

European Council for Motor Trades and Repairs
Conseil européen du Commerce et de la Réparation Automobiles
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POSITION PAPER ON CONNECTIVITY

How to enable a fair and competitive vehicle service industry in the digital era ensuring freedom of choice for the European consumers?

ABOUT CECRA

CECRA is the European umbrella association of the motor trade and repair sector representing the interests of both, franchised vehicle and truck dealers and independent repairers. In Europe there is a total of 46,720 vehicle and truck dealers and 290,000 repairers. Those – predominantly small and medium-sized – companies employ approximately 2.9 million people being responsible for the sale of almost 16 million new vehicles a year as well as the repair and maintenance of the 228 million existing passenger vehicles and 38.5 million commercial vehicles. Thus it is ensured that vehicle users in Europe can rely on a network of qualified experts for the purchase and maintenance of their vehicles.

EXECUTIVE SUMMARY

For many years vehicle manufacturers have developed technologies to optimize the vehicle's internal functions. In the last few years attention has turned to developing the vehicle's ability to remotely connect with the outside world and enhance the in-vehicle experience. This is the so called 'connected-vehicle' which uses an in-vehicle telematics system. In Europe, this trend is being accelerated by the mandatory introduction of eCall (an EU regulation that requires new passenger vehicles to be equipped with emergency-call function in the event of serious accidents) as from May 2018.

The range of functions/services that can be offered based on the in-vehicle telematics system is potentially very wide, and it goes from ITS services and traffic information, to information on fuelling & charging stations for alternative fuel vehicles, street parking management, usage-based insurance schemes, and – in the case of vehicle sales and aftersales sector – remote diagnostics and predictive maintenance. The consumer and societal benefits, as well as the case for new business models, stemming from the development of those new services are extremely significant.

In the light of these golden opportunities, European automotive dealers and repairers, who are constantly striving to provide their customers with the best possible service, have welcomed these technological advances. In line with the tradition of the best progressive European SMEs they are currently investing heavily in order to develop new services that will meet the rising customer expectations.

In such a new technological ecosystem, the development of cutting-edge services and tailor-made applications requires a free and real-time access to in-vehicle generated data¹. Only the evaluation of that data accessed via the in-vehicle telematics system ensures fair competition and hence freedom of choice for consumers. Nevertheless, all in-vehicle telematics system in the automotive sector are currently being technically designed in such a way that only vehicle manufacturers are allowed to directly access the in-vehicle-generated data. This technical obstacle is artificially restricting the free competition within the European market of vehicle-data-related services as well as customer freedom of choice.

Furthermore, in the concept that is currently under discussion, the 'Extended Vehicle concept', data which was received by the vehicle telematics system becomes information that would be channelled only through the manufacturers' proprietary servers. This would give vehicle manufacturers exclusive control to the access of in-vehicle generated data, allowing them to impose their own business models and monitor the businesses of third parties which directly compete with them. Such a system is not acceptable in many respects such as competition, customer freedom of choice and furthermore it does not comply with the general principle provided for in the eCall Regulation (EU) 2015/758, which clearly indicates the need for in-vehicle systems to be based on an interoperable, standardised, secure and open-access platform (I.S.S.O.A.) for possible future in-vehicle applications or services.

¹ We consider 'in vehicle generated data' as all data generated/processed by vehicles (both technical and personal data).

Given the evident inability of the above-mentioned solution to fulfil the principles of an I.S.S.O.A. platform, CECRA, on behalf of the European dealers and repairers, firmly calls – in the interest of the consumer - for a technical solution which ensures the creation of a level playing field through equal access to in-vehicle generated data for all market players in the digitalised automotive market.

Based on this awareness, and following a long and in-depth internal discussion, CECRA has eventually identified a promising example of such a technical solution in a 'Third-Party-Access solution'.

Already today, manufacturers' in-vehicle telematics systems allow selected third parties (currently Apple and Google) to install their own applications to operate alongside those of the Vehicle Manufacturers.

What has not yet been available is the possibility for 'non-selected' responsible third parties to install their own applications as well. This could be obtained through legislation obliging VMs to extend the accessibility of their in-vehicle telematics system to other third parties.

