



Tyre-as-a-Service in the intelligent connected world

Ready to boost sustainable & smart mobility

The rapid digital transformation of mobility has intensified the deployment of **Intelligent Transport Systems (ITS)**. ETRMA¹ welcomes the principles of the revised framework²:

- Data Availability and Re-usability;
- Real Time information at all geographical locations across the Union;
- Interoperability and interconnection which removes cross-borders hurdles and delays;
- Harmonization and standardization;

which aim at promoting developments on connected and automated mobility systems. With a focus on **road transport**, multiple opportunities have been unfolded to improve **road safety, traffic management and user's experience**. The implementation of ITS solutions is a concrete step towards **smart and sustainable mobility**.

The tyre industry is grasping the opportunities of digitalisation and investing massively in technology to full-fledged provision of high quality digital tyre services.

Deployment of Tyre-as-a-Service (TaaS) through innovative telematics solutions is a reality. Already today, consumers and businesses can benefit from TaaS, ranging from small micro services (apps or devices) and vehicle monitoring for individual drivers to extended service packages for fleets enabling the creation of large universal vehicle data platforms for third parties.

Tyre-as-a-Service (TaaS) describes the concept of providing tyres and the associated services under a subscription model, which positively addresses common societal needs such as overall road safety, emission reduction, energy and fuel savings.

The optimization of TaaS requires in-depth understanding of **various interrelated parameters** per application. For this reason the availability, collection, and processing of **different data categories** (e.g. vehicle, environmental, and infrastructure) is highly important. This has immense potential, particularly, in the case of **infrastructure quality management enhancement** and **vehicle platooning**³.

Key tyre industry actions

1. Tyre industry makes road transport safer

Obvious, but not all the time well recognised, the tyre is the only contact point between the vehicle and the road. New generation of tyres with increased grip performance have significantly contributed to safer driving by reducing the braking distance under all weather conditions.

On the top of it, thanks to advanced tyre algorithms, it is now possible to inform drivers of their tyres' condition upon hitting a curb, pothole or harmful object on the road surface, notifying them of the potential risks of tyres' damage, which may reduce friction with the road surface and lead to an

¹ The European Tyre & Rubber Manufacturers Association (ETRMA) represent nearly 4.400 companies in the EU, directly employing about 370.000 people. The global sales of ETRMA's corporate members represent 70% of total global sales and 7 out of 10 world leaders in the sector are ETRMA Members. The product range of its members is extensive from tyres to pharmaceutical, baby care, construction and automotive rubber goods and many more applications. We have a strong manufacturing and research presence within the EU and candidate countries, with 93 tyre plants and 16 R&D centres. ETRMA's membership: APOLLO VREDESTEIN, BRIDGESTONE EUROPE, BRISA, COOPER TIRES, CONTINENTAL, GOODYEAR, HANKOOK, MARANGONI, MICHELIN, NOKIAN TYRES, PIRELLI, PROMETON, SUMITOMO RUBBER INDUSTRIES and TRELLEBORG WHEEL SYSTEMS. Furthermore, members include Associations in the following countries: Finland, France, Germany, Hungary, Italy, the Netherlands, Poland, Spain and the UK.

² https://eur-lex.europa.eu/resource.html?uri=cellar:26277bcb-5db8-11ec-9c6c-01aa75ed71a1.0001.02/DOC_1&format=PDF

³ <https://www.etrma.org/wp-content/uploads/2019/09/20190716-etrma-report-web-final.pdf>

unfortunate event or even an accident. Additional support comes from the different types of Tyre Pressure Monitoring Systems (TPMS) fitted to the vehicles to alert the driver when the inflation pressure threshold is being reached. It is now possible to use the actual tyre pressure and temperature data, to inform in advance drivers and fleet managers of their actual tyre pressure, the severity of a pressure loss event (even when not flagged yet by the TPMS), and the remaining safe driving distance. This can improve significantly driver's safety, while lowering the Total Cost of Ownership.

2. Tyre industry helps reducing CO2 and improves sustainability

The use of Internet of Things in tyre digital solutions allows for optimization of fuel consumption and reduction in CO2 emissions by delivering tangible results in greening the society. Through advanced tyre algorithms the drivers can be informed about the remaining tread depth and be advised on the appropriate replacement time. By doing this, safety and compliance is being ensured while tyres' lifetime is being optimized. This operation becomes even more important when applicable to cargo for fleets, where remote tyre monitoring systems can optimise fleet management from safety and sustainable point of view at the same time. Enabled prognostics and diagnostics tyre use cases are already helping in the fleet downtime reduction.

3. Tyre industry enables the energy transition to zero emissions

Tyres play an important role in the Battery Electric Vehicles (BEVs) transition, since the rolling resistance of tyres is key to the vehicle's autonomy. For a passenger car, a reduction of 1kg/ton of rolling resistance will improve the battery autonomy by 4%⁴. Thanks to its knowledge and expertise, the tyre industry has developed innovative solutions to accompany the fleets' electric transition by accelerating its development. Solutions to facilitate the access to the charging network do exist to ensure continuity of services, which is critical in the deployment of the electric mobility.

Overall, the tyre industry is committed to keep innovating via its Tyre-as-a Service solutions helping society to improve road safety, save fuel, decrease CO2 emissions, reduce congestion and support the electrification process.

To this end, it needs to be reassured that the **availability and access to data and in-vehicle data** will be sufficient, in line with the spirit of ITS and CCAM⁵ vision, as well as, the Data Act⁶. In particular, **sector specific provisions for accessing in-vehicle data**⁷ should ensure the development and functioning of the new, emerging and dynamic digital mobility market being unambiguously fair for all the interested parties. This clarity will facilitate private – public synergies which are required for further stipulating data exchanges, enhancing consumers trust and acceptance in new digital solutions and promoting business innovation. This is one extra brick to reinforce EU competitiveness and leadership.



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⁴ <https://www.sae.org/news/2020/10/tire-pressure-impact-on-ev-driving-rang>

⁵ https://transport.ec.europa.eu/transport-themes/intelligent-transport-systems/cooperative-connected-and-automated-mobility-ccam_en

⁶ https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1113

⁷ <https://www.etrma.org/wp-content/uploads/2022/01/ETRMA-In-vehicle-data-access-document.pdf>