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Response on EC Consultation Paper on the Revision of Reg. (EEC) No. 3821/85

Dear Sir or Madam

Please find attached the response of Continental Automotive GmbH to the EC Questionnaire extracted from the Consultation Paper on the Revision of the Community Legislation on the Recording Equipment in Road Transport.

Continental is among the leading automotive suppliers worldwide. The Automotive Group within its three divisions Chassis & Safety, Powertrain and Interior is present in more than 130 locations worldwide. As a partner of the automotive and commercial vehicle industry, it develops and produces innovative products and systems for a modern automotive future, in which vehicles provide individual mobility and driving pleasure consistent with driving safety, environmental responsibility and cost-efficiency.

With respect to tachograph systems we provide tailored products and services for vehicle manufacturers, transport undertakings, drivers, enforcers and workshops. Continental has a leading position with recording equipment in road transport and associated solutions and services as well as with road toll and telematic systems in Europe, CIS, Asia, South America and the NAFTA region.

We would be happy to give further explanations to our attached answers and recommendations.

Sincerely

Ralf Bosch

1. BACKGROUND: THE DIGITAL TACHOGRAPH: CURRENT AND FUTURE

Tachograph systems have been contributing to road safety, improved working conditions and fair competition between transport operators in Europe since the 1970s.

When digital tachographs started to replace analogue versions in 2006 without any previous conceptual field tests, expectations of users were not always met.

Since then, both the legislator and the manufacturers have improved the legal framework, solutions and services, thus the latest versions are considerably superior to those versions introduced in 2006.

The next version to be introduced in two steps in 2011 and 2012, includes additional enhancements and a variety of further improvements.

Even though it has been suggested that the current legislative framework is restricting manufacturers to improve the current digital tachograph with regard to ease of use, implementation of latest technology or to integrate the recording equipment into ITS applications, this is typically not the case¹.

There is no doubt that Continental can and will offer solutions in order to integrate several applications in a particular physical or logical platform if the market demands them, either because there are benefits for our customers and end users or because their integration is legally required.

However, instead of mandating an open in-vehicle platform we prefer a voluntary approach, as we believe in the market forces which, if appropriate, will automatically drive manufacturers towards further integration of selected voluntary and regulatory applications. This will typically be the case if the proposed benefits outweigh certain obstacles as described further in this document².

We are of the view that evolution of the current system instead of introducing a revolutionary new concept is in the core interest of all stakeholders.

¹ The obstruction is typically not Regulation (EEC) No. 3821/85 and its technical annex 1B but the way Regulation 561/2006 is applied in different Member States as well as cost / benefit considerations of users, price targets of OEM and concerns from transport companies about implementation of certain technologies which in effect may allow enforcers to control beyond driving-/rest time compliance monitoring.

² If other European Regulations would be as clear and harmonised throughout AETR as the tachograph Regulation, industry would have already offered higher integrated solutions, including accident analyses, road toll, e-call, tracking/tracing and interfaces for ITS.

2. CHARACTERISTICS OF THE NEXT GENERATION OF TACHOGRAPHS

2.1. Functioning of the recording equipment

Question 1 - *Is it important that equipment of different manufacturers functions in exactly the same way? Or should legislation focus on essential requirements and give manufacturers more freedom to develop solutions and improve the equipment?*

Contrary to any customised voluntary system, the mandatory recording equipment should be a highly dependable, secure and inter-operable system ensuring availability, reliability, integrity, confidentiality and protection of data³.

Therefore essential requirements of the legislation must be supplemented with mandatory technical specifications, as there are a variety of functions which must function in the same way to make the system work and allow for efficient use.

It should be considered that the recording equipment has to be installed in all types of vehicles and has to be operated by all drivers in scope of the Regulation (EC) No. 561/2006 and must also be handled by specialised enforcers and in general by police forces. Mis-handling of the device at any level may lead to unintended infringements and subsequent fines for drivers and transport companies.

Standardisation and long-term consistency of operation, assists drivers, transport companies, enforcers, workshops and vehicle manufacturers to operate systems from different manufacturers in an efficient way and supports utilisation of the investment in hardware, software and education.

Standardisation is also an essential requirement for any system concept with shared responsibilities where components from different and sometimes competing suppliers must work together⁴.