With this solution the overall safety and security of the vehicle will not be compromised. The fact that selected third party applications already run in in-vehicle telematics systems demonstrates that this is possible. The exchange of in-vehicle data with other non-selected third party service providers would follow the same security requirements as the ones imposed by the vehicle manufacturers to their chosen service providers today.

Thus, an additional advantage of this solution is the fact that it does not require any technical change to the existing in-vehicle telematics systems, nor any additional costs for the VMs. This solution is therefore a very safe and the easy one because it can be put in place already as from tomorrow with no risks and no additional costs.

DATA: THE BASIS OF DEALERS' AND REPAIRERS' EXISTENCE

Given the fierce competition on the automotive market, vehicle and truck dealers and repairers are constantly trying to adapt to their customers' requests and demands. Currently they are investing hundreds of millions of euros in order to meet the rising customer expectations which have changed not least because of the increasing digitalisation.

As for numerous other sectors digitalisation is becoming significantly important for the European motor trade and repair companies. The statement by Günther Oettinger, EU Commissioner for Digital Economy & Society: "Many European companies are highly competitive and world leaders in important sectors. However, Europe can only maintain this leading role, if companies open up to digitalisation successfully and rapidly." proves the foresight of the European Commission and can only be underlined by the European motor trades and repair sector.

Vehicle dealers and repairers are prepared for that! They are not only willing but as SMEs also flexible enough to develop innovative, need-based and quality crafted digital business models for the benefit of the consumer. In order to maintain this status in the future it has to be ensured that the necessary instruments are available which include qualified personnel, sufficient access to financial resources as well as, more than ever, access to data – the currency of the digital age.

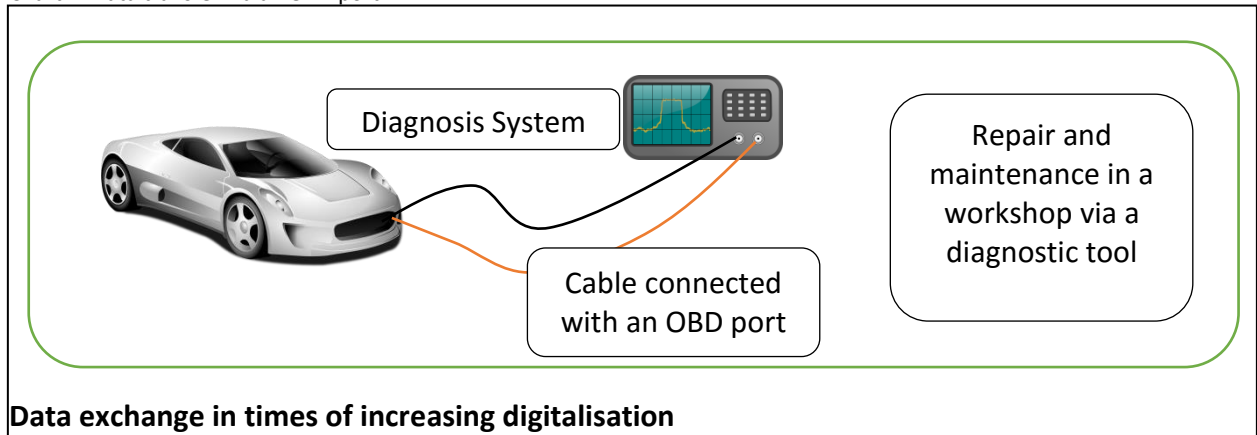
Whilst the first-mentioned factors can basically be influenced by vehicle dealers and repairers themselves, they have no influence on the remote access to vehicle generated data. Up to now, this data is exclusively sent to vehicle manufacturers who can then decide about the further use irrespective of the customers' requests. On a long-term basis, the present situation will restrict competition on the automotive market which is certainly not in the interest of vehicle dealers and repairers, but neither for the benefit of the vehicle user/consumer.

