

Economic Model for Vehicular
Data Access

Analyse

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INTRODUCTION

With multiple ECU onboard, modern vehicles are already producing a large quantity of data. This data, combined with environmental information, can produce added value services to the customers. Equipment and system suppliers, vehicle manufacturers, infrastructure operators, service providers and other stakeholders are willing to create innovative solutions that are safer, more secure, more reliable and to offer added-value services to the end user. The value chain of the automotive data is therefore critical to guarantee a fair, reasonable and non-discriminatory access to the data by each and every stakeholder.

Over the last decade, data has indeed been considered as the new oil of the industry. In 2020 we must admit that this potential has hardly delivered its promises within the automotive world.

Beside technical aspects which need to be addressed (non-harmonized technical solutions, data access interfaces under discussion), the lack of a forward-looking economic model, a kind of “next gen Business Model”, is likely to hinder the emergence of this new market in Europe. Today, Public¹ and Private initiatives emerge to redefine the relationship among each embedded party from the data creation to the service provision. Yet, none of these initiatives have demonstrated their ability to scale-up the perspectives at European level.

After presenting the current situation on vehicular data access, this note proposes one wide scale economic model, inspired by the “fair remuneration model” which currently exists in the music Industry and presents the expected benefits to the stakeholders in the value chain.

¹ *Loi Pacte 22 mai 2019, Loi d'Orientation des Mobilités 24 décembre 2019*

CURRENT SITUATION

Over the past years, most of the discussions related to vehicular data access have been focusing on the technical aspects and corresponding interfaces to access the data. These discussions have basically addressed a number of well-known – yet limited number of – use-cases, such as predictive maintenance (brake pad wear, revision, etc.), over the air diagnostic, quality information from the systems or components.

However, these discussions have not yet resulted in a comprehensive solution for data access, which actually remains relatively limited (limited list of data made available or set of data to be negotiated with vehicle manufacturers on a case-by-case basis).

MAJOR PAIN POINTS CONTINUE TO EXIST :

- Monitoring of the data to be used in the service and therefore a risk to see a potential competitor developing a similar service.
- Having to expose the model of the service, including its business model to a potential competitor.
- Fear of being left out of the value chain due to a lack or restricted data access.
- Fear from upstream actors to be left out of the value creation by downstream actors, in case of business success
- Negotiation time between parties leading to miss the time to market solution.
- As data content and access is fully controlled by the vehicle manufacturers, potential and disruptive innovation may be stopped or slowed down.
- Limited set of data available through current interfaces.

These points could be lifted with an appropriate business model. As a matter of fact, beside technical aspects (such as security), the lack of a shared business model to access vehicle data is a bottleneck for any progress on the subject.

The lack of a shared business model, acting as an obstacle to economic growth, has already been witnessed in other industries, such as the one related to streaming services in the US. The video streaming companies are currently battling against digital platforms that aggregate services, due to the control of the data and the sharing of the value between the different actors. Platforms are seeking to force the end-user to subscribe to their platform (and therefore sharing their data) before having access to the services².

The automotive model is already at risk if the price to be paid by a service provider to access the data is controlled by a limited number of actors in the value chain. In addition, suppliers or service providers could face large differences in data prices from one OEM to another, potentially jeopardizing any opportunity to develop large-scale, innovative services.