It is therefore important that key elements of equipment from different manufacturers function in the same way⁵.

³ These basics must be maintained even if users try to interfere with the system in order to obtain a competitive advantage

⁴ Contrary to the previous analogue tachograph where tachograph manufacturers were able to independently provide complete solutions and to ensure system integration, the current digital tachograph concept requires different suppliers to provide products and services which must work together to meet the objectives. Open platform concepts will raise further issues with regard to standardisation, firewalls, system / services integration, migration concepts and product liability.

⁵ This can only be achieved if an independent body has been appointed to define certain specific technical specifications. Those specifications must be mandated by law. The compliance of a device with these technical specifications has to be certified by independent type approval authorities.

We recommend that legislation forces:

- a) equipment of different manufacturers to function in exactly the same way with regard to the following:
 - general characteristics and functions
 - data structure and format for all mandated data
 - interface(s) (HW and SW) to access and download mandated data for enforcement purposes
 - interfaces (HW and SW) to allow for integration into an open in-vehicle concept and/or with other ITS applications
 - driver ID and its interface(s) (HW and SW) with the vehicle unit
 - personal storage media and/or link to central data base
 - access rights for enforcers, workshops and transport companies
 - security level, security enforcing functions and type approval requirements
 - any information to the user with regard to the 561/2006 Regulation
 - detection of events and faults

- b) equipment of different manufacturers should function in the same way in order to allow for efficient use with regard to the following:
 - HMI including manual entries
 - events, faults, warnings and error messages
 - printouts
 - calibration interface and calibration tools
 - interface to the motion sensor
 - 2nd independent signal to detect vehicle movement
 - retrofit solutions for vehicle classes M1/N1

- c) equipment of different manufacturers may follow no mandated standards with regard to the following:
 - internal technology
 - design
 - enhanced integration into the vehicle electronic architecture
 - additional voluntary features as long as they do not interfere with mandated functions

2.2. Integration of ITS applications

Question 2 - *Should the legislation on the tachograph already foresee the integration of the digital tachograph into an open in-vehicle platform? If so, what other regulatory applications should be integrated in this platform (e.g. e-toll, recorder for accident investigation, e-call, speed control) and why? Would it be interesting for fleet management or other applications related to safety or security of transport, or to law enforcement, to have a real-time "tracking and tracing" function?*

The legislation should not hinder industry to integrate the digital tachograph functions into an open in-vehicle platform as long as functional and security requirements are met, but should not mandate such integration.

Any legislation with regard to an open in-vehicle platform should not be considered until a comprehensive cost/benefit analyses for all affected stakeholders in EU and Non-EU AETR has been published demonstrating the economic efficiency of any application integration in an open in-vehicle platform concept.

This study should also include implications during the transition period and beyond on enforcement, migration concepts, firewalls between different applications, maintenance and product liability.

It should be taken into account, that, according to the Regulation, a standardised tachograph is required for nearly all CVs >3,5t in Europe, while other regulatory applications (such as road toll) are not standardised in all EU-MS and/or are applicable for a different or partial user group and/or have different commercial owners.

It should also be taken into account, that some users may have the need for sophisticated telematic applications in order to improve efficiency in fleet operations while others do not require these types of systems at all.

Although an extended tachograph as well as a physical or logical open in-vehicle platform may offer cost and handling benefits for some customers, (for example, where multiple applications will have to be used), it may also put additional costs and more complex handling to other customers, especially if only one or few applications are required.

The obvious potential benefit from the integration of the tachograph into an open in-vehicle platform would be for the legislator, as further advanced and/or country specific regulatory applications might become easier to mandate and implement.

However, the legislator should carefully investigate whether normal enforcers will be able to handle a highly flexible open in-vehicle platform with a different mix of mandated applications and a potentially huge variety of voluntary applications in the day to day practice.

Part of the open in-vehicle platform might include the wish for further integration into the vehicle's electronic architecture where OEMs have different electronic concepts and philosophies. This will require the OEM to play an important role for system integration, functional tests and approval of components and applications.

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Because CV's may operate outside the EU, operation and maintenance must be possible in those countries. Further integration of mandated functions and applications may cause problems for the second-hand market.

To believe that a logical open in-vehicle platform comes with no additional costs for all user groups and no additional efforts for the legislator and standardisation committees is unrealistic.

