acea

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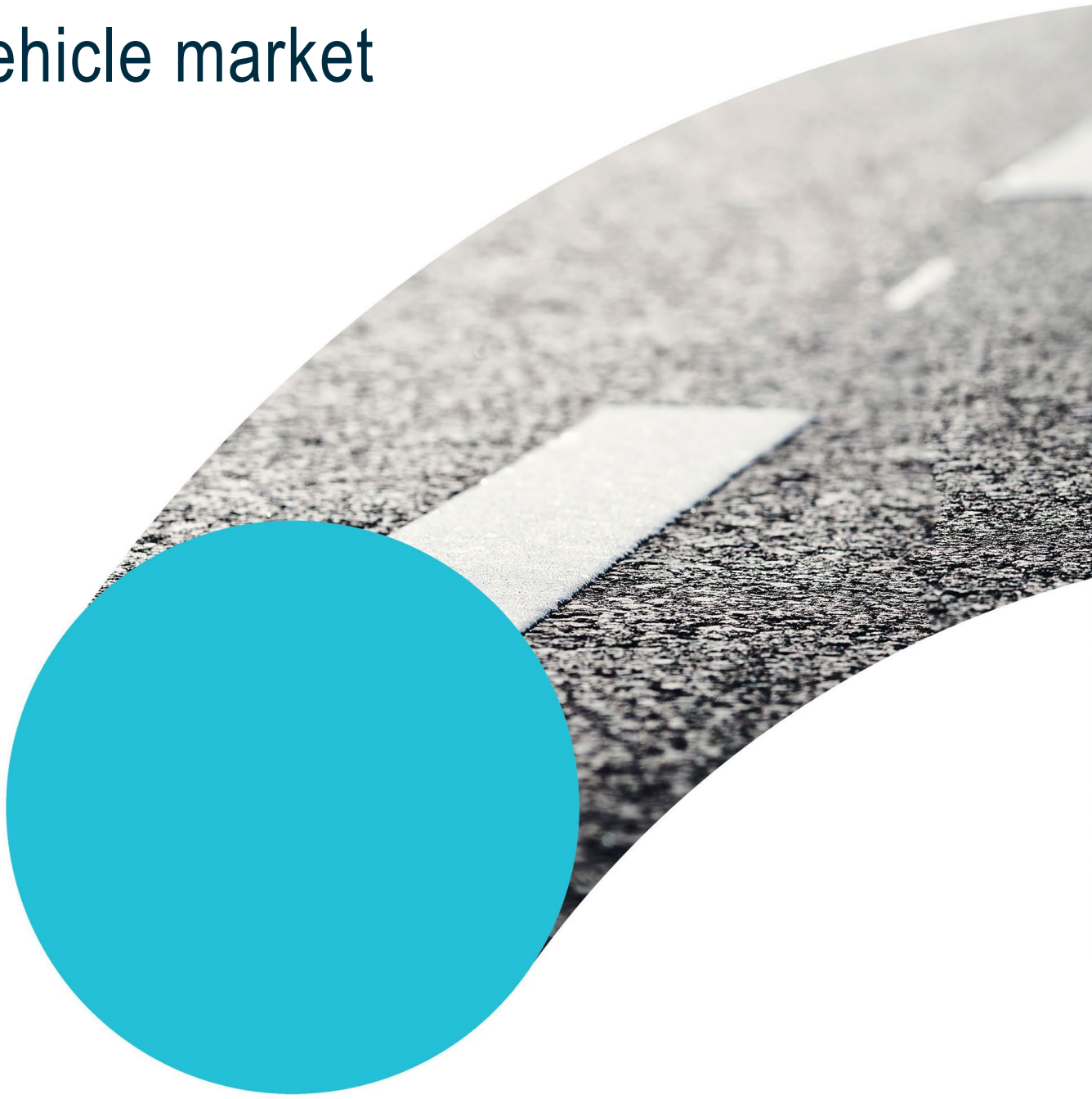
Position Paper

Access to data, functions, and resources for the heavy-duty vehicle market



CONTEXT

The European Commission has contemplated regulation for the connected vehicle data market for several years. It has commissioned studies to assess what measures (if any) should regulate in-vehicle data, functions, and resources.

Often, these studies do not distinguish between different vehicle categories. For instance, heavy-duty vehicles (HDVs), which comprise trucks, buses, and coaches, are considered through the same lens as passenger cars, ignoring the distinct markets for these different vehicle categories.

While there may be different types of passenger cars in the consumer market, the differences in the functioning and application of heavy-duty vehicles are often neglected, despite their broad and diverse market applications. When HDVs are considered separately in studies, evidence has not shown any HDV-market failures or the need for regulatory intervention.

