovation Partnerships with these dedicated automotive R&D activities in the Framework Programmes.

About EUCAR

EUCAR is the European Council for Automotive R&D from the major European passenger car and commercial vehicle manufacturers. EUCAR facilitates and coordinates pre-competitive research and development projects and its members participate in a wide range of collaborative European R&D programmes. The European automobile manufacturers are the largest private investors in R&D in Europe with over €26 billion investment per annum, or 4% of turnover. EUCAR members are BMW, DAF, Daimler, Fiat, Ford Europe, GM/Opel, Jaguar Land Rover, Porsche, PSA Peugeot Citroën, Renault, Scania, Volkswagen Group and Volvo. EUCAR is closely connected to ACEA, the European Automobile Manufacturers Association.

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This paper sets out EUCAR's priorities for R&D in the road transport and automotive sector, with a view towards the structure and priorities of the EU's Eighth Research Framework Programme (FP8). It builds on the ideas put forward by EUCAR in its April 2010 paper on overall priorities for FP8.

Mobility & Transport is a Grand Societal Challenge

Mobility and transport of goods and people is one of the great achievements of mankind and securing its sustainable future is essential for European and global social and economic development. In this context, ensuring sustainable mobility is one of the Grand Societal Challenges for Europe and should be recognised as such in EU policy, in particular with a substantial allocation of the EU's attention and resources towards transport R&D.

The challenge for automotive R&D

The largest part of the mobility sector, that of road transport, is dependent on the vehicles and services which carry the people and goods and support their efficient transport. These vehicles and services must continue to provide efficiency, utility, safety and low environmental impact, thereby supporting sustainable mobility. This is the contribution of EUCAR's members, the automotive manufacturers.

The key to this contribution in the automotive sector is R&D, which drives the innovation cycle by exploiting its results to bring beneficial new technologies to the market and therefore into everyday use. The European automotive manufacturers invest €26bn per year in R&D to make this process possible and on this measure are the top innovators in European industry.

Automotive R&D is becoming more complex, due to the already highly advanced level of technology and to the ever increasing demands of society and the global marketplace. Development of certain enabling technologies will be essential to support important future product innovations affecting the entire sector. Additionally, systems and infrastructure are becoming more important due to the fast growth and advanced nature of communication services.

The focus of automotive R&D projects is on producing concrete results for the industry, which can then be further developed or exploited directly in product development. This is an essential element of the success of EU projects in driving innovation in this sector and is the rationale for EUCAR's members to use their own resources to co-fund the R&D. This focus on achieving R&D results should continue in FP8. It should not however be confused with the unproductive concept of results-based funding, since the research results of projects, ready for exploitation, must remain the initially unknown output of technological investigation.

The need for collaboration in focussed automotive R&D

The developments described above demonstrate the need for increasing intensity of R&D collaboration, which spreads the risks of researching increasingly advanced technologies and helps to ensure compatibility between vehicles, users and infrastructure.

The European Union's Framework Programmes, alongside member state research programmes, have been effective in promoting such collaboration and in mitigating part of the risk inherent in research through public financing. As focus is trained towards the next framework programme, FP8, due to start in 2014, the intensifying demands described above must be taken into account.

It is therefore important that the transport theme be coherently placed within the structure of FP8, building on the achievement of the FP7 Sustainable Surface Transport programme. Coherent programmes of transport research are required, which ensure appropriate technological focus of R&D and a dedicated application of resources to this priority area. In particular, within the transport theme, road transport will continue to play the primary role and the automotive R&D essential to road transport's sustainability should be incorporated as a dedicated priority topic.

In parallel to being the biggest investor in R&D in the EU, the automotive sector's turnover represents an important proportion of economic output, nearly 7% of EU GDP* (even more when the sector's indirect contribution to GDP by enabling efficient transport is considered). To support this economic contribution in the future, it would be appropriate for a commensurate proportion of FP8 funding to be applied to R&D in the automotive area.

ICT for mobility continues to increase in importance and its contribution to many areas of transport and automotive R&D should be acknowledged by retaining this dedicated topic in the Eighth Framework Programme as part of the ICT R&D agenda. Within the automotive topics the advanced enabling technologies for automotive application are to be incorporated. In particular these include technologies for new/improved powertrains, alternative fuels, advanced materials with increased functionality, efficient and lean manufacturing for the future and virtual engineering tools.

Combining societal demands, R&D and innovation

Automotive R&D topics must be aligned with the sector's societal and economic contribution and an important objective is to enhance the participation of industry in FP8 projects. Therefore, expert input to a future EU programme for automotive research should come primarily from industry, with essential contribution from research providers and academia, and coordination by the relevant technology platforms.

Automotive R&D makes an important contribution to the areas of mobility & transport, the supply and use of energy, competitiveness of industry, environment and development of the digital agenda, in addition to the advancement of scientific knowledge in the EU. Leveraging this contribution in all these areas requires continued systematic cooperation in FP8 between related R&D programmes, including Energy, NMP, Environment and ICT.

* EU Project EAGAR Benchmarking Analysis Report, automotive sector turnover corresponds to 6.9% of EU GDP (2008)

Indeed the EU 2020 Flagship Initiative “Innovation Union” has proposed a framework to integrate R&D with the other elements of the innovation chain and EUCAR will continue to support the R&D activities inherent in this undertaking. Future Innovation Partnerships in the mobility/automotive area will be built on the coherent R&D within the current and future Framework Programmes, as proposed above, which will form the vital first link in the innovation chain.

Recommendations for transport R&D to meet the Grand Societal Challenge

EUCAR therefore makes the following recommendations regarding the structure and content of the future Framework Programme:

- Set up coherent programmes of transport R&D as an integral element of the Eighth Framework Programme.
- Include a dedicated automotive R&D initiative with a budget share consistent with the sector’s contribution to the EU economy.
- Ensure that EU automotive R&D is oriented towards providing solutions for the sector’s societal demands, including mobility, transport, environment, energy efficiency and competitiveness, by integrating expert input from the industry.
- Support relevant Innovation Partnerships with these dedicated automotive R&D activities in the Framework Programmes.

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