

The interoperability of data in mobility: necessity and legal protection

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Abstract

In this paper we will study the importance of establishing a legal regulation that protects and guarantees the reception, transmission, study and custody of data as essential actions to implement new technologies in the automotive industry. To do this, a study of the European regulations and policies that facilitate the performance of these actions with all the guarantees and acting in turn as facilitators and supervisors will be carried out. The different difficulties that exist today in terms of data will be considered and how the appropriate regulation and proposals will help to solve these difficulties.

Index Terms

Data protection, legal regulation, European policies

I. Introduction

The technological revolution that the transport sector is undergoing requires the necessary adaptation of the legal regulation to the novelties introduced in the sector, since only with the appropriate legal regulations can the advances achieved be implemented in practice. The essentiality of this prior procedure of legal adaptation to the real application of these novelties will allow an efficient planning of material, human and economic resources. To achieve this challenge, it is necessary that all the actors involved in the different areas of knowledge act in a coordinated manner towards the same objective.

In this work, the problems involved in the collection, transmission and conservation of data from both private citizens and the Internet of Things (IoT) will be considered as essential actions, so that technology and innovation in the automotive sector can become a reality. Certainly, these actions are essential not only to be able to bring about automotive progress, but also to detect failures, gaps and make comparisons that will allow us to improve and raise the standards of perfection to achieve the objectives pursued. Actions related to data must be framed as actions that are imposed to meet specific objectives in the automotive sector such as digitization, innovation and sustainability planned from European policies. Data are essential tools for the research and development process, because only from qualitative data studies meaningful conclusions can be extracted. It is not just about collecting data and interpret them statistically, but also to look for patterns, cues,

or even gaps within the data itself that make it possible to detect and follow paths of improvement in terms of safety, efficiency or even sustainability. Therefore, it is important to have a quantitative and qualitative approach to the data collection, also making it compatible with the rights of the users over them.

The European Union intends to create a "Single Data Market" promoting competitiveness and preserving data property, as was done back with the Single European Economic Market. To this end, a European Data Strategy has been drawn up which, among other applications to different sectors, specifically contemplates the transport sector and, in particular, the automotive sector. The multiple exposed benefits derived from the reception, study, transmission and conservation of data are reflected in such essential aspects as safety, energy efficiency, and technological innovation, therefore, these actions in the field of data become essential if you want to implement in reality safe, efficient and sustainable mobility. However, the sensitivity of these data must be taken into account, which will be the object of reception, study, transmission and storage, for which an ad hoc regulation must be created and constantly updated that effectively protects and guarantees the use and final destination of the data used, as well as establishing mechanisms for supervision and monitoring of compliance with the corresponding regulations.

II. Data interoperability and data protection

Once the essentiality and sensitivity of the data have been clarified, it is necessary to have a look into one of the main problems that arise in the processing of data by automotive technology. In order for autonomous and energy-efficient driving to be possible, it is necessary to collect data from the actual driving that consumers and users carry out on a daily basis, current traffic data, weather data, topographical data and speed limits will be used in addition to the route data [1]. This data collection is considered essential to be able to make the application of these new technologies in transport and mobility a reality, and this is where we find one of the main problems between the reception of private data from individuals and its transmission between software operators or other providers and the strict protection that these data must have.

At this point, it is appropriate to refer to the protection of personal data contained in article 8 of the Fundamental Rights Charter of the European Union 2000/C 364/1 of December 18, which highlights the duty to deal with loyalty of the mentioned data, for specific purposes and the consent of the affected person being the legitimizing way of data processing. Besides, it must be entrusted to an independent authority the control of the actions carried out on the information collecting process. The content of this article sets out the principles that must be considered when carrying out any action on personal data within the automotive field. Taking as a reference the aforementioned Fundamental Rights Chart, this data protection right is subsequently developed in Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data

