

TYRE INDUSTRY POSITION ON IN-VEHICLE DATA ACCESS



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Executive summary

Over the last few years, we have experienced an unprecedented transformation of the automotive services market due to digitalisation. The tyre, mobility and aftermarket services are being disrupted and reshaped through the use of data. In this emerging and promising market, **access to vehicle data is a key enabler of innovation and services provisioning.**

However, the current technical solutions to access vehicle data, via the original equipment connection, put the vehicle manufacturer in a gatekeeper position, vis à vis data generated by the vehicles of its brands. Only a regulation can ensure the level playing field for all mobility stakeholders, necessary to foster competition and innovation on the nascent mobility services market.

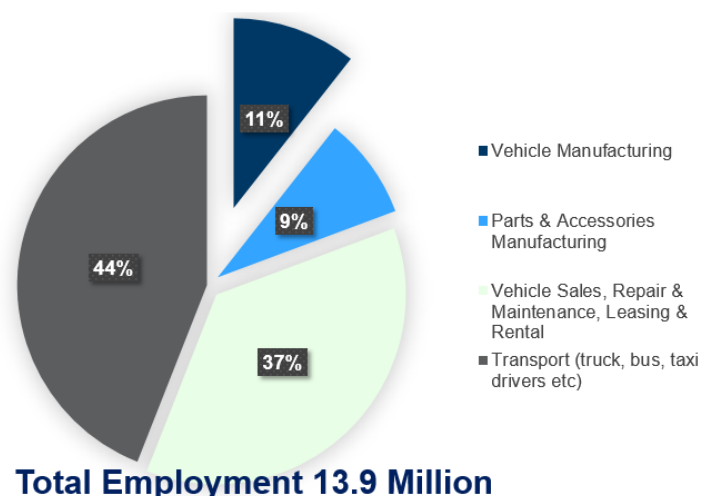
ETRMA calls the European Commission to establish a sector-specific EU legal framework to access in-vehicle data, allowing enhanced mobility services to be developed and deployed.

Market context

Considering the entire European automotive servicing and mobility sector, as here represented, we reach a total employment of 13,9 Million workers¹.

The Europe’s Automobile retail & services sector employs over 4.5 Million people², in over 500,000 predominantly SME Companies. Over €225 Billion³ come from aftermarket parts and labour revenue.

The European tyre sector is a significant contributor to the European automotive industry since it provides approximately 4,2 Million tonnes tyres per annum.



¹ Source: Eurostat, ACEA

² Source: Eurostat

³ Source: BCG

Despite the pandemic in 2020, it generated around €34,2 Billion of turnover, with over 200,000 direct jobs spread over 93 plants across Europe, 15000 distribution/service centres leading to a further 50000 jobs⁴.

An emerging and promising market.

Vehicles are becoming increasingly connected. According to McKinsey, 40% of consumers would change car brands just to gain more connectivity within their vehicles.⁵

The connected car sector will be responsible for 30 million new connected vehicles on the road in 2020 despite shipments of vehicles with embedded connectivity dropping by 15 percent in response to COVID⁶. Moreover, it's estimated that by as early as next year, there will be more than 125 million passenger cars with embedded connectivity on the world's roads, a 270% increase since 2018⁷.

These vehicles are designed to be connected to the Vehicle Manufacturer's back-end servers, allowing the Vehicle Manufactures to provide services based on their access to data and functions in the vehicle. Such a system requires from Independent Service Providers (ISPs) a B2B contract with each VM to access the vehicle data they need to provide their own services, without any guarantee about the availability of the data they need nor the commercial conditions to which it will be made available.

Indeed, we are currently observing that the On-Board Diagnostics (OBD) port, the only entry point currently accessible by third parties in vehicles, is gradually being closed or data not made available through this source. The tyre industry fully recognises the crucial role of cybersecurity.

Regulatory framework

As announced in the Sustainable and Smart Mobility Strategy in 2020⁸, the ambition of the European Commission is to make sustainable and resilient mobility a reality with the support of connected and automated mobility and systems. In this context, European Commission announced the publication of a new regulatory framework to open access to vehicle data to mobility services (measure 53) and a revision of the current EU Type Approval legislation, to facilitate vehicle data-based services including interaction with energy systems (measure 52). In view of these, the European Commission mandated a study, pursued by TRL, to provide recommendations for the content of specific policy options for accessing in vehicle data, whose complete report has not been published yet.

