

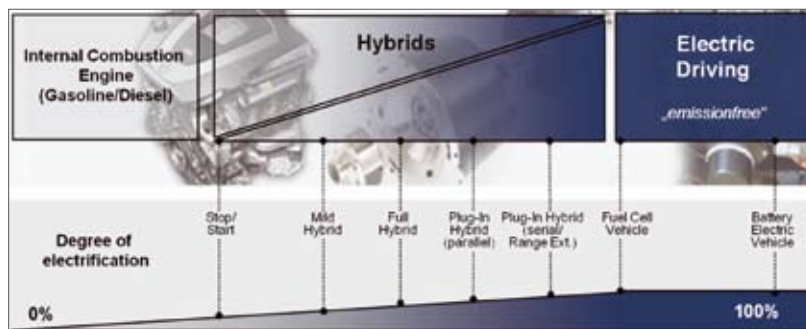
# On the road

**An integrated and consistent approach to R&D is essential if the automotive industry is to improve energy efficiency on Europe's roads, says Jürgen Lehold**

The European automotive industry employs more than 12 million people directly or indirectly, and is the largest private investor in European R&D. Europe's major vehicle manufacturers invest an average of four per cent of turnover in R&D each year, adding up to an annual investment of about €20bn. The sector's research organisation, the European Council for Automotive R&D (Eucar), aims to "strengthen the competitiveness of the European automotive manufacturers through strategic collaborative R&D".

In May 2009, working with European automotive suppliers, Eucar presented the automotive industry's contribution to the European green car initiative. This European commission initiative aims to sustain progress towards a breakthrough in the use of renewable and non-polluting sources of energy, road safety and traffic fluidity, for passenger cars as well as trucks, buses and whole transport systems.

The Eucar document identified the R&D needed to further green vehicles and road transport, and categorised them in four main areas. First, mobility and transport, as there is ever increasing demand for mobility and transport of people and goods. This is the case both in urban and rural regions, which have varying needs and framework conditions. Second, energy and environment. Here, the principal task is to move away from fossil energy dependency to primary energy sources that are renewable, secure, sufficient, and environmentally compatible. Third, new types of vehicles coming to the market, for example those based on low weight materials and design or powered by alternative fuel sources, must ensure at least zero degradation in safety. And fourth, they must be both affordable and competitive. Green vehicles and green road transport are achievable only if there are competitive manufacturers and service providers that can offer them at an affordable price to the user.



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More recently Eucar has prepared more elaborate recommendations for encouraging R&D in fields that are of the highest priority for the European automotive industry, and that would facilitate the delivery of products and services for market launch in 2020 and market penetration before 2030. These key areas are: urban mobility and transport; safety applications in cooperative systems; suitable materials, ecological and efficient manufacturing; alternative fuels and electrification of the vehicle and the transport system.

In particular, the success of the current drive towards a wide ranging electrification of the transport system will, without doubt, depend on the coordinated cooperation of all the key stakeholders and contributors involved. These include: the automotive industry for developing efficient and affordable electric vehicles and components to complement the availability of vehicles using other energy vectors; energy suppliers and distributors for deploying the needed infrastructure, including charging spots and related information and communication systems; and authorities for the deployment and creation of suitable prerequisites for a successful market introduction of electric vehicles.

To achieve these goals, an integrated and consistent approach is necessary from the outset. This must be based on today's technologies in the short term, but must also consider the longer term, when adapted and new technologies will ensure electric vehicles are affordable, therefore achieving full market penetration. ★



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