

The evolution of the insurance world in the age of connected vehicles



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Introduction

A connected vehicle generates up to 25 GB of data per hour, equivalent to about two months of web browsing. As technology advances, it is estimated that a connected car will be equipped with nearly 10,000 sensors in the medium term (compared to 200 currently), promising an exponential increase in this volume of data. This data explosion opens up unprecedented monetization opportunities, mainly through a multisectoral approach involving multiple stakeholders. For example, <u>Stellantis aims for €20 billion in annual revenue by</u> <u>2030 through the monetization of data</u> from 34 million of its connected vehicles.

Insurers are among the first to be interested in this influx of data, as it represents a cornerstone of their business through risk modeling, personalized customer offers, fraud prevention, and improved claims management. This new article aims to explore the issues and perspectives of connected vehicle data for the insurance industry and share my convictions regarding the prerequisites for their proper use.

A variety of generated data meeting multiple insurers' needs

The rapid expansion of the connected vehicle market is revolutionizing the automotive industry, redefining the foundations of modern mobility. By 2027, the number of connected vehicles in service worldwide is expected to nearly double, growing from 192 million in 2023 to 367 million. This impressive growth is supported by a booming market, estimated to be worth USD 74.39 billion in 2024 and projected to reach USD 165.53 billion by 2029, with a remarkable compound annual growth rate (CAGR) of 17.35% over the 2024-2029 period.



Source: Grape Up | How to monetize Data thanks to in-car technologies

While the following list is not exhaustive, it aims to highlight the most significant uses for the primary functions of an insurer's value chain.

• Prevention – Data as a key ally for better road safety

Beyond simply covering risks, an insurer's primary activity also includes prevention (road safety in our case). This can be significantly improved by real-time analysis of weather conditions, anticipation of risky situations on the road, and detection of vehicle malfunctions. Equipped with such capabilities, insurers could inform drivers of imminent dangers, helping to reduce the frequency and potentially the severity of accidents.

This is already being implemented in the two-wheeler sector with <u>Liberty Rider</u>. This mobile application, specifically designed for motorcyclists covered by Liberty Rider's insurance partners, provides real-time alerts about dangerous curves and has an automatic crash detection feature. If the motorcyclist does not respond after an accident, the application immediately notifies emergency services. This proactive prevention approach allows for rapid intervention in case of an accident, significantly reducing the risk of severe injuries for the motorcyclist involved.

• Actuarial science – Towards an evolution in risk modeling

The essence of the insurance business relies on the ability to model risks that, although uncertain, remain measurable. This modeling traditionally relies on historical data to assess future risks. The real-time data generated by connected vehicles allows for dynamic updating of actuarial models.

This would enable not only more precise and immediate risk assessment but also faster adaptation to changes in driving behavior, road and environmental conditions, and even technological evolutions of the vehicles themselves. Thus, insurers could offer more adjusted and personalized pricing while improving their responsiveness to changes in the claims history of their portfolio.

Ornikar, a leading platform for learning to drive in France, launched in spring 2023 an insurance offer specifically designed for young drivers. Leveraging data from its 3 million students, Ornikar collaborated with its insurance partner Wakam to develop an insurance policy whose premium adjusts based on the driver's progress in learning. This innovative approach allows Ornikar to offer highly competitive rates, contrasting with the significant surcharges imposed by traditional insurers on young drivers.

• Offer – Personalized insurance offer, usage-based insurance (UBI)

Numerous offerings have emerged in recent years with pay-as-you-drive (PAYD) or pay-how-you-drive (PHYD) models. These models seek to cover insurance risks based on the actual distance traveled (PAYD) or according to the insured's driving style (PHYD).

Over the past few years, several insurtechs have entered the mileage-based insurance market, with players like <u>Flitter</u> in France and <u>By Miles</u> in the UK, as well as temporary insurance providers like <u>Cuvva</u> in the UK, which offers coverage ranging from 1 hour to 28 days. Meanwhile, some automakers have also begun exploring these types of solutions. <u>Renault, through Mobilize</u> <u>Insurance in collaboration with Mapfre</u> in Spain, offers an insurance premium that adjusts based on the insured's driving behavior, while in Italy, the deductible is reduced if the driver adopts responsible driving behaviors.

• Underwriting – The possibility to subscribe directly from the vehicle

Drivers can now subscribe to digital products directly from their vehicle interface, opening up a novel distribution channel for insurance products. This interface represents an opportunity to personalize marketing strategies based on driving behavior, allowing insurers to offer tailored deals at the most opportune moment.

Tesla is exploring this route with its own insurance offer, <u>InsureMyTesla</u>. Designed with traditional risk carriers (Helvetia for the French market), the offer is distributed via API by the Belgian insurtech <u>Oover</u>, which serves as the driver's point of contact for contract management.