We are of the view that the potential of the current digital tachograph has by far not been utilised and it is worth while to investigate future concepts against the current legislation and amend the existing Regulation where appropriate.

Under the current digital tachograph legislation and platform concept there is potential to integrate other applications⁶. This could be positioning and communications modules, extended speed information and include further sensors for detailed accident investigation⁷. This would allow the new unit to be amended in order to offer multiple applications⁸.

It should be noted, that current tachographs already allow for connection with telematic units, on-board-computers, communication and/or GNSS modules via the standardised bidirectional "Remote-Download Interface" which is an optional feature of tachograph solutions⁹.

⁶ See Appendix 10, RLB_215

⁷ Certain versions of digital tachographs are already available with extended features

⁸ A certified firewall will be necessary if mandated and voluntary applications will run on a common physical or logical platform

⁹ Standardisation has been done by an industry working group involving vehicle manufacturers and tachograph manufacturers

2.3. Remote download of recorded data and speed of downloading

Question 3 - *Should remote download of the digital tachograph be encouraged? Is a regulatory approach deemed appropriate in order to facilitate widespread introduction?*

Remote download solutions for digital tachographs are available and approved since December 2008¹⁰. The remote download feature is a very convenient tool for companies to automatically fulfill their periodical download requirements and to get accurate up-to-date data about the driver's previous and current activities.

The market does not demand regulatory actions with regard to remote data download but appreciates the availability of those solutions on an optional basis¹¹. A regulatory approach seems only appropriate if future legislation demands real-time data for operators and/or enforcers.

Question 4 - *What is your practical experience? Are there any obstacles for speedy download of data?*

The public perception of download speed is often based on tachograph versions sold shortly after the deadline in 2006 and sometimes in combination with incompatible download tools from unknown suppliers, download tool handling errors and unjustified legal requirements to download more than 3 months data (including detailed speed).

Meanwhile manufacturers of tachographs, tachograph cards and download tools have improved their solutions up to a level, where the download time itself is typically no longer a significant burden.

However, the complete manual downloading process may still take some time, as in addition to the actual download time, further time is required to go to the vehicle, obtain access rights using a company card and to transfer data to a computer system. As a solution manufacturer we offer tools for wireless data extraction which can complete the process automatically¹².

Further improvements of download speed are possible and will be implemented with more powerful hardware¹³.

¹⁰The take up rate for new trucks and the retrofit volume is still low. This could be explained by return of investment considerations and the fact that only a few transport companies have no alternative in order to fulfill their legal obligations. Latest improvements with regard to the speed of downloading via the standard interface often make this the preferred option. Estimates quoted in a certain project on data download and reducing administrative burden does not typically reflect reality.

¹¹ See Req. 150 of Regulation 3821/85 Annex 1B

¹² i.e. via short range or wide communication module DLD in combination with TIS-Web Analysis system

¹³ Although often cited, the current RS232 download interface is currently not the bottleneck. A change to a USB port will not improve download time

2.4. Improvement of controls

Question 5 - *How could the equipment be changed in order to make controls more efficient? Should the mobile control of moving vehicles be envisaged in order to reduce administrative burden for industry and enforcement bodies?*

The implementation of mobile control of moving vehicles might today be rather a political issue than a technical one.

The optional "Remote Download Interface" with appropriate communication module already allows transport companies to access the Mass Memory and Driver Card data remotely. This feature could also be used by enforcers¹⁴. To control a moving vehicle via the remote download interface seems not appropriate, as this might be too time consuming and may raise some data protection issues.

Alternatively the digital tachograph could perform internal routines giving an indication¹⁵ of driving-/rest time infringements and potential manipulations. This indication in form of a "red or green flag" could be shown visually or with appropriate means, wireless detected from remote sources and help enforcers to pre-select vehicles and drivers for detailed inspection.

2.5. Security level of the system

Question 6 - *Is the current security level proportional? Can and should there be other sources of motion? Could the authenticated time/speed/positioning data provided by the future European "GPS" system, Galileo, be used as a second and independent source of motion to ensure security of data?*

We believe that the security requirements as last amended are appropriate and necessary for a mandated system (where the integrity of the data is essential) and therefore manipulations must be detectable and the possibilities for fraud must be very limited.

Measures to maintain that security level need to be adopted if successful attacks or foreseeable threats become known¹⁶.