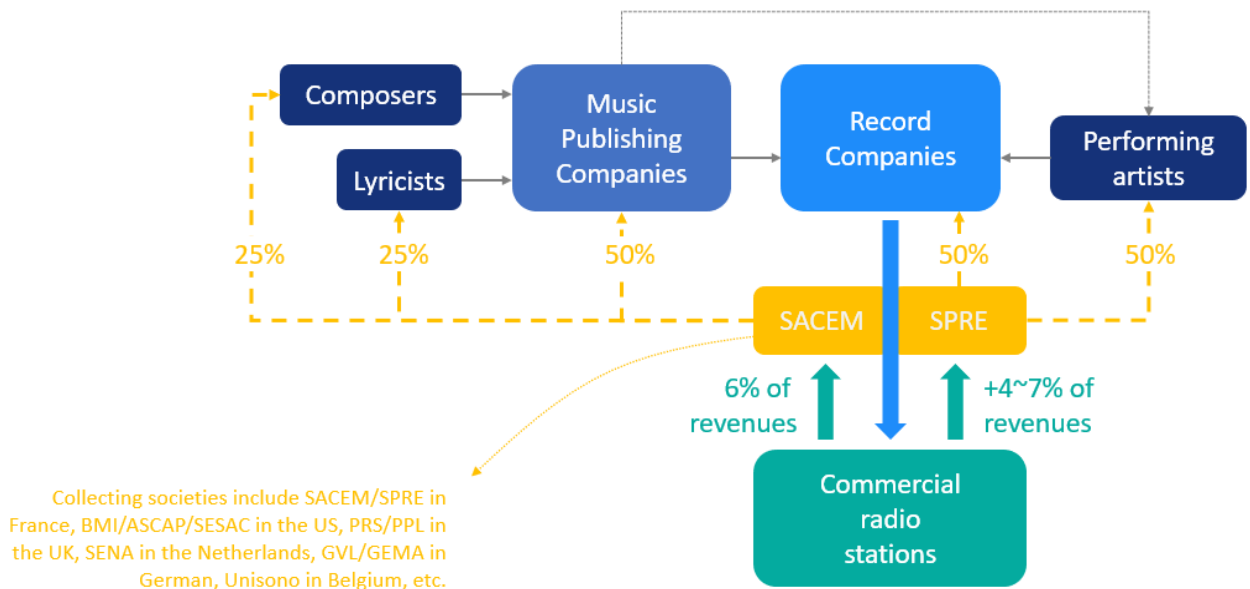
Therefore, independently of the technical access to the data, we advocate to find a new, fair, reasonable, non-discriminatory and balanced business model for each stakeholder in the vehicular data value chain, guaranteeing a proportionate return on investment to each actor.

PROPOSED MODEL

FIEV is of the view that a simple model enabling access to the data to whoever is willing to create value out of it is key to create the conditions for a thriving market of the vehicular data, while offering an opportunity to mitigate the above-mentioned barriers. To be successful, this model should enable any downstream use case on an ex ante basis, facilitate initiatives and innovation, while ensuring a fair and equitable remuneration of the upstream value chain for making this data available.

² *[Les Echos - Streaming : aux Etats-Unis, la bataille fait rage entre les plateformes vidéo et les boîtiers de télévision connectée](#)*

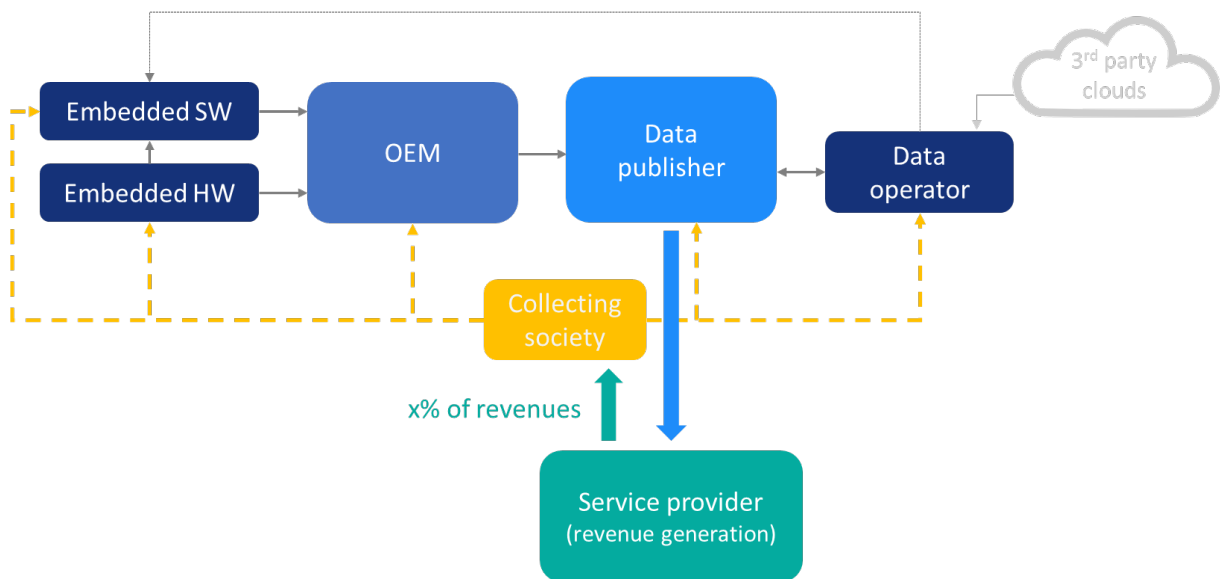
A revenue sharing model would fulfill these requirements, like the economic model which has successfully governed the fair remuneration of music content-right owners by commercial broadcast radios in a lot of European countries, including France³. In this model, any commercial radio is entitled to use the music repertoires of collecting societies against the payment of a fair remuneration, which usually takes the form of a percentage of the revenues generated by this station, whatever these future revenues may be. These shares of revenues, as collected, are then re-distributed on a fair basis to all the content right owners (artists, writers, publishers, etc.) who participated to the creation and publishing of the music phonograms used in the programming of affiliated radio stations.