• Claims – Optimization (and even automation) of claims

Claims management is a crucial activity for both insurers and assistance providers, centered around determining the responsibilities of the various parties involved. The use of data collected by the connected vehicle just before an incident provides insurers with neutral and reliable information to establish each party's responsibility and understand the context surrounding the auto claim.

This approach addresses a major concern of policyholders who, despite worries about personal data privacy, want this information to be used to optimize claims processing. Indeed, according to an Allianz study, 60% of policyholders want data to help speed up claims processing, while 65% hope for a clearer determination of responsibilities between parties involved in a claim.

In Europe, insurtechs have innovated by focusing on improving claims analysis from photos taken directly by drivers. Companies like <u>Bdeo</u> in Spain, <u>Tractable</u> in the UK, and <u>Monk</u> in France use this technology to automatically assess the severity of claims and estimate material damages. <u>Zendrive</u> in the US or <u>Artificent</u> in Germany take this innovation further by detecting collisions via the driver's smartphone, allowing for automatic incident notification with initial contextual information such as location, impact speed, and road type.

• Fraud – Combating various types of insurance fraud

Data can once again play the role of a trusted third party, enabling more effective combat against subscription fraud (through a more precise understanding of the vehicle's condition) and fraud related to the amount of damage during a claim (by providing context for the occurrence of the claim).

Thus, the use of data from connected vehicles should not be considered solely from the perspective of personalizing auto insurance offers. It should also be viewed as a major strategic tool for improving insurers' operational efficiency, providing concrete responses to fraud challenges, and enhancing the reliability of risk and claims assessment processes.

In this regard, although not directly using vehicle data at this stage, the French insurtech <u>Shift Technology</u> stands out on a European and even global scale in

the field of fraud prevention. It offers a comprehensive range of anti-fraud solutions that apply at various stages: at subscription, during claim reporting (notably in the case of fraudulent claims or fraud networks), as well as in customer (KYC) and business (KYB) verification processes.

A regulatory context in progress, facilitating data use by third parties

For the aforementioned use cases to become widespread in the long term, it is crucial that insurers effectively utilize the data generated by vehicles. Historically, this data was considered the exclusive property of automakers, who justified this position for the purposes of maintenance and road safety improvement. Other stakeholders, including insurers, only had mediated access to this data via the driver's smartphone, the vehicle's OBD port, or data marketplaces.

In this context, the Israeli platform <u>Otonomo</u> (acquired in 2023 by <u>Urgent.ly</u> after a significant drop in its market capitalization) stands out by establishing partnerships with 23 automakers, allowing it to collect 4 billion data points daily from 50 million vehicles.

However, given the increasing importance of data exploitation in the sector, Europe has introduced or is considering several regulations:

• In France, the CNIL organizes a compliance club for connected mobility

Launched in March 2023, <u>this club focuses on respecting the privacy of drivers</u> and users during data collection and builds on efforts initiated in 2017, which resulted in the creation of a compliance package related to "connected vehicles and personal data." The CNIL emphasizes that any information enabling the identification of an individual, including the vehicle's license plate or serial number, is considered personal and falls under the scope of the GDPR.

This initiative echoes the German TTDSG legislation, effective since December 2021, which stipulates that explicit consent from the driver is required for the collection, storage, and especially the transfer of vehicle data to manufacturers.

• The EU Data Act: a "New GDPR for industrial data"

The EU Data Act aims to facilitate data access for third parties other than automakers to stimulate the development of a data-based services market. It marks a significant paradigm shift by:

- Guaranteeing the driver ownership and control over their data.
- Obligating automakers to share this information with third parties.

However, the EU Data Act, which will come into effect on September 12, 2025, is seen as a mixed advancement for third-party stakeholders such as insurers or aftermarket companies, as it does not address the technical challenges related to fair access to vehicle data, resembling more an obligation of means than a guarantee of results.

• With rising geostrategic stakes, managing vehicle data becomes complex

Since the implementation of their connected vehicle data security regulation in October 2021, China imposes strict guidelines, making data exploitation by third parties particularly difficult, based on the following principles:

- Data must not be collected by default, except with the driver's explicit consent.
- Generated data must be specifically tailored to the intended use, avoiding excessive collection.
- Data must be anonymized to protect individuals' identities.
- Data transfers abroad are severely limited, with an obligation to store data on Chinese territory.

These measures reflect an increasingly cautious and regulated approach to handling vehicle data, highlighting the need for a balance between data exploitation (in terms of read and write rights), privacy protection, and national security. Data exploitation by third parties could be more challenging than anticipated due to its "sensitive" nature.

