EUCAR PERSPECTIVE ON COMMERCIAL VEHICLES

INTRODUCTION

Commercial vehicles come in all shapes and sizes and they fulfil a wide range of functions:

Mini-buses, articulated buses, urban delivery vans, container trucks, ambulances, fire trucks, dumpers, crane trucks, pick-up trucks, etc.

Many essential public services are delivered by trucks and vans: postal and courier services; emergency services; and waste management

Trucks and vans provide an efficient door-to-door mode of transport linking producers, businesses and consumers. Some key figures

14.7 billion tonnes transported per year

76% of all goods carried over land in Europe are delivered by trucks

90% of the value of all goods in Europe is transported by truck

85% of all goods carried by trucks are transported over short distances

KEY STATEMENTS

- EUCAR is committed to achieve **safe**, **clean and efficient** road transport **with fully integrated** Commercial Vehicles in the mobility and logistic systems.
- A diversified powertrain set-up for propulsion is needed **to fit the specific needs of operation** (urban, regional, long-haul).
- Collaboration between manufacturers, logistic operators and infrastructure providers will o**ptimise the use of digitalisation** promoting safe and efficient road transport.

Thus, EUCAR members drive the development of these new technologies and services for society while ensuring the competitiveness of the industry.

CHALLENGES

- A major societal transformation will demand reinventing the transport and mobility solutions for the decades to come. It will impact the whole ecosystem (i.e. citizens, business, technologies, and end users).
- A climate neutral continent by 2050 requires a systemic approach for mobility and the energy sector, with efficient, feasible and cost-effective renewable energy carriers and their sustainable production at economies of scale.
- Research and development will provide necessary knowledge and technology building blocks to manage and navigate the transformation with:
  - diversified powertrains fulfilling end-users' and societal needs using a wide variety of renewable energy carriers;
  - affordable solutions to ensure adoption at a large scale;
  - solution and technologies to further improve safety;
  - new business models, integrating digitalisation and emerging technologies (connectivity, AI, data, etc) in logistics/mobility services.
- This challenge requires cooperation with other relevant stakeholders beyond the usual automotive supply chain (i.e. infrastructure, national and regional authorities, public service providers, mobility and logistic services, regulatory bodies). European Partnerships are very important to ensure a holistic approach involving all stakeholders.
- This transformation is accelerated through digitalisation and the ambition for climate neutrality by 2050. Within this quickly evolving environment, we have to increase efficiency, emphasise strategic planning and identify common pre-competitive research and innovation actions.
- The close interaction between R&I, standardisation and regulation is becoming more and more relevant in this accelerated transformation, supporting smart, harmonised and timely regulatory actions.

EUCAR PERSPECTIVE ON COMMERCIAL VEHICLES

Fully integrating the Commercial Vehicles in the future mobility and logistic system will drastically increase safety and transport efficiency for the benefit of society

- Effective logistic operations are closely linked to growth of global transport demand and societal benefits. Effective delivery can strongly contribute to a better environment and reduce congestion by avoiding inefficient individual procurement mobility requirements.
- The evolution of logistics will change the Commercial Vehicle ecosystem requiring further adaptation. The way goods are transported and handled is changing at all levels of the end-to-end logistic system from distribution of raw material, to customer delivery as seen in the Covid-19 situation.
- This involves vehicle manufacturers together with logistic operators, authorities (including cities/states) and fleet owners, that influence future decision making towards more sustainable road transport.
- While further developing commercial vehicle technologies, we need to address a wider system scope considering vehicles, trailer, loading units, services and logistics operations.
- A better integrated road transport will improve the quality of life by reducing emissions (including noise) and congestion while improving safety and the service to customers (convenient, fast to deliver, customised and potentially shared).

Reaching targets for carbon neutral transport by 2050 requires the most effective and efficient use of sustainable propulsion technologies

- Decarbonisation of transport will require several technologies including vehicles powered by batteries, fuel cells or advanced combustion engines and new solutions (e.g. electric roads).
- The powertrain set-up for Commercial Vehicles shall match the specific needs of road transport operation (urban, regional, long-haul). In urban areas CV will achieve zero emission by electrification.
- Recharging and refuelling infrastructure are needed to reach the full potential of decarbonisation for future CV powertrain technologies. Energy carriers from renewable sources and their sustainable production are needed for carbon neutral transport by 2050; life-cycle assessment (LCA) shall provide common understanding on their environmental impact over the entire life-cycle.
- The future CVs will therefore use hydrogen, electricity, synthetic e-fuels and bio-fuels in the most effective way. End-user needs and affordability (TCO) will play a decisive role on the uptake of new technologies and their contribution to the decarbonisation objectives for 2050.
- Digitalisation in road transport and logistics will provide further benefits towards decarbonisation.

Transport will be highly affected by digitalisation and automation

- Digitalisation and automation will drastically increase the efficiency of logistics operations beyond current limitations while improving road safety.
- Future commercial vehicles will reach higher levels of automation in a step-wise approach; first in confined areas, then in logistic corridors and gradually towards open roads.
- For connected vehicles (V2X), the full efficiency potential is reached through interoperability to achieve full benefit of communications and cooperative driving.
- Specifically, the urban use case is of high relevance (last mile delivery, people movers, etc). Due to this highly complex and dynamic environment (traffic configuration and especially vulnerable road users' interaction) the use case is challenging for automation.
- Commercial vehicles need to become even more self-intuitive and easy to use. This is especially crucial for vehicles that combine automated, cooperative and manual driving.
- Commercial Vehicle manufacturers will need to cooperate with all relevant stakeholders to leverage the full potential of digitalization and automation for transport.

CONCLUSION

Commercial Vehicles are important for European citizens in many ways. EUCAR and its members are committed to safe, clean and efficient road transport ensuring societal welfare and economic development establishing leadership for European value chains through research and innovation.
Invest in research and innovation and address the key challenges for 2030 to provide benefits to society

ABOUT EUCAR

EUCAR (European Council for Automotive R&D, www.eucar.be) is the association for collaborative research and innovation of the major automobile manufacturers in Europe. These manufacturers contribute to sustainable mobility and a competitive European industry, investing more than €50bn per year in research and development. The industry's investments are leveraged by the collaborative work performed with support of the European Framework Programmes, currently Horizon 2020. The EUCAR Council comprises the heads of research and advanced development of the member companies

eucar
EUROPEAN COUNCIL FOR AUTOMOTIVE R&D