



Future Road Vehicle Research

– A Roadmap for the Future –

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Since June 2002, the European Thematic Network FURORE - Future Road Vehicle Research - establishes a platform of European stakeholders to discuss breakthrough technologies and the corresponding research demand for vehicles of the year 2020 and beyond. The network focuses predominantly on road vehicles powered by internal combustion engines, but is also analysing potential breakthrough technologies in advanced fuels and systems such as hybrids and alternative propulsion. FURORE serves as an umbrella to initiate pre-competitive research activities for the development of these technologies by universities, R&D organisations and the automotive industry and provides also input for research programmes.

Background

Individual traffic will be the major pillar of global traffic in the next 30 to 50 years. To compensate the negative impact of individual road traffic increase on the environment, energy resources, as well as individual health and safety, an integrated research approach for future vehicles is essential. The road vehicle of the future will obviously incorporate an array of technologies. In consideration of still uncertain basis of social and environmental conditions, the question arises how to and which technology routes should be followed to solve problems and conflicts faced by society in terms of energy consumption, emissions and safety, and to meet the needs of future mobility.

FURORE Objectives

Automotive R&D today has become a more international, collaborative effort within and between research organisations, universities and industry. The FURORE Network aims at improving this by creating an integrated, long-term research strategy for the European automotive sector, which is based on the specific point of view of research organisations and Universities. The overall objective of the FURORE Thematic Network is to establish a platform for the creation of an Automotive R&D Technology Roadmap describing automotive breakthrough technologies for the year 2020 and beyond based on transport and energy scenarios. It provides an independent

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www.furore-network.com

FURORE

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expertise for the EU and member states for future research programs regarding road transport and guidance for research. FURORE provides essential input for the Strategic Research Agenda of ERTRAC, the European Road Transport Research Advisory Council.

The final version of the Roadmap will be circulated in paper version in autumn 2003.

FURORE Organisation & Members

FURORE was initiated by EARPA, the European Automotive Research Partners Association, and financed by the European Commission within the 5th Framework Programme.

FURORE partners are:
AVL List (Co-ordination), FEV, Ricardo, Idiada, IFP, TNO, RWTH Aachen/IKA, LMS, VTT, LMM, Fraunhofer/LBF, Univ. Sheffield, CNR/IM, TRL.
Additional contributions are made by the Working Group Powertrain of EUCAR, CONCAWE and other organisations dealing with automotive research.

FURORE Methodology

The scope of FURORE's Automotive R&D Technology Roadmap aims at consolidating the specialist knowledge and the opinions of the participating organisations via several dedicated workshops with voting surveys among FURORE-experts and a comprehensive literature analysis. The topics discussed are:

- Energy & fuels (incl. conventional, advanced and alternative fuels),
- Powertrain technologies (including today's state-of-art technologies as well as advanced and alternative systems and aftertreatment technologies), and
- Complete vehicle aspects (incl. vehicle structure, safety and noise).

Every task is discussed according to:

- its current technology status,
- the targets for the year 2020 and beyond,
- the potential technologies which can fulfil future objectives,
- the hurdles and barriers that might hinder the introduction of the potential technologies and,
- the research demand needed to overcome major technological hurdles to successfully achieve the 2020-targets.

The member of the Furore network are convinced that in the future we will have an increased plurality of different technologies for 2020 and beyond with a main focus on internal combustion engines. Additional to this completely new technologies like fuel cell systems which require a number additional, costly and time consuming prerequisites like infrastructure will come into force more and more.

A preliminary version of FURORE's Automotive R&D Technology Roadmap will be presented for the first time on 18 June 2003, at the 9th EAEC Congress in Paris, France.