CECRA'S VISION ON DATA AND TELEMATICS

The necessity of an exchange of data in electronic systems

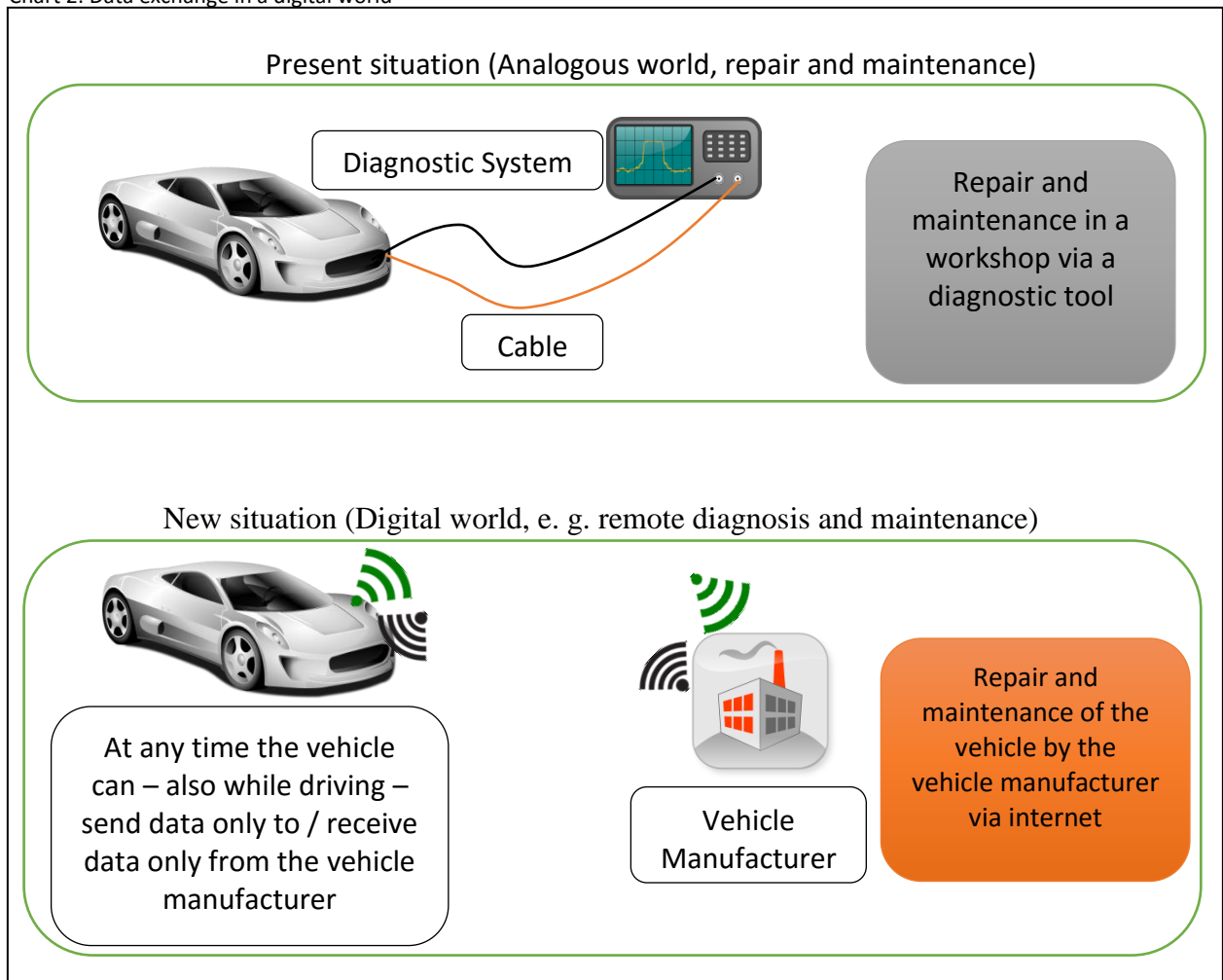
Ever since the introduction of security relevant systems (such as anti-lock braking (ABS)) it has been necessary to exchange data between different systems within the vehicle. This data can be read in each workshop for repair purposes via a standardised, on-board diagnostic port (OBD port) by using a diagnostic tool; the following chart illustrates this process.