¹⁴ According to the Annex 1B access rights currently requires a company card. From a technical point of view access rights with a control card would be easy to implement.

¹⁵ Due to the lack of harmonised enforcement of the Regulation No 561/2006/EC in EU Member States and other AETR contracting parties any electronic solution can only give an indication about infringements.

¹⁶ As implemented by Commission Decision 1266/2009/EC. However, we recommend immediately defining and implementing a migration concept for the hash algorithm SHA-1 and the RSA algorithm with 1024 bit key length.

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From a technical point of view there are several alternative solutions as a source of motion, whereby all have conflicting disadvantages with regard to tamper-resistance and/or cost.

The current Motion Sensor works well and has become an integral part of the vehicle's electronic architecture¹⁷. Solutions to fix weakness to magnetic attacks are available and will be introduced soon¹⁸. New standardised seals can further improve the robustness against other potential attacks¹⁹.

The Galileo signal can already be used as an independent second source of vehicle motion. There is no need to further mandate Galileo data.

3. PRINCIPLES AND SCOPE

3.1. Scope of the regulation

Question 7 - *In case a vehicle is only occasionally used in the scope of Regulation (EC) No 561/2006, for example when exceeding from time to time the radius set in some exceptions, should it be possible to use different means of recording activities?*

It will be a challenge to determine whether a vehicle is only occasionally used in scope of Regulation (EC) No 561/2006. Especially if different means of recording would facilitate an easier method of manipulation, this option would trigger a lot of concerns for workshops, users and enforcers.

The digital tachograph should be the only solution allowed to demonstrate compliance with 561/2006/EC requirements

¹⁷ Except for a few vehicles of class M1/N1 where the vehicle manufacturers have not foreseen the installation of a dedicated motion sensor. A solution has to be defined for 2014 when the installation of adaptors will be illegal.

¹⁸ Improved motion sensors are available in 2010 and mandated as per October 2012

¹⁹ Seals for tachographs and motion sensors are not harmonised in Europe. There is a clear need for standardisation.

3.2. Compatibility and interoperability

Question 8 - *Which option do you prefer? In case you prefer option 2: What are the most important issues for compatibility between a new generation of tachographs and the current digital tachograph, and what other parts of the equipment, apart from driver cards, should be compatible in your view?*

We opt for option 1 in combination with option 2²⁰.

The nature of any electronic system is that technology evolves and therefore makes periodic updates desirable and finally unavoidable.

Mandated systems should maintain certain standards as long as possible. This is in order to avoid substantial frequent investments, not only in capital expenditure such as vehicle equipment, but also in the infrastructure and user training etc.²¹.

Digital tachographs were introduced in the EU in 2006 and a major update is mandated for 2011 and a further one for 2012. AETR contracting parties are obliged to introduce the digital tachograph in 2010. The investment should not be wasted by introducing a system which is not backwards compatible.

Technology improvements with regard to stored data, interfaces, link with ITS applications, advanced security keys, new cards and others are possible with intelligent migration concepts while maintaining interoperability.

4. TYPE APPROVAL

4.1. Introduction of equipment based on new specifications

Question 9 - *Should the legislation specify how new equipment has to be introduced in the field? Should a retrofit be possible, mandatory or take place in case of replacement of defective equipment? What are the essential steps for the introduction of new equipment? Should type approval for tachographs fall under the general type approval scheme for vehicles?*

Indeed, legislation should specify how new equipment has to be introduced in the field. While defining scope and timing, the EC should carefully consider the concerns of all stakeholders involved²².

²⁰ Beside driver cards also workshop, authorities and company cards should be backwards compatible. In addition the same applies to interfaces to the motion sensor, downloading equipment and calibration tools

²¹ There is an abundance of experience involving minor modifications to current analogue and digital systems causing significant complications to less skilled drivers and enforcers.

²² Deadlines which do not consider the necessary time for development, type approval, system integration by OEM, summer and winter field tests (in real world operation), production and vehicle logistics contribute to solutions which do not meet users expectations.

The new equipment should only apply to newly manufactured vehicles at a specific date.

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A retrofit should to the greatest extent be possible, both from a technical and from a legal point of view²³. The EC or Member States may encourage retrofitting by incentives. A general mandated retrofit should only be envisaged several years after the introduction of the new equipment, if a solution is technically and economically feasible for all vehicles in scope²⁴.