In parallel, the European Commission has been working on a cross-sectorial regulation, the so-called Data Act to promote fairness in B2B and B2G contracts by governing access to and use of data. ETRMA welcomes this work for addressing common shortcomings typical of the new digital era. However, ETRMA is convinced that **a cross-sectorial regulation is not sufficient to address the sector-specific structural problems of the automotive sector**, which are well identified and summarised by the recent TRL presentation⁹.

⁴ <https://www.etrma.org/wp-content/uploads/2021/12/20211030-Statistics-booklet-2021VF.pdf>

⁵ https://www.mckinsey.com/~/media/mckinsey/industries/automotive%20and%20assembly/our%20insights/how%20carmakers%20can%20compete%20for%20the%20connected%20consumer/competing_for_the_connected_customer.ashx

⁶ <https://www.automotiveworld.com/news-releases/beyond-the-vehicle-oem-technology-and-connected-networks-drive-enhanced-consumer-experiences/>

⁷ <https://www.weforum.org/agenda/2021/07/why-the-future-for-cars-is-connected/>

⁸ https://ec.europa.eu/transport/themes/mobilitystrategy_en

⁹ <https://circabc.europa.eu/ui/group/4273d650-b8a9-4093-ac03-18854fbba4b5/library/f170a234-59a2-4ca9-9443-fa1de4464c0e/details?download=true>

To continue the development of these digital tyre and mobility services minimum requirements are needed. The current implementations need to be further complemented by:

- **On-board processing through edge computing, as tyre related algorithms require large and accurate data inputs;**
- **Real-time interaction with the driver, as information on tyre related problems requires low latency;**
- **Clear rules to be uniformly deployed across multi-brand vehicles.**

The Data Act should be accompanied by complementary sector specific rules to establish access rights for industry/market segments where these are required. In the context of the automotive sector, a standard and secure vehicle communication interface, along with its associated cybersecurity governance, has to be implemented through the Type Approval legislation to support the Data Act requirements. The Type Approval framework, once sufficiently amended, can provide a solid basis for implementing sector specific rules.

For the time being, the lack of a regulatory framework on data access not only calls into question the commercial offers of market players, while threatening the development of a European value chain in the connected mobility sector, but also delays the arrival on the market of offers contributing to decarbonisation.

What is at stake

Vehicle User's rights

Connected mobility services, such as the ones related to tyres, aim at facilitating mobility patterns and improving people's quality of life by reducing harmful emissions and related maintenance activities. These services rely on in-vehicle generated data. Vehicle users should also be able to choose with whom they want to share the data, opting in or out per application of their choice at any time during the life of the vehicle.

Today's vehicles have a lifespan of about 10 years¹⁰. During their lifetime vehicles will not only have to cope with the development of digital technologies, but also with possible changes of owners and/or users.

Empowering users, by guaranteeing privacy rights and ensuring them to choose their service providers, is not only necessary to build trust, but also to develop an innovative European value chain.

The Future of sustainable, safe and smart European Mobility

Tyres are key contributors to road safety, as they are the only points of contact between the road and the vehicle. They are also key in terms of decarbonisation as best graded tyres, in terms of rolling resistance, can bring energy saving equivalent to taking 4 million cars off EU roads every year¹¹. Conscious of these contributions, tyre manufacturers have taken advantage of digitalization to develop innovative services to improve road safety and support decarbonisation of transport.

¹⁰ <https://www.acea.auto/figure/average-age-of-eu-vehicle-fleet-by-country/>

¹¹ https://ec.europa.eu/commission/presscorner/detail/en/ip_19_6279

Services developed by tyre manufacturers are numerous and go beyond the tyre¹²

- As an example, tyre-related digital services based on artificial intelligence can optimize the tyre selection according to specific usage conditions and by this, reducing emergency repairs and total cost of ownership.
- Services also include the detection of pothole. In case of low quality road surfaces, the detection of harmful impacts (e.g. pothole), requires actually high frequency measurement (of order 100 times per second), or identification will be simply missed. Applications to infer and analyse the road surface type also highly depend on high frequency tyre vibration measurement⁸. Current data-access models, like ExVe, don't allow for high frequency domain analysis for advanced Tyre-as-a-service¹³).