Chart 1: Data transfer via an OBD port



Digitalisation and the progressive development of new vehicle systems have massively changed the situation. Today, modern vehicles are able – stationary or while driving – to process all kinds of data from different systems within the vehicles and to send this information afterwards directly - by wireless - to the respective vehicle manufacturer via the internet. It goes without saying that it is also possible to receive data at any time. The following chart illustrates this additional option to remotely exchange data with the respective vehicle manufacturer.

Chart 2: Data exchange in a digital world



Data is exchanged via the in vehicle telematics system which has been installed in the vehicle by the vehicle manufacturer. This system makes a direct communication with the vehicle user possible via the central information display of the vehicle. The following process takes place inside the vehicle in order to enable the telematics system to complete these and other tasks:

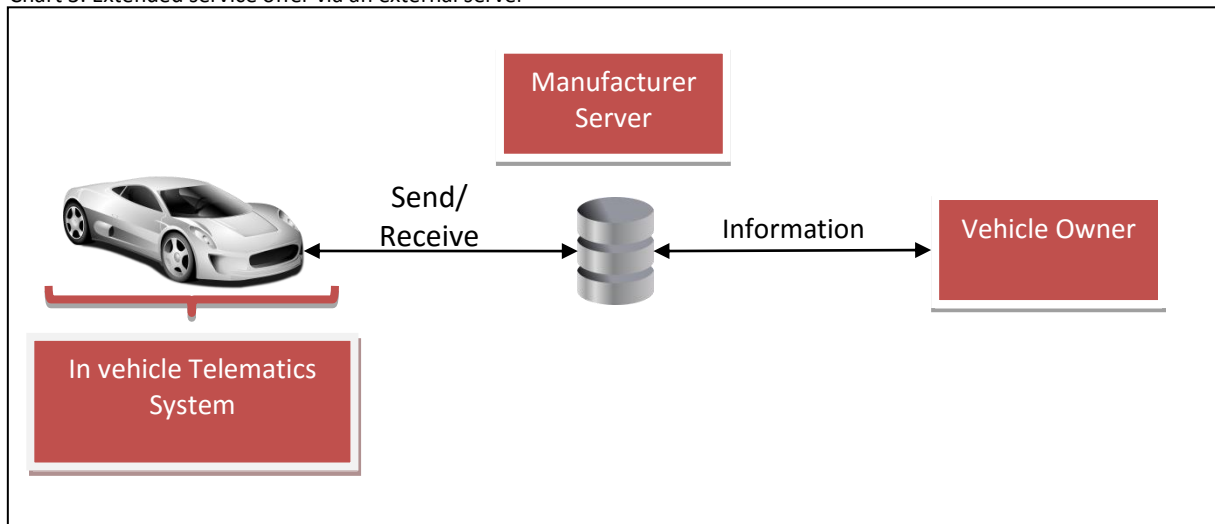
- All systems in the vehicle provide the telematics system with all measurement data generated in the vehicle.
- The data provided can now be processed in the vehicle. The vehicle manufacturer is informed about the technical condition of all his vehicles.
- Measurement data which is generated in the vehicle is combined with personal data – if there is a defect in the vehicle – and sent exclusively to the respective vehicle manufacturer. Example: John Smith (personal data), wear limit of brake pads has been reached (data generated in the vehicle).

The vehicle manufacturer uses his own software (app) which is installed in the telematics system to process and send data. Various services related to the vehicle such as remote diagnostics and predictive maintenance can be offered to the vehicle owner via these apps which have previously been installed in the vehicle by the vehicle manufacturer. By doing this, the vehicle manufacturer no longer acts as a vehicle producer, but acts in his new role as a service provider who directly competes with other service providers such as workshops.

Given that the current telematics system is developed and entirely controlled by the vehicle manufacturer he solely decides which apps are being installed. Thus the user (owner or driver) can basically choose only from the vehicle manufacturer's apps. There are no equal options regarding the installation of apps for third parties. Consequently, the vehicle manufacturer is able to influence and control the entire market related to the vehicle.