FIEV is of the view that a similar approach could be implemented as an economic model governing the access to vehicular data, to remunerate on an equitable manner all the upstream actors which participated in the creation of the data used to generate revenues by downstream actors, whatever their use case / business case.

³ In France, this model has been implemented through the Law 85-660 of the 3rd of July, 1985 ("Lang Law") which transposes the 1961 Rome Convention. At European level, it has also been implemented through Directive 92/100/EEC

In the music Industry, the rates defining the shares of revenue to be paid by the collecting society to each content-right owner, are fixed. These rates are indeed negotiated upfront among stakeholders and then fixed through regulatory measures and subject to timely revisions. A similar model could be applied in the vehicular Industry. Other schemes, e.g. leaving each Data operator to fix its own rates for specific investment-intensive, added-value data could also be contemplated. Mixed models could also be envisaged, defining fixed rates for “standard” data-processing, while allowing for flexible rates to apply to more complex added-value data, on a case by case basis.



Embedded HW: onboard embedded hardware generating raw data on the car network

Embedded SW: onboard embedded software, processing raw data to generate more complex added-value data on the car network

OEM: car manufacturer having control on their E/E architecture design, and connectivity devices ensuring its overall functionality, safe and secured usage, notably through the consistency of data flows between components, modules and systems through the car networks

Data publisher: operator collecting and/or aggregating vehicular data and guaranteeing its quality and format consistency, for their consumption by third party service providers and data operators

3rd party cloud: remote clouds providing non-vehicular external data (e.g. weather, infrastructure, traffic, etc.)

Data operator: remote third-party operator processing vehicular and non-vehicular data to produce and publish more complex added value data in the cloud.

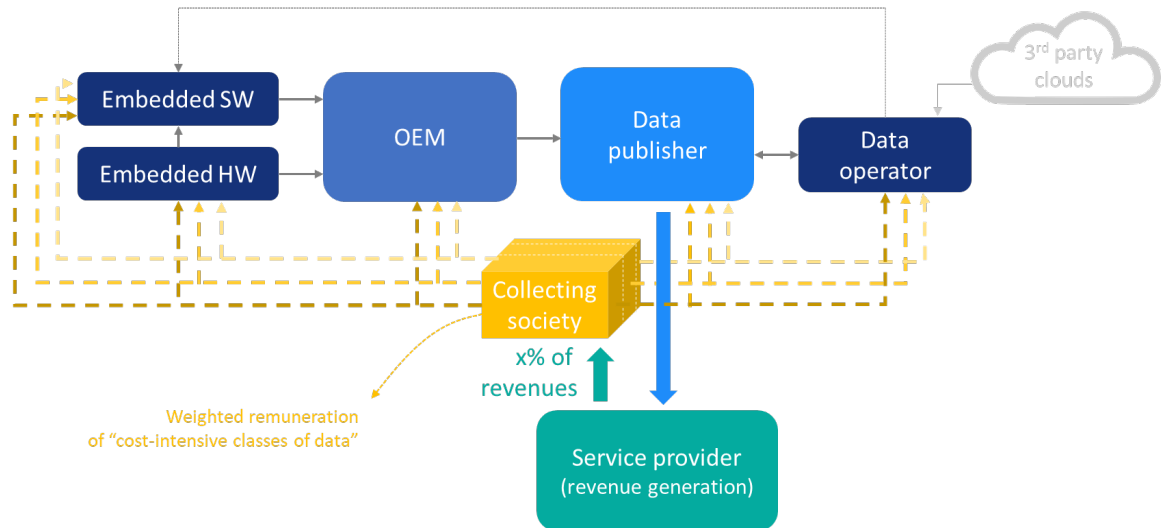
Service provider: produces a service to end users, based on processed data and generates revenues

