Continued Vehicle Connectivity

Direct access to in-vehicle data and resources for diagnostics, service, repair and maintenance services and roadworthiness testing

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Since the introduction of electronically controlled vehicle systems, the need to be able to connect and communicate with them for diagnostic, service, maintenance and roadworthiness testing purposes has existed. As the number of these in-vehicle systems grew, all vehicle manufacturers started to use a standardised physical connector (that had originally been mandated for emission related faults) to access all the in-vehicle electronic systems.

Using this standardised physical connector, workshops have been able to benefit from a choice of multi-brand diagnostic tools (i.e. one tool for many vehicle manufacturers and their model ranges developed by using the standardised connector interface) to diagnose, service and maintain a wide range of vehicles. These multi-brand tools avoid the necessity to invest in a diagnostic tool for each vehicle manufacturer – avoiding a significant barrier for over 3,5 mio multi-brand operators and 500.000 companies who form the vast majority of workshops throughout Europe.

These innovative and competitive diagnostic solutions have been developed by various diagnostic equipment manufacturers to provide affordable alternative repair methods and subsequently, choices of different replacement spare parts and additional 'around the car' services – supporting the complete Aftermarket value chain and consumer choice. The direct access to the in-vehicle systems and data via the standardised physical connector is not monitored by the vehicle manufacturer and thus avoids competition issues and also enables independent testing of the vehicle by dedicated supervisory authorities. This connector provides two separate but linked elements – a standardised physical connection in the vehicle and secondly, direct access to real-time in-vehicle data – both elements are essential.

Although the intent of the current European Euro 5/6 and V/VI legislation is to provide access to the vehicle and the associated repair and maintenance information (RMI), the legislation does not explicitely guarantee the direct access to 'dynamic' data generated by the vehicle (real-time control and measurement data). This 'dynamic' data is accessed via the standardised in-vehicle connector, but this connector is only referenced in the legislation for emissions data. This existing RMI legislation will therefore be circumvented by new technological developments that are introducing the ability to both remotely communicate with the vehicle and to control all access to the in-vehicle data and resources.

Vehicle manufacturers have now developed different proprietary methods of connectivity and propose controlling all access to the vehicle and its data via their 'Extended vehicle' (ExVe) concept. This concept links vehicle manufacturers' servers remotely with vehicles to exchange data wirelessly and provides the ability for vehicle manufacturers to remain in direct contact with the vehicle and its driver and therefore offer new services concerning diagnostics, prognostics and predictive maintenance, based on remote access to the vehicle.

The recent agreement signed between the vehicle manufacturers and some of the principle Tier 1 European parts suppliers – the 'VDA agreement' - further restricts the proposed access to only part of the vehicle generated data being made available either through the vehicle manufacturers' servers, or another 'downstream server' that has been called a 'neutral server'. However, the 'neutral server' is focused on supporting the business model requirements of the VDA signatories – to the detriment of other independent

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Aftermarket service providers. This solution – which would still be based on the Extended Vehicle – would not allow direct communication with the vehicle and still grants vehicle manufacturers full control to decide how, when and to whom access to (mainly aggregated) data will be granted. Furthermore, it introduces additional latencies, burdens and costs that disadvantage all other service providers for both existing and future business models. Current legal opinion states that this 'machine generated data' simply exists and does not belong to anyone and consequently consumers should be able to freely choose what vehicle related services should be possible from competing service providers.

This 'ExVe' concept will route all vehicle data via the website of the vehicle manufacturer/or via the so-called 'neutral server', which will then offer access to selected and already processed/diagnosed vehicle information as a new 'service' to Aftermarket organisations through the use of B2B contracts. Therefore, the ExVe proposal directly impacts the ability of the Aftermarket value chain to continue to provide the consumer with a choice of competitive and affordable service and repair solutions, as it introduces a number of key changes, such as:

- A **direct conflict of interest that threatens fair competition**, as the vehicle manufacturers themselves can now provide services in the service and repair sector, and can therefore restrict the development of any alternative and competitive aftermarket solutions. Independent Operators must be able to develop and implement their own competitive in-vehicle applications (APP's) that in parallel with the vehicle manufacturer's applications, can be displayed and selected by the driver via the in-vehicle display – supporting true competitive choice. With remote services, competition starts directly in the vehicle.

- **No direct access to 'real-time control and measurement' in-vehicle data from vehicle system control units**, limiting the ability of diagnostic tool manufacturers to develop their own multi-brand tools, but just as importantly, not being able to conduct diagnostic services that rely on real-time data values. Diagnostic tool manufacturers, together with other competitive service providers, must continue to have the right to develop and implement their own safe and secure services as a part of a vehicle's 'neutrality through technical design'.