Despite this, the European Commission's Data Act proposal, which sets out horizontal principles to ensure fair access to and greater consumer control of data, fails to address the specificities of the HDV market.

The European Automobile Manufacturers' Association (ACEA) welcomes the Data Act, which will guarantee user rights to the data generated by their products. The legislation will ensure that users are given access to the same data as the manufacturer, can control who has access to it, and can share this data with service providers of their choice. These user rights would eliminate any remaining data gaps.[1]

The European Commission is also again considering adopting specific rules on data-driven services in the transport industry, in addition to those established under the Data Act. In this context, it is essential to reflect on the specificities of the HDV market. Building on its experience with data access and sharing[2], ACEA outlines in this position paper how HDV manufacturers have already developed proven processes and effective systems to exchange vehicle data. Currently, truck and bus data are actively shared with customers and service providers of choice. The connected HDV market is already booming while serving customer and integrator needs, and regulatory intervention is not required.

1. THE HDV MARKET

MANUFACTURING AND DESIGNING HDVS

The HDV market provides specialised transport solutions for various business applications. HDVs, such as trucks and buses, are professional tools tailor-made to customers' business needs. Coaches, city and inter-urban buses, refuse, fire and construction trucks, heavy

[1] https://www.acea.auto/publication/position-paper-proposal-for-a-data-act/.
[2] https://www.acea.auto/publication/position-paper-access-to-in-vehicle-data/.

haulage, and regular heavy-duty trucks are just a few examples of the various applications. The automotive manufacturer must address specific customer demands for each type of application. Therefore, a HDV is typically custom-built with specialised services that cater to a customer's business demands.

This is particularly true if the customer is a public authority that relies on public procurement. In this case, a tender will specify criteria to which the tenderer must comply. Generally, a HDV manufacturer must comply with high standards to qualify for the tender. For the manufacturer to win a contract, they must have the flexibility to adapt to these criteria.

BODYBUILDERS, EQUIPMENT, AND TRAILERS

Unlike most passenger cars, a HDV is not always supplied directly to the customer from the manufacturer. Often, a HDV is enhanced by a bodybuilder[3] or an equipment integrator based on a customer's specifications. When a customer requires a body or equipment enhancement or a trailer integration, HDV manufacturers work with these third parties (notably on standards) to ensure the integration of these systems. Typically, these third parties are not affiliated with the manufacturer.

Data is communicated between the vehicle and these enhancements, which provides information to the driver eg diagnostics or operation status. This data can be transmitted to the owner's backend systems, which may also be customised to the vehicle's specific applications. The data supports the enhancement's operation. The owner can also interact with the vehicle remotely eg altering speed or controlling the engine's throttle. In-vehicle applications can interact with the vehicle's electronic architecture for third-party services customised for the vehicle's specific application. These functionalities are carefully designed, and this interaction is supervised by the manufacturer, to prevent unauthorised access and unsafe operation of the vehicle.

Figure 1: Different parts of a truck

In many cases, a base vehicle's integration with a body, equipment, or trailer will require multi-stage type approval. The HDV manufacturer will provide the base for the vehicle, while a third party will supply the body, equipment, or trailer. Ultimately, the bodybuilder will be responsible for the whole-vehicle type approval.

For the bus business, this is even more complex, as the

[3] Bodybuilders build and install custom bodies onto the chassis of various HDVs.

design of city buses is extremely cost-sensitive. Customers purchase buses through tenders, often with strict specifications, leaving little flexibility for any equipment, systems, or services not specified in the tender.

Integration is one of the most important and complex aspects of designing and manufacturing a HDV, requiring cooperation between different market actors. This is notably the case for truck-trailer communication[4], but it is equally crucial for body and equipment providers to be able to supply the best solutions to their customers. As such, manufacturers and other market actors must cooperate in developing industry standards.

A WORKPLACE FOR DRIVERS

Buses and trucks are also workplaces for drivers. Drivers operate in an environment where fuel/charging, service and repair agreements, logistics and fleet management systems, trailer communication, interaction with the truck's body, and work regulations are already established.

In the case of trucks, drivers also have other responsibilities. They must perform tasks such as collecting garbage, operating a crane, or extinguishing fires. These responsibilities can be demanding, and finding workers willing to endure such hardships is often difficult. Truck makers and service providers offer solutions that enhance the efficiency of the vehicle's operation and alleviate employee workload. Transport operators also want to avoid unnecessary displays or distracting notifications from onboard applications or connected services, which may divert the driver's attention from his core responsibilities.