A device for replacement should correspond to the technical standard of the device that was originally installed in the vehicle. A mandatory retrofit in case of replacement of defective equipment is not normally an option, because new equipment may not mechanically or electronically 100% compatible with the faulty device it replaces and may require additional resources which may not be available on older vehicles²⁵. An unauthorised retrofit could cause severe technical and safety problems often far beyond the capabilities of the workshops to deal with²⁶.

The manufacturers of tachographs, motion sensors and cards should be responsible to obtain type approval for its units including functionality, interoperability and security certificates. In addition, it might be appropriate to get further approval for the integration of the units into the vehicle within the general type approval scheme of the vehicle.

²³ This need to be considered when drafting new legislative requirements

²⁴ Some countries outside the EU intend to force heavy violators to retrofit certain solutions in order to enforce better compliance. For the current digital tachograph the new motion sensor which is resistant against magnetic fields can replace the current version in all vehicles.

²⁵ Beside technical problems and obstacles there are legal and commercial concerns e.g. during the warranty time of the faulty device, in case the law mandates additional functions with the new device.

²⁶ The recording equipment is often already extensively connected to other electronic components i.e. on vehicle using the calibrated speed signal provided by the tachograph

Question 10 - *Should it be possible to carry out field tests before type approval is requested, while maintaining the same security standards? How should field test be limited (geographically, number of equipments, duration of the field test, etc.)?*

Real life field tests before type approval should be possible as they are essential for the timely development of user friendly and reliable systems.

The current framework conditions makes it very difficult for manufacturers to carry out sufficient real life field tests before the legal deadline for implementation due to a variety of reasons²⁷.

Time to market and cost could be reduced, if European Regulations allow a limited number of vehicles in selected transport companies to be operated in scope of Regulation 561/2006/EC with a prototype recording unit installed, which is not type approved and is using test keys and test cards.

Transport companies which participate in real life field tests must be allowed to use their vehicles throughout Europe (preferably all AETR countries) without any restriction.

The number of vehicles and the duration of the field tests could be limited²⁸.

4.2. Equipment in relation with the tachograph where no type approval is foreseen

Question 11 - *Which option do you prefer and if you prefer option 2 or 3, for which parts: seals, downloading equipment, control equipment, calibration tools, etc.?*

Equipment related to the tachograph has to be considered according to its usage and impact on the security of the system.

²⁷ Any secure concept requires that internal security enforcing functions, software routines and security keys are not accessible by unauthorised persons. A type approved serial device fulfills these requirements up to the defined standard level.

Prototypes may not meet these needs and any deployment into the field should therefore be restricted unless security is demonstrated by other means.

Official security keys should only been put into devices which have the necessary robustness to prevent access to these keys, typically demonstrated by the type approval.

Real life field tests with prototypes which are so advanced that they meet the requirements to protect software and security functions but are not type approved and therefore not equipped with official security keys are very limited, as they are often not accepted by enforcers as a tool for drivers to demonstrate compliance in scope of Regulation 561/2006/EC.

The eagerness of politics to introduce a system quickly once the legislation has been adopted has forced manufacturers to introduce digital tachographs in 2006 without real life field tests.

²⁸ To limit installation of pre-serial versions per manufacturer to 500 and the duration to 18 months should be sufficient to meet concerns of enforcers and industry

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We are of the view that download tools used by transport companies do not necessarily need further standardisation and an official approval. The market forces drive suppliers of defective systems out of the market²⁹.

Tools for data evaluation, either by transport companies or by enforcers, should follow the same rules to determine whether a driver has infringed Regulation (EC) No 561/2006. This can only be achieved if standardisation of those evaluation rules has been done. An official certificate should demonstrate that data evaluation with regard to infringements of Regulation (EC) No 561/2006 is in line with a harmonised European standard published as Community legislation.

Calibration tools should achieve a much higher level of accuracy than the required accuracy of the recording equipment. Member States have a wide range of creative views on standards and regulations with regard to calibration tools. Standardisation through technical bodies would ease the task for manufacturers, if those standards were accepted in all AETR countries.