- **Imposition of vehicle manufacturer's 'data sets' and the transformation of the 'raw data' from the vehicle being converted into processed 'information' by the vehicle manufacturer**. As direct access to vehicle generated data is THE prerequisite for the development of innovative products and services, diagnostic equipment manufacturers will be hampered in their ability to apply their own engineering know-how and to develop their own business models based on 'raw data' and not on information that has been already processed/aggregated by vehicle manufacturers.

- **The ability of the vehicle manufacturer to monitor and control the complete Aftermarket value chain by identifying where, when, how and by whom 'their' vehicles are being diagnosed, serviced or repaired**. Using the 'ExVe' concept, the VMs will always be able to monitor the services offered by third parties - enabling them to monitor and control the activities of their potential competitors and distort the market. This situation is not remedied by the proposal of a 'neutral server'.

This 'ExVe' concept will technically and factually introduce a dominant market position for the vehicle manufacturers, allowing them to impose significant restrictions and costs on Aftermarket competitors, which will lead to a distortion of the market, increasing costs and detrimentally affecting the consumer's competitive choices.

The 'ExVe' concept is now being formalised by vehicle manufacturers as an ISO standard. This future 'ExVe' ISO standard will only benefit vehicle manufacturers as any new, alternative and neutral access to in-vehicle data to allow the development of new competing services from the Aftermarket will only be possible in difficult and burdensome ways (e.g. exposure of aftermarket business models as part of B2B contracts). It is critical that independent operators are not subjected to these restrictive control mechanisms imposed by the ExVe concept that would only provide 'commercially usable vehicle data' selected by the vehicle manufacturer, whilst also imposing latencies, additional costs and no access to the in-vehicle display, which further blocks fair and non-discriminatry competition.

As vehicle manufacturer's services are already embedded in the vehicle, it is increasingly important for other service providers to be able to install and run their own devices and applications directly in the vehicle that can also access real-time in-vehicle data and use alternative algorithms to analyse and process data before information is displayed to the driver, to the repairer, the testing authorities or transmitted to a server for the needs of other stakeholders (e.g. fleet management insurance, vehicle rental or leasing, road assistance etc.). If this is not feasible for independent service providers in the future, it will create significant non-discrimination and competition issues.

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Clearly, the existing legislated status-quo and the ability of the independent Aftermarket to continue to provide affordable choices to consumers is under severe threat from this 'ExVe' concept. This is why EGEA calls upon on the European legislator to:

- ensure in the current revision of the vehicle type-approval regulation that a vehicle continues to provide a standardised physical connector to provide direct, un-restricted, un-monitored and cost-free access to the in-vehicle data stream for diagnostics, service, repair and maintenance services and roadworthiness testing.
  This can be achieved by continuing to mandate a standardised direct connection to the vehicle explicitly to support access to the in-vehicle data required for all vehicle related services - including the appropriate security requirements for specific services.

- ensure the ability to remotely and directly access the vehicle, its data and resources to provide new remote services by creating a robust future regulatory framework for an interoperable, standardised, secure and safe in-vehicle telematics platform as intended by the eCall Mandate (2015/758/EU, article 12 (2) and recital 16), to maintain true consumer choice, independent entrepreneurship, competition and innovation for all services "around the car".
  New services, such as predictive diagnostics (prognostics) or predictive maintenance requirements based on the usage patterns of the vehicle or breakdown information are increasingly important for today's vehicles. This requires an 'Interoperable, standardised, secure and open-access' in-vehicle platform which has been mandated as Article 12 (2) of the eCall legislation (2015/758/EU) that should be firmly anchored in a robust regulatory framework by the European legislators. This would allow independent operators to continue to compete on a level playing field with the vehicle manufacturers, based on the ability to also implement their own in-vehicle applications and directly access the real-time in-vehicle data, whilst offering the driver the ability to choose their preferred service provider via the in-vehicle display.

Together with the development and implementation of the standardised, interoperable, in-vehicle platform, the existing standardised physical datalink connection (UN-ECE Regulations 49 and 83) or similar standardised solution in the future shall be maintained as a minimum to provide direct access to in-vehicle data stream for vehicle related services, to continue to support the Aftermarket value chain, competitive consumer choice and new remote or dynamic services.

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The European Garage and test Equipment Association represents both manufacturers and importers of tools and equipment for the repair, servicing and technical inspection of vehicles, as an integral part of supporting the automotive industrial value chain. Its role is to ensure that its associations' members can provide the best equipment and service to the automotive aftermarket by striving to keep members up-to-date concerning new vehicle technologies and legislative and standardisation requirements, and thus be competitive in the garage and test equipment supply, service and calibration industry.