The future of the European connected mobility value chain

Concrete examples of potential contributions are:

- The **infrastructure quality management**, advanced information can be made available to drivers and authorities of road conditions, air quality, danger zones and traffic flow.
- The **vehicle platooning**: tyre manufacturers could be able to evaluate in real-time the braking potential of the vehicles so as to contribute to decarbonization while ensuring road safety.
- Last but not least, the **integration of tyre data with other fleet information** like fuel consumption, electrical charge etc. can contribute to the optimization of transport and reduce CO2 emissions.

Cybersecurity of vehicles

Access to data generated by vehicles is key to the development of the services listed above. However, the entry into force of the UNECE R155 (Cybersecurity of road vehicles) in 2024 in Europe will have an impact on third parties who currently access vehicle data, by making them meet additional requirements. Indeed, the vehicle manufacturer will de facto become the "gatekeeper" for the data of its brands of vehicles as it will be responsible for issuing access authorisations to the vehicle's information system.

A secure **standard** access to the vehicle data and resources is needed to limit the vehicle manufacturer gatekeeper's role and support the separation of duties (entitles delivering access authorisation and different from entities providing commercially the access to the data).

It could rely on the 3 European standards called Secure Vehicle Interface (SVI). It enables multiple players only with well-defined and authorised read and write access to modify the vehicle, its components and its systems and implement software updates. The governance scheme and the definition of connection profiles will determine the access authorizations and issue them on the basis of standard criteria, commonly recognized by individual access rights. The Secure Vehicle Interface (SVI) is a ready-to-deploy technology, based on three CEN/ISO standards¹⁴.

¹² <https://www.etrma.org/wp-content/uploads/2019/09/20190716-etrma-report-web-final.pdf>

¹³ <https://www.etrma.org/key-topics/mobility/>

¹⁴ <https://www.svi-for-mobility.org/>

Industry's requests

ETRMA calls the European Commission to propose a robust EU legal framework to access in-vehicle data based on transparency and standardisation to ensure innovation and fair competition as announced in the Sustainable and Smart Mobility Strategy (measure 53). To make sure smart mobility benefits to the entire European society, including the European connected mobility value chain, the legal framework should:

- **Guarantee the user's freedom of choice.** Freedom to choose the platform and service providers, to choose to whom granting access to the data.
 - **Standardization of the available vehicle data and resources**
 - **Harmonization of the Application approval process**
 - **Harmonization of Cybersecurity approval procedures**

- **Build trust by ensuring:**
 - **Transparency** of the available vehicle data and resources in each model is published. The list should be exhaustive and not limited to the one used by Vehicle Manufactures as service providers. The provisions that allow equal and unhampered access to in-vehicle data for all stakeholders are crucial for improving the current services and allowing new ones to be developed by leveraging innovation.

 - **Separation of duties:** The entities responsible for granting access and approving the Apps should be different from those providing commercial access to vehicle data, in order to avoid conflict of interest and ensure standard criteria and equity for access. This would prevent any conflict of interest with Vehicle Manufactures in their role of vehicles' producers.

- **Ensure cybersecurity** by implementing an **independent management of access rights and an independent authorisation/validation of ISP Apps**. ETRMA supports the introduction of an authorisation scheme for market players, who need deeper access. This could be modelled on the SERMI¹⁵ scheme, which could be extended to support user and usage profiles, implementing a separation of duties with independent accreditation of market players.

- **Guarantee fair competition by creating a level playing field, with equal and fair access to the functions, data and resources of the vehicle including the vehicle HMI.**

Service Providers should have the opportunity to compete effectively with Vehicle Manufacturer in their role as service providers, not depending on Vehicle Manufactures' pre-selected data based on their business models. Only this will ensure the provision of competitive digital products and services in the interest of business users and end-users.

¹⁵ https://circabc.europa.eu/sd/a/55ec9ba6-ca74-4439-864a-b5104704f828/SERMI_EA-validated_2016_05_19.pdf