Protection Regulation) [2], including the requirements of limitation of the purpose, minimization of data and limitation of the retention period, and the protection of data by the institutions in Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC [3]. They reflect the limitations in terms of data collection, transmission and custody, providing users with access, rectification, deletion or cancellation, limitation and portability of their data, requiring the identification of the person or entity in charge of managing those data, as well as the strict purpose for which they will be used. Failure to comply with this applicable and binding European regulation is expressly sanctioned with fines of up to 20 million Euros. The seriousness of these sanctions is related to the sensitivity of these data since, through them, the trajectory, route, uses and customs of the user and consumer can be known, with the consequent vulnerability of their privacy. They are data that suppose to reveal the most intimate life of the individual, as well as their professional or personal customs. This sensitivity is due not only to the threat of possible manipulations by third parties that may endanger the physical safety of users [4], an issue that would involve an isolated and independent debate from the one that is currently the subject of this work, but it can also suppose a direct violation of the private sphere of the consumer or user with the corresponding sanction.

One of the solutions to this problem will be the explicit consent of the consumer or user to the transmission, reception, disclosure and temporary custody of these data strictly linked to the proper functioning of the software, which is essential for the use of autonomous and energy-efficient vehicles. If this procedure is introduced, the consent issued must be carried out with specific requirements, as set out in article 4, point 11 of the aforementioned Regulation (EU) 2016/679, which defines consent as “any expression of free will, specific, informed and unequivocal by which the interested party accepts, either by means of a declaration or a clear affirmative action, the processing of personal data that concerns him”. In addition to this particular consent, the information on which consent is given must be truthful, complete and previously provided to the consent so that it can be studied for it to be voluntarily issued; but, there is the assumption in which the consumer or user does not agree to the aforementioned transmission and use of data, or an inappropriate use of the same for purposes other than those that have been consented to take place. These two assumptions require the adoption of legal measures that make it possible to combine the essential reception and transmission of these data so the introduction and implementation of new technologies in the automotive industry is possible, together with the protection and supervision of the correct use of such data given the sensitivity of its content. The solution to this problem must lie in the establishment of an adequate balance between the implementation of new, usable and marketable technologies and the adequate protection and use of the particular data obtained.

Another concern that may arise within the scope of the study is the period of time in which these legally and legitimately obtained data are going to be kept and which operator will be in charge of guarding them, with the legal responsibility that this entails. In this sense, the Public Administrations must adopt the subsequent intervening and supervisory responsibility that guarantees the adequate use of these data and their custody, and the determination of what will be the purpose of their storage, since if these sensitive data are not found sufficiently protected, the consequences of their misuse can be fatal. For this reason, the creators of software applicable to autonomous cars, connected cars and in new transport models must worry not only about correctly carrying out the essential technical part for its operation, but must also ensure the correct protection of the data that it collects, transmits or guards.

Likewise, there is also another issue in terms of data collection and maintenance: the amount of data¹. In a digital era of full advancement and progress, the production of data is enormous, which makes it difficult to study and use the data that is truly essential for the proper functioning of the device; this collection being inefficient would imply a waste of resources in time and space. In parallel, we can compare it with internet search cookies, differentiating the essential ones from others with different purposes. In this sense, and given the existing progress in the volume of data, it is advisable to limit the collection to those that can truly provide essential or useful information for the operation and development of vehicles, and where the engineers are the ones to be entrusted for the determination of the essential parameters for the achievement of the proposed objectives.

III. Regulation of the European Data Strategy

Once the problems that can arise in practice have been analyzed, it is appropriate to refer to the inspiring principles of the European Data Strategy promoted by the European Union for the purpose of making the Union a leader in data governance and management. This Strategy is inspired by the principle of horizontal governance and the European Data Law. The Strategy is included in the Communication from

¹According to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, a European strategy for data COM/2020/66 final, of February 19, 2020, the volume of global data produced has increased from 33 zettabytes in 2018 to an expected 175 zettabytes in 2025. Each new wave of data represents great opportunities for the EU to become a world leader in this field. Currently, "80% of data processing and analysis takes place in data centers and centralized computing facilities, and 20% in smart connected objects, such as cars, appliances or manufacturing robots, and in computing facilities close to the user ('edge computing'). By 2025 these proportions are likely to be reversed. Another of the proposals of the Data Strategy is the need to "review the current EU type-approval legislation for motor vehicles (currently focused on wireless data exchange for repair and maintenance), to open it up to more services based on in auto data (Q1 2021). The review will look at, among other things, how the car manufacturer makes the data accessible, what procedures are necessary to obtain it in full compliance with data protection rules, and the role and rights of the car owner".