In order to extend the vehicle manufacturer's digital service offer, the on-board telematics system has been connected with an external server. This server makes it possible for the vehicle user to check certain conditions, such as the oil level or tyre pressure of his vehicle, even from his living room at home. For this purpose, the vehicle sends – according to a certain algorithm determined by the vehicle manufacturer – certain information to the manufacturer's server. After a completed registration (disclosure of the vehicle owner's entire personal data), the vehicle owner can access this information provided by the manufacturer. The following chart illustrates this additional concept including an external server.

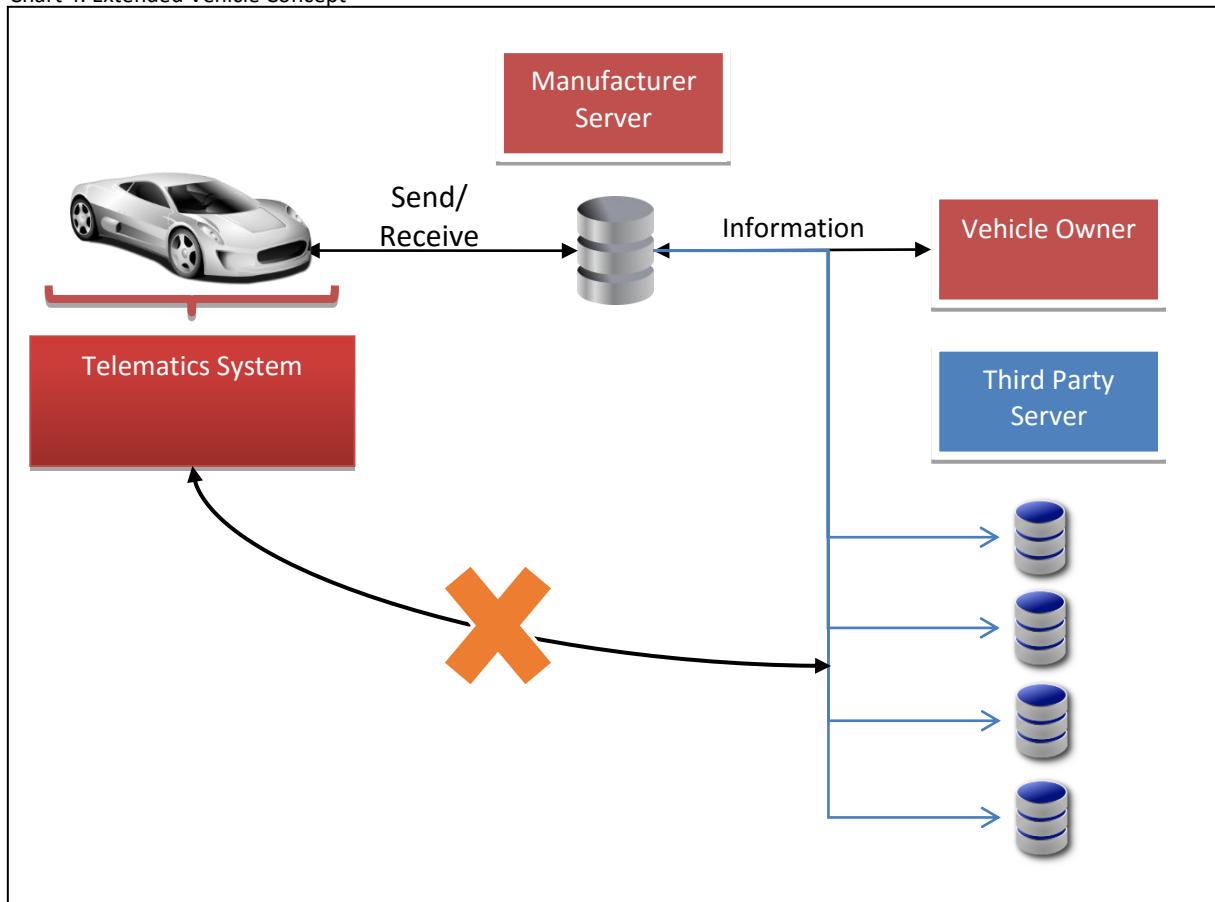
Chart 3: Extended service offer via an external server



The Extended Vehicle Concept

The concept illustrated in chart 3 will also now be used – from the vehicle manufacturers’ point of view – in a modified way to provide access to the information generated by a vehicle to third parties – although this was originally not intended and is for the following reasons technically not suitable. This concept is called the ‘Extended Vehicle’.