Seals have to be considered as generic items of system security and data protection. Today there are no standards for seals, nor are there any consistent rules in the EU and other AETR countries regarding the procurement of seals and who affixes them. Clear Community legislation on seals, which needs to be harmonised with legislation in other Non-EU AETR contracting parties, is overdue and not only required for the current analogue and digital tachograph systems but also for any future concepts including any open in-vehicle platform.

4.3. Adaptation to technical progress

Question 12 - *Is the current way of updating the specifications on the tachograph satisfying? Who should be responsible for the updating of the technical requirements? What is your preferred option?*

Although the current way of updating the specifications on the tachograph through comitology has been time consuming and sometimes frustrating, one has to accept that the outcomes reflect a compromise between the public and private stakeholders involved³⁰.

To empower a more normative or technical body to be responsible for the technical specifications will not necessarily reduce the overall workload but shift tasks to stakeholders where only selected stakeholders can participate.

²⁹ There were a lot of malfunctioning systems from unknown suppliers at the beginning, but they have either fixed the problems or have disappeared from the market

³⁰ Even though the specification will apply in all contracting parties to the AETR, only EU bodies have been participating.

Balancing pros and cons of the only acceptable options 1 and 2, we prefer option 1 as this offers the best balance between different interest groups.

The EU Commission should also ensure that gaps in regulations or specifications are handled uniformly in all Member States.

5. INSTALLATION AND INSPECTION

Question 13 - *Should the trustworthiness of workshops be improved? If so, how? How can conflicts of interest be avoided for workshops that are living from delivering services to individual clients but play at the same time an important role in the security of the recording equipment?*

The trustworthiness of workshops is a critical element in any mandated solution.

We have no evidence that workshops belonging to vehicle manufacturers or transport companies commit more frauds than others.

However, in the light of the envisaged roll-out of digital tachographs to many additional contracting parties to the AETR a general guideline on who and how to qualify to become an approved workshop is preferable³¹.

It should be taken into account that within the whole of the AETR area, authorised workshops should be located within close proximity to transport companies in order to provide ease of access for installation and maintenance of their recording devices.

The key element to improve the trustworthiness of workshops is to provide an audit structure so that frequent random audits are performed of the work carried out by workshops in combination with severe fines.

European Member States follow different philosophies on how audits have to be completed, which results in differing levels of standards on the integrity of workshops.

We propose a UNECE guideline for AETR following best practice methodology, so that when a vehicle leaves a workshop, the authorities check on a random basis that the installation and calibration has been completed correctly.

6. USE OF EQUIPMENT

6.1. Automatic and manual recording of information

Question 14 - *What kind of data should be entered manually by the driver? What kind of information should be recorded automatically by the recording equipment? Is it appropriate to record more precisely the location (via GPS or GNSS for example)?*

³¹ Guidelines with regard to limitation of conflict of interest, training of technicians, calibration equipment and procedures

The data which must be recorded are determined by the Regulations³². The technical concept of the recording device must allow data to be recorded automatically to the highest extent possible in order to ensure ease of handling and minimise manipulations.

However, manual entries should be possible, as certain information might not be automatically available under certain circumstances³³.

Information about the location, where the journey starts and ends are useful for enforcers but often also for transport companies. The current definition on country codes (sometimes regions) is unsatisfactory. At least city name or ZIP code should be recorded.

It should be the users and manufacturers choice whether to use improved manual entry facilities or automatic location detection methods³⁴.

6.2. Uniqueness of the driver card

Question 15 - *Should the Regulation explicitly foresee the use of electronic data exchange on cards that are issued between card issuing authorities?*

As the uniqueness of the driver card is one of the key issues involving the security of the system, the answer is clearly yes for all contracting parties to the AETR.

One can ask the question why driver cards and driving licenses are not combined in one media as this would increase the motivation of drivers to take care of their card and as synergies apply, may reduce the administrative burden involving card issuing.

6.3. Warnings

Question 16 - *Should the Regulation explicitly foresee warnings for the driver in order to enhance compliance with the legislation on driving times and rest periods? Should it be up to manufacturers' choice to offer such warnings as an optional tool, including additional warnings for other aspects than the continuous driving time?*

One of the potential benefits, and a clear expectation of users of an electronic recording device is, that it provides drivers with optional pre-warnings and actual information on potential infringements with regard to 561/2006/EC Regulation or working time directive. Unfortunately neither the digital tachograph nor any other on-board computer or open in-vehicle platform can provide this feature to drivers in an indisputable way at present. This is because of the complexity of the European driving and rest time Regulation and

³² The parameters for the driving and rest time monitoring are determined in Regulation (EC) No 561/2006 and Regulation (EEC) No 3821/85. Applications of a potential future open in-vehicle platform will require more data to be recorded.