Multiple use cases exist, provided certain non-regulatory conditions are met

Insurers thus appear fully legitimate to access and exploit vehicle data, with clear benefits for safer mobility. However, I identify some essential prerequisites

for the widespread adoption of these applications in the future, for which I share my associated reflections:

• An essential optimization of data storage capacity

Given the colossal volume of data generated daily, cloud storage is a preferable solution to local systems. This approach underscores the crucial need for robust connectivity infrastructures such as 4G, fiber optics, and potentially 5G. The use of advanced algorithms to filter and select the most useful data also becomes paramount. Indeed, <u>connected vehicles generated 87 zettabytes globally in 2021</u> (i.e., 87,000 billion gigabytes).

• A necessary harmonization of data formats for effective exploitation

To date, <u>two associations of automakers (CLEPA and ACEA) have established a</u> <u>reference framework covering 42 types of data</u> to meet market use cases.



Besides this project, <u>The Mobility Data Space</u> emerges as a pioneering initiative in Germany, marking a significant step towards an interconnected data ecosystem. By adhering to the standards of the <u>International Data Spaces (IDS)</u>, this interface offers a robust solution for cross-border data sharing, thus facilitating unprecedented cooperation between various stakeholders in the mobility industry, insurers, and governmental entities. The importance of this advancement lies in its ability to secure, standardize, and simplify international data exchanges.

• Individualized management of explicit and permanent driver consent

One of the necessary conditions for data exploitation is the driver's consent. This raises the issue of managing individual consent when multiple drivers use the same vehicle. How can we ensure that the journey undertaken at time T is covered by the consent of driver A versus driver B?

Service providers will need to offer a sufficiently efficient UX to correctly qualify and collect consent over time.

What solutions are there to strengthen cybersecurity for connected vehicles?

• A much greater appetite for increased data utilization in the B2B segment

The B2B segment shows a significantly higher appetite for the use of vehicle data, contrasting with the reluctance of many individuals who see data sharing as an invasion of their privacy. Businesses and professionals are more willing to share their data, mainly because they:

- Spend a large part of their day on the move, making numerous and often long journeys.
- Recognize a real benefit in making their travels more practical and secure.
- Find existing tracking devices, often external via dongles¹, outdated and inflexible.

Moreover, the B2B sector presents a notable advantage over the B2C target: the consent collection process is simplified as it is managed at the fleet manager level rather than individually by each driver. This centralization of consent greatly facilitates data exploitation in a professional context, making the B2B segment particularly receptive to more extensive use of vehicle data for insurance purposes.

• Optimizing claims management, one of the key challenges facing the insurance industry

Claims are particularly burdensome for fleet managers, as they act as intermediaries between the actual driver involved in the incident and the

¹ A dongle is a box that is fitted to a vehicle's OBD diagnostic socket to collect data.

insurer. Automatic drafting of accident reports and integrated damage diagnostics, especially for electric vehicles, represent a notable advancement for them.

In this context, Tesla stands out as a reference model in data collection. In the event of an accident, a Tesla is capable of capturing extremely precise information down to the microsecond and recording videos and images on its servers from seven cameras positioned around the vehicle (see diagram below).



To conclude, are we on the verge of an increase in co-opetition between manufacturers and insurers?

The insurance sector, on the brink of a revolution driven by open data, faces a dual challenge: accessing new data while sharing its own information, in accordance with the <u>Financial Data Access (FIDA) regulation</u>. This regulation, envisioned by the European Commission and targeting financial institutions beyond just vehicle data, will transform how data is exchanged, requiring explicit consent from the insured. It represents both a challenge and an opportunity, prompting insurers to rethink their practices.

This European regulatory context opens the door to significant evolution in the automotive data market. By opening data to third parties, manufacturers must differentiate themselves by pivoting towards selling insights instead of raw data, which also allows them to increase their margins and ensure data confidentiality. This momentum is illustrated by initiatives like <u>Mercedes-Benz</u>,

which now targets insurers with its driving data analyses. It will also be interesting to monitor the evolution of the data market, between the dozen or so specialized marketplaces (<u>Otonomo</u>, <u>Wejo</u>, <u>SmartCar</u>, <u>Caruso</u>, <u>High-Mobility</u>, etc.) and new players related to manufacturers (Stellantis' <u>Mobilisight</u>).

The regulatory challenges and competition from automakers, who are moving towards the direct provision of data and potentially insurance (Tesla offering its own PHYD since 2021), underscore the urgency to evolve. The future of insurance lies in an intelligent combination of technology, regulatory compliance, and service innovation, where the ability to share and exploit data will define the leading insurers of tomorrow.



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