Chart 4: Extended Vehicle Concept



The decisive disadvantage is that third parties have no direct access to the in-vehicle data and information via the telematics system of the vehicle. Direct communication with the vehicle owner via the central information display is also not possible for third parties.

CECRA'S POSITION REGARDING THE EXTENDED VEHICLE

1. Equal access to vehicle generated data for the benefit of the consumer

Vehicle generated data – especially combined with user information – has become increasingly important for the entire automotive value chain. The market position of a company is significantly influenced by its access to data.

Consequently it is necessary to find solutions to ensure equal opportunities for all market players on the digitalised market.

European legislation identified this necessity early on and created with the eCall Regulation (EU) 2015/758 the basis for the legal basis for an interoperable, standardised, secure and open-access telematics platform (article 12 (2)).

From CECRA's point of view it is inevitable to stipulate precise legal requirements and standards for such a platform (on-board telematics system). There is an urgent need of a framework granting standardised and direct unrestricted access to vehicle generated data for all market players.

The Extended Vehicle concept however does not meet these requirements. It treats the vehicle manufacturers and their interest as privileged parties and provides them with an objectively unjustified competitive advantage over other market players whose business models include services of the same kind. Only balanced and fair competition between all market players will provide consumers with the greatest possible advantage when using digital services.

2. Competitive effects of the Extended Vehicle concept

Data access and the opportunity to use data already represent today decisive factors for companies when it comes to maintaining their market positions and to establishing innovative, digital business models for the benefit of the consumer. It is needless to say that the quantity of data will grow rapidly in the future and thus increase the dependence of entrepreneurs on such data. Any access barriers or restrictions concerning the data access complicating a direct and independent communication with a vehicle will therefore significantly influence free competition and the competitiveness of the single market players.

This however is exactly the key aspect of the Extended Vehicle concept which implies a transfer of the telematics platform to an external server held by the respective vehicle manufacturer outside the vehicle.

The implementation of the Extended Vehicle concept would treat vehicle manufacturers as privileged players in many respects over other competing parties and thus lead to considerable competition restrictions.

The following severe restraints on competition are mentioned by way of example:

a) Access to data exclusively via the vehicle manufacturer (a competitor)

The vehicle manufacturer has unrestricted access to all vehicle generated data at any time – directly via the on-board telematics system. Third parties however are not granted equal access. Instead, they have to access the data via a server of their competitor (the vehicle manufacturer) in order to receive the data they need. Since vehicle manufacturers offer their own competing products for numerous telematics services, exclusive control of access to data via the vehicle manufacturer has in principle an immediate significant negative competitive relevance. It is immediately evident this would cause an unjustified disadvantage to competing market players whilst expressly benefitting the vehicle manufacturer at the same time - vehicle manufacturers cannot be the controller and the competitor at the same time!

b) Third parties without unlimited access to data

Due to the unlimited access to all vehicle generated data and the possibility to process this data in the telematics system, vehicle manufacturers have 100 percent of the data available at any time (data quantity and quality). In comparison, third parties (competitors) only have access to some of the vehicle data via the server of the vehicle manufacturer. On the way from the vehicle to the server of the vehicle manufacturer and from that server to the server of the third party, the data is inevitably subject to technical restrictions (e.g. varying transmission times) which is why third parties only have access to a limited data quantity and quality (significantly less than 100 percent).