2. ACCESS TO DATA, FUNCTIONS, AND RESOURCES

The HDV market is highly competitive. The auto industry must constantly adjust to evolving societal and customer demands while ensuring product safety and reliability. As they offer innovative solutions, service providers are often involved in the upstream value chain. However, these new offers must be commercially viable, efficient, cost-effective, and compatible with existing solutions.

Manufacturers increasingly work with their business partners, service providers, and, more frequently, SMEs and startups (including those involved in the green transition) to develop and enhance services for HDV customers and society.

Manufacturers share vehicle, aggregated, and simulated data with their business partners and service providers to improve applications for HDV customers. They also share aggregated vehicle data to enhance research and development and support decision makers, businesses, and public bodies.

[4] ISO 11992

The EU's Data Act will mandate access to both data generated by a vehicle and the provision of related services to the user and service providers of their choice. However, heavy-duty truck and bus manufacturers already share data with their customers. The Data Act will facilitate additional vehicle-generated data sharing and establish rules on user rights to access and share data.

As such, with the Data Act, customers will not only be able to access the data generated by the vehicle and the services provided by the manufacturer, as they already do today. They will also be able to access the data generated by connected services. This will significantly benefit users, who will be fully in control of the data generated not only in their vehicles but also by connected services.

DATA AVAILABILITY AND IN-VEHICLE OPERATION

In the heavy-duty sector, the description and specifications of data, functions, and resources available in vehicles can be obtained at the manufacturer's portal and are provided to entities entitled to access them.

Firstly, the customer is entitled to access all data they require. The HDV manufacturer will provide data management solutions tailored to customers' business needs.

In addition, access to relevant data will be provided to any third party of the customer's choice. The HDV industry has developed functional data-sharing mechanisms, notably for offboard use or dedicated onboard interfaces (for specific uses). Access is provided for uptime services, bodyworks, trailers, data-driven business services, productivity needs, and driver services.

In addition, manufacturers share aggregated vehicle data with external bodies to enhance research and development and support decision makers, businesses, and public bodies. HDV manufacturers also work with SMEs to develop and improve new services for heavy-duty customers, often using vehicle data, aggregated data, and simulated data to enhance customer applications.

There are inherent limitations to the amount of data that can be generated and processed in a vehicle and transferred to an interface and the functionalities this vehicle can perform.

The data that a vehicle can generate primarily depends on its architecture, equipment, and internal systems. Over the years, vehicles have become wonders of technology, bringing better intelligence and functionality to customers' and society's benefit. This was and continues to be achieved through the gradual and careful inclusion of state-of-the-art information and communication technology (ICT) and the widespread use of computing power and Electronic Control Units (ECUs). Yet with enhanced capability, these systems also become more complex and vulnerable.

ACCESS TO VEHICLE FUNCTIONS AND RESOURCES

Furthermore, HDV manufacturers make vehicle functions and relevant resources available to third parties for specific purposes, as required by the customer. An example is the interface on HDVs for bodybuilders.

Access to functions and resources requires more meticulous administration and rigorous oversight than read-only access to data. HDV manufacturers oversee the interaction between these applications and a vehicle's functions and resources to ensure they are suitable. For example, the engine throttle can be controlled externally from inside the vehicle to adjust hydraulics or move the vehicle at slower speeds. Dashboard switches and displays can be customised to properly handle and control special-purpose body functions. In-vehicle applications can interact with a confined part of the vehicle's electronic architecture for customised third-party services. Manufacturers provide APIs and an application platform that service providers can use to develop services for the vehicle operator.[5]

These functionalities are carefully designed to prevent unauthorised access and unintended or unsafe operation. This should continue to be the case because as technology evolves, the number of functionalities will increase.

As explained above, a HDV is a professional tool; it is tailor-made, and its design is cost-sensitive to adapt as closely as possible to the customer's requirements. Its architecture, systems, and equipment are defined and limited by what the customer requires and its business needs. Consequently, the customer primarily determines the data that a HDV can generate, store, and transmit.

From a technical perspective, transferring additional data requires substantial modifications of the vehicle's physical architecture and software, which will require scaling up its computing power. These measures significantly impact total cost, resources, and the environment.

The bus business is even more complex than that of trucks. City buses are highly cost-sensitive; customers purchase through public procurement and are not interested in services other than those specified in the tender criteria.

As such, the vehicle will not be equipped with any component or system not required by the customer or regulation, nor will it include any function not required by the customer's intended use. Furthermore, its resources and computing power will be strictly tailored to the customer's needs. This ensures they have complete control over the vehicle's functionalities and cost.

[5] FMS (Fleet Management Systems) and rFMS (remote Fleet Management Systems) are open standards for a common interface for commercial vehicle data. They are coded under SAE J1939, an international standard providing the recommended practice for buses used for communication and diagnostics among vehicle components. Six major European manufacturers of HDVs developed it under the umbrella of ACEA.