the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, a European strategy for data COM/2020/66 final, of February 19, 2020 [5] showing a will to create a Common European Space of interoperable data, promoting the development of Artificial Intelligence. In this Common European Space, the need to create a proper environment for the transport sector is precisely described. In addition, the Commission called for “the free and secure flow of data with third countries, subject to exceptions and restrictions in matters of public security, public order and other legitimate public policy objective of the Union, in line with its international obligations, also in terms of fundamental rights”² .

In this European Data Strategy, consumers and users constitute an asset to be taken into account, since only through confidence in the protection of their data will new digital and technological products be able to have a place in the European social reality.

Another of the purposes sought in this Strategy is to promote freedom of competition and balance between providers, regulating through this normative that data interoperability does not favor large companies or market-leading providers, balancing the position of small and middle enterprises (SMEs) [6], in this way the benefits will be distributed among all the economic assets that make up the Single European Market. Likewise, in the after-sales and maintenance phase of the vehicles, other providers than the initial ones may participate, promoting business competitiveness with the consequent benefit for consumers and users and for companies in the sector.

Another of the initiatives proposed in this work is the supervision in the mandatory periodical technical inspections of vehicles [7], of the mechanisms that are responsible for collecting, transmitting and storing these sensitive data of consumers and users, in order to safeguard the correct application of these data, as well as checking that the data actually collected are the consented or essential for the proper functioning.

IV. Mobility Data Space

In order to solve these challenges that arise in the real society of progress and innovation, the regulations must be adapted to these needs, for this, reference must be made to the Mobility Data Space created and supported by the German Government and which consists of an environment insurance where providers share their mobility data, maintaining their control and making them available to transport platforms. Likewise, as well as other examples of mobility data interoperability promoted in Germany by the International Data Spaces Association [8]. This German initiative must be extended to the territory of the European Union, favoring regulatory coordination and cohesion between member states of

²Point 2, second paragraph of the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, a European strategy for data COM/2020/66 final, of February 19, 2020

the European Union, since ultimately, the transport system envisaged by European policies provides for the elimination of distinctions and management barriers between states, promoting a single European transport system.

V. Conclusion

After the presentation made, conclusions can be reached that will favor the best applicability of new technologies in the sector, using European legal and political regulations as tools to achieve this objective.

On one hand, it must be concluded that the work of the legal regulations is not only to penalize or sanction by setting limits that should not be crossed, but at the point where digital and technological evolution meet each other, legal regulation must be erected as a facilitating tool so that the requirements demanded by the application of new technologies can be carried out in an agile way and with all the guarantees. From this it can also be concluded that technical and legal operators must be in a position of balance and collaboration focused on achieving the objectives of innovation, digitalization and sustainability of automobile transport, framed in European and international policies.

On the other hand, it is an essential requirement to implement new technologies and innovation in the sector under study (enabling) the possible collection, transmission and custody of data. For this reason, the European Union proposed the creation of the "Mobility Data Space" with the objective exposed to promote competitiveness and ensure European ownership of the data used. The regulations issued at this point must favor the performance of these actions, but at the same time, must provide the necessary guarantees so that these regulations are bounded to. One of the initiatives proposed in this work is that in the corresponding vehicle inspections that must be adapted to the new tools, parts and vehicle models, the verification of the corresponding software that manages this data is introduced in the mandatory vehicle inspections, both due to the necessary protection of the processing of these data as stated in this work, and due to the verification that they are adequately received to be applied in the operating processes of new technologies, such as autonomous vehicles, and the new transport models that arise in the future.

In addition, it is capital to stress the importance of the need for coordination and cohesion between member states of the European Union to facilitate the implementation of a Single European Transport, as a priority objective from European policies, favoring digitization and sustainability in the sector.

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