Collecting society: European, neutral entity tasked with collecting a percentage of the revenues generated by Service providers and ensuring the redistribution of these collected revenues among upstream “data-right owners”

The costs to process the data, or make this data available to service providers through communication and storage, substantially vary from one type of data to another, in terms of:

- R&D investments required to produce specific added-value data,
- CPU processing power (edge and/or cloud computing) required to produce the data,
- Communication costs to stream real-time/low-latency or high-volume data flows through mobile networks (e.g. 5G low latency networks) along the value-chain,
- storage costs of the data,
- cybersecurity costs (e.g. monitoring of data flows),
- etc.

For this reason, the above model should be adapted to reflect such variations in cost intensities. The creation of specific “cost-intensive classes of data” is proposed, to enable a weighted remuneration by the collecting society, to account for this variability:



Finally, the above shared-revenue business model is independent from the technical access to the data and is fully compatible with GDPR regulation. And as a matter of fact, any piece of vehicular data is already expected to carry along some GDPR⁴-related information tracing its origin, collection, consents/pseudonimization/anonymization, processing, to a final usage, when it is considered personal data. Applying this revenue sharing model would add to this GDPR-related information the various “processing-right owners” which each added value through the processing they successively applied to the original data, up to its final usage. In exchange, a fair and equitable share of possible generated revenue could easily be re-distributed among these processing-right owners, who contributed to the final value of the data, without requiring for the need to understand, beforehand, the final use case / business case being pursued by the downstream operators.

⁴ Regulation (EU) 2016/679 on General Data Protection Regulation

BENEFITS TO THE VALUE CHAIN

The Business Model described in the previous chapter, hosted at EU level⁵, provides a concrete framework and gives answer to the major challenge related to value measurement criteria definition that reveal the contribution of all stakeholders which is evolving temporally with opposing interest to the value creation and consumption process or reveal the value created by the Automotive industry, and other stakeholders.

Such a fair remuneration model is key to facilitate the emergence of a vehicular data-driven market, fostering innovation and initiatives. It would provide the necessary comfort to attempt and invest in the development of new services, reducing time to markets in the deployment of services by alleviating from a prerequisite, lengthy and uncertain clearance to use the data. It would reduce the uncertainties both for the provider of a new service by setting a clear, ex ante revenue share model, without putting potential unbearable flat fees on its business plan, while guaranteeing the upstream actors that they will actually benefit from any value creation to be generated by any downstream business, in case of success.

Overall, this model provides a level playing field with a new competitive market of vehicular data, providing a fair, reasonable and non-discriminatory access to each and every stakeholder.

⁵ e.g. GAIA-X-like platform

CONCLUSION AND NEXT STEPS

Take Aways :

- Most of the discussion on access to vehicle data focuses today on technical aspects, and are based on a limited number of specific use cases
- To create the conditions for innovation, a new comprehensive business model, applicable to any existing or future use-case, is needed
- This business model must guarantee a fair, reasonable and non-discriminatory access to data to each and every stakeholder
- The existing business model in the music industry can be replicated: to remunerate on an equitable manner all the upstream actors which participated in the creation of the data used to generate revenues by downstream actors, whatever their use case / business case
- The remuneration can be based on pre-established, regulated percentages for “standard” data, and/or left to market decisions for the publication of more investment-intensive data

The costs to process the data or make this data available to service providers can vary from one type of data to another. Creation of “cost-intensive classes of data” is proposed, to enable a weighted remuneration by the collecting society.

Next Steps :

- Define a cost-intensive classification of data
- Organize a sectorial negotiation under the chairmanship of an independent “Collecting society” organism, at European level, to define the rates to apply in the automotive Industry.