RECOMMENDATIONS

The heavy-duty truck and bus market needs coherent rules and flexibility to ensure manufacturers can provide products that cater to customers' specific applications.

HDV manufacturers are concerned that a one-size-fits-all regulation – mandating access to in-vehicle data, functions, and resources without addressing HDV specificities and their diverse applications – will negatively impact the market.

Passenger car and heavy-duty manufacturers operate in vastly different markets. As such, these distinct market actors and their products cannot be regulated as one homogenous category.

1. SUPPORT HDV MARKET SPECIFICITIES

Any legislation on access to HDV data, functions, and resources must serve the customer's needs. The customer should retain control of data sharing and vehicle APIs with third parties of choice. This protects the confidentiality of business-sensitive information and preserves a functioning market. Customers must continue to have access to innovative offers and the flexibility to choose between those best suited to their business.

Public transport customers should also be able to request data and vehicle integrations based on their needs, in combination with commonly used standards and general-purpose data. Manufacturers must retain the flexibility to cater to these needs and provide tailor-made solutions compared to commercial transport customers.

2. SUPPORT THE COMPETITIVENESS OF THE EUROPEAN HDV INDUSTRY

Regulation should not restrict manufacturers' responsibility for securing access to vehicle integration and their ability to serve their customers' specific applications and segment solutions.

Regulations should not compromise the operation and integrity of autonomous heavy-duty vehicles and their digitally connected closed- and secure-system controls, including in-vehicle data access. These must remain secure and aligned with the manufacturer's design and the operator's specifications. The integrity of these systems is vital to the safety and functionality of automated vehicles.

3. FULLY LEVERAGING THE DATA ACT

HDV manufacturers support the Commission's ambition under the Data Act to put consumers at the centre of data-sharing processes and to achieve fair, reasonable, and non-discriminatory (FRAND) access to data.

The Data Act will ensure fair competition in the connected vehicle services market and eliminate any advantage its data holder position provides to the vehicle manufacturer.

The Data Act guarantees the right of the user to access and control the data generated by their vehicle, including what data is shared (free of charge). The user is provided with detailed information about the data – including how to access and control them – to ensure they can make informed decisions and fully exercise their rights.

Furthermore, the Data Act ensures that the data holder cannot exploit their advantage to distort market competition. The data holder cannot refuse to supply data to the market, which includes their competitors. They cannot discriminate or offer unfavourable access conditions, as they must provide data of the same quality to third parties to which they have access.

Finally, the Data Act ensures a balance in negotiating power by defining conditions under which data holders make data available to recipients while mandating FRAND and transparent terms. The Data Act prohibits unfair contractual terms unilaterally imposed on SMEs. It also requires that compensation charged to data recipients is reasonable and does not exceed the cost directly related to making the data available when the recipient is an SME.

To ensure these rules are properly enforced, the Data Act establishes national competent authorities and dispute settlement bodies to resolve issues between data holders and recipients.

The Data Act addresses all outstanding issues highlighted by the Commission and the automotive aftermarket regarding access to in-vehicle data, whether on the connected car service market or the connected HDV service market. ACEA believes that the comprehensive requirements proposed in the Data Act mean that additional legislation on access to in-vehicle data is unnecessary.

CONCLUSION

The transport industry is no longer the traditional combination of a primary market and an aftermarket for complementary products and services. HDV manufacturers have developed comprehensive solutions to provide access to relevant functions and resources to their customers' third parties of choice based on their business needs.

The Data Act will facilitate data sharing, guarantee the rights of users to access data generated by their vehicles, and provide complete control over what data can be shared and with whom. These rules reflect the present situation and the relationship between manufacturers, their customers, and third-party service providers in today's HDV market.

Therefore, it would be wise to first assess the impact of the Data Act and determine whether there are any outstanding issues before adopting additional regulations that could disrupt the proper functioning of the connected HDV market.

ABOUT THE EU AUTOMOBILE INDUSTRY

- 13 million Europeans work in the auto industry (directly and indirectly), accounting for 7% of all EU jobs
- 11.5% of EU manufacturing jobs – some 3.4 million – are in the automotive sector
- Motor vehicles are responsible for €374.6 billion of tax revenue for governments across key European markets
- The automobile industry generates a trade surplus of €101.9 billion for the EU
- The turnover generated by the auto industry represents over 7% of the EU's GDP
- Investing €59.1 billion in R&D per year, automotive is Europe's largest private contributor to innovation, accounting for 31% of the EU total

ACEA REPRESENTS EUROPE'S 14 MAJOR CAR, VAN, TRUCK AND BUS MANUFACTURERS

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