In addition to these technical restrictions vehicle manufacturers would moreover be able – due to the data collection on their own servers – to decide on access, waiting times, nature, quality and functionality of the data. This would complicate the development of services for third parties – if not make it entirely impossible. If the access to data is denied, limited (data packets) or only delayed, this represents a clear restriction of competition at the expense of third parties who need certain data swiftly to carry out their business activities efficiently, if it all, but do not have the required access.

c) Freedom of choice for the customer

This would be at the detriment of third parties which are looking forward to innovate but also, and above all, of the customers who would lose their freedom of choice for competitive services.

d) No access to real-time in vehicle generated data

The Extended Vehicle concept makes it impossible for other market players to access real-time data, such as time-critical or highly available vehicle data. Only vehicle manufacturers have this opportunity as they are not restricted by the Extended Vehicle concept but have direct access to the on-board telematics system.

The usability of time-critical data is highly dependent on an immediate transmission. High availability means that a multitude of new data is created in rapid succession. The engine speed typically fulfils both of these criteria. In this example, vehicle manufacturers would exclude all service providers depending on a real-time transmission of engine speed information from competition.

Furthermore, real-time data will play a central role in the future, e.g. for the further development of road safety. Examples include information about traffic light phases, construction sites and accidents. The same applies to telematics services concerning trip convenience, such as information about the search for a parking place and for anticipatory driving. Access to this data is of critical importance for providers of such services.

e) Exclusion of market players by means of telematics contracts

Concluding a so-called telematics contract with the vehicle manufacturer is the precondition for using all telematics services. If the user does not sign this contract, the external communication of the vehicle is deactivated by the vehicle manufacturer. These telematics contracts are presented to the customer for signature along with the sales contract and often include various mandatory services. Due to the link with services offered by the manufacturer – requested by the customer or not – third parties have effectively no more opportunity to afterwards offer their comparable services to the consumer. The initial contact to the customer and the content of the telematics contract thus represent a considerable competitive advantage for vehicle manufacturers. They are for example able to send offers and invitations to the on-board information display. Third parties are unable to do that. Via information on the display, the driver could be specifically routed to a manufacturer-owned workshop in case of a breakdown instead of to a franchised dealer, or - if requested by the driver - an independent workshop.

As a result, consumers are effectively dependent on a monopolistic offer by the vehicle manufacturer. Consequently, innovation and competitiveness in the aftermarket are significantly restricted.

f) Exclusion of market players by means of exclusivity agreements

Vehicle manufacturers could moreover conclude exclusivity agreements with single providers which would make it impossible for competitors to access certain vehicle data. Third parties would thus be substantially dependent on the commercial policy and the business models of vehicle manufacturers and would have to adapt their business activities accordingly. The consequence would be a significant restriction of the competitiveness in the aftermarket.

g) Control and supervisory options of the vehicle manufacturer

According to the Extended Vehicle concept third parties only have access to the vehicle via an external server held by the vehicle manufacturer. A direct and unlimited communication between these providers and the vehicle owners would as a result be impossible. This would represent a clear distortion of competition in favour of the vehicle manufacturer. If vehicle manufacturers can constantly control all details regarding the performance and use of the services of their competitors, this as well represents a massive distortion of competition.

Vehicle manufacturers could not only analyse the customer and competitors' behaviour but also see their prices and react accordingly. Moreover, they could analyse the customers' buying habits and their willingness to pay for certain products and services. On that basis, they could fix prices for certain groups of customers. The consequence would be an unacceptable data-related price discrimination.

The afore-mentioned examples clearly emphasise how competition would be substantially restricted in case of the implementation of the Extended Vehicle concept. Additionally, the market-dominating position of the vehicle manufacturers regarding vehicle generated data would be manifested.

3. Closer doesn't necessarily mean safer!!!

Among the numerous arguments used to promote the "extended vehicle", supporters of this concept have also claimed that it would be the only technical solution ensuring the security/safety of the vehicle.

This idea has to be radically rejected!

European dealers and repairers take vehicles', and more in general, their customers' safety very seriously. Both dealers and repairers are actually the ones who, by carrying out regular work of diagnostics, maintenance and aftersales services (in general), have traditionally provided their customers with the highest possible standard of road safety.

The fact that the vehicle security/safety is being increasingly relying on the telematics infrastructure by no means affects the traditional role of auto dealers and repairers as security/safety keepers.

On the contrary, CECRA is strongly convinced that, given their structural proximity to the customers, dealers and repairers are in an ideal position to understand what are the real risks and threats felt and experienced by drivers in their daily life.

4. General Principles leading to an alternative solution

Over the last months CECRA has carried out an in-depth analysis of every single aspect of the so called "extended vehicle" and has come to the conclusion that this is not and will not be the viable technical solution that is needed to ensure an equal access to vehicle-generated data so that all third parties can develop their own business models and services for the benefit of the European consumers.

The ideal technical solution should be one that avoids vehicles being technically foreclosed and must include the following general principles:

- Freedom of choice for the consumer regarding to whom (technical and personal) data is directly sent, and from whom he/she wishes to buy car-related services (maintenance and repair) and other convenience services
- Same access conditions for in the vehicle generated data with the possibility to evaluate and aggregate that data in the vehicle telematics system.

- In-vehicle generated data shall be made available via an existing interface
- Same possibility as the OEM to present services directly via the in-vehicle display to the automobile consumer
- “Interoperability by design“

AN ALTERNATIVE PROMISING SOLUTION PROPOSED BY CECRA (THIRD-PARTY-ACCESS SOLUTION)

While studying in depth the whole list of negative consequences implied by the “extended vehicle”, CECRA has been carrying out intense and proactive work aimed at identifying the best technical solution.

Despite the speed of technical innovation, and the complexity and variety of all possible technical solutions, CECRA has identified a solution which, for its security/safety soundness and the fact that it can be implemented with no additional costs and time waste, seems to be really promising.

We called it the “Third-Party-Access Solution”.

This is a solution which would allow any third party to keep on investing and creating innovative and need-based services for drivers.

Today a wide range of vehicle manufactures (VM) implement in their vehicles in-vehicle telematics systems with the ability to install their own and their chosen partners third party applications (software programs such as Apple Car Play). By using these in-vehicle telematics systems it is possible, under the full control of the vehicle manufacturer, to safely and securely (VM-Security-Layer (Hypervisor + Firewall)) run multiple applications.

Currently, the condition for installing the chosen partner third party applications in the in vehicle telematics system are the following:

1. The VM makes the decision about which third party applications can be implemented in the vehicle telematics system (B2B-contract)
2. The VM defines and controls through the VM-Security-Layer (Hypervisor + Firewall) the level of access to the vehicle data (amount of vehicle data per application) and with whom this data is exchanged.

Of course the VMs install their own applications with full access to all in- vehicle data through the VM-Security-Layer. To ensure equal access to in-vehicle data and information for competitive third party service providers, legislation will be necessary.

Legislation should therefore at least mandate the following key functionalities of the in-vehicle telematics system:

1. Mandate full access to in vehicle data through the VM-Security-Layer
2. Mandate a standardised in-vehicle Application Program Interface (API).
3. Mandate the access to the in-vehicle display to allow the motoring consumer to view, select, authorise and implement services.
4. Mandate the exchange of data with the third party service provider's server.

Today, vehicle manufacturers are already implementing these functional requirements, but only allow applications to be installed in the vehicle which are consumer related, but are not in competition with their own aftermarket business models like remote diagnostics and/or programming.

Third party released applications by the VM are listed on the website of Google (https://www.android.com/intl/en_uk/auto/) or Apple (<http://www.apple.com/ios/carplay/>)

We would like to stress that with this solution the overall safety and security concept of the vehicle is not compromised. VMs third party applications in their vehicles clearly demonstrate that this is possible both safely and securely. The exchange of in-vehicle data to third party service provider servers would follow the same security requirements as used by the vehicle manufacturers – as is already the case with their chosen service providers today.

The following picture shows the “Third-Party-Access Solution” in a simplified manner. Third party applications run independently but under the full control of the respective vehicle manufacturer in the in vehicle telematics system. These applications receive in vehicle generated data from all electronic control units (E/E-architecture). This data flow is also controlled by the VM-Security-Layer. Finally, the data is aggregated per application in the vehicle and if necessary information is sent in a secure manner to a dedicated external server.



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