³³ i.e. activities while away from vehicle or when Driver Card is not available

³⁴ i.e. input by satellite positioning or triangulation within the mobile phone network

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mainly because of its different and unpredictable interpretation and enforcement within the European Union and in AETR contracting parties.

Should an unified, generally accepted and computable interpretation become available, manufacturers will immediately offer advanced solutions for drivers helping them to maintain compliance with the legislation. The methodology to warn the driver (display, sound,...) can be left to the manufacturers³⁵.

A definition within future legislation of further warnings in addition to the continuous driving time, including how they are to be computed, may help to align national enforcers.

7. OTHER QUESTIONS

Question 17 - *Do you have any other comments or suggestions which you consider should be taken into account during the revision of the European legislation on recording equipment?*

- By aligning the process of the revision of the European legislation on recording equipment with the Non-EU AETR contracting parties may help to avoid potentially two separate solutions between EU und Non-EU which could create an additional administrative burden for industry and enforcers.
- It should be considered that vehicles may operate outside the EU, where Regulation 561/2006/EC does not apply. The future concept should not hinder the proper operation of the vehicle in those countries.
- The legal framework should be amended in order to allow vehicle manufacturers outside the EU (AETR) to install, activate and calibrate the recording device. This typically requires dedicated workshop cards.
- Legal guidelines should be established on how transport companies and drivers that are registered in a country which is not part of the EU or any other contracting party to the AETR, can operate within AETR territory.
- Harmonised enforcement of Regulation (EC) No 561/2006 in European Member States should be achieved before the specification of new or modified recording equipment is implemented, in order to allow manufacturers to develop devices which meet corresponding users' expectations.
- The recording device should always record, store and transmit facts only. Data recording with pre-interpretations must be avoided (e.g. 3min. issue). Calculations and interpretations with regard to activities and infringements should be done by standardised but updateable internal and/or external software routines.

³⁵ By experience we know, that some requirements may change, effecting for example vehicles with earlier versions of recording equipment. Calculation routines for warnings should be updateable.

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- Any amendment of the European legislation on recording equipment should be based on a transparent cost / benefit analyses considering the impact on all affected stakeholders.
- To facilitate the introduction of an open in-vehicle platform will be supported if possible applications have a similar scope, similar specifications in all countries and the same commercial ownership.
- The current digital tachograph offers a variety of options for functional enhancements for better enforcement and ITS integration. Once the high level policy and functional requirements have been defined, the priority should be to improve the current concept rather than proposing a radical new concept with known and unknown obstacles.

Question 18 - *Would you like to propose other measures to make the recording equipment more user-friendly and to improve the reliability of controls*

There are several possibilities where amended Regulations can contribute to improve the current system such as:

- Integration of an early warning message provided by the recording equipment to drivers before driver card data, which have not yet been downloaded, are overwritten. Pro and cons of more flexible download cycles should be evaluated.
- Implementation of enhanced early warnings for drivers including type of potential infringement on 561/2006 or AETR regulations allowing the driver to take appropriate measures. This feature implies harmonised enforcement practices.
- Definition of standards and rules on how paper based supporting documents can be replaced by electronic means. This would encourage manufacturers to offer optional extensions to HMI and interfaces such as the use of remote controls and displays either in the form of the existing vehicle infrastructure or via mobile devices.
- Incentives which encourage the use of automatic location recording, whereby technology should not be limited to (billable) Galileo services. Tracking and tracing functions are core features of most fleet management applications and offer additional potential to digital tachographs which have the potential to become a standardised tool to improve efficiency in fleet operations.
- Enable the integral printer to be used for other purposes such as print of SMS or logistics data
- Encourage card issuing authorities to order driver cards with extended memory for voluntary data storage, decoupled from storage of mandatory data by a certified firewall, to allow the implementation of customised fleet management applications.
- Evaluate contactless tachograph cards which might offer potential to contribute to improved reliability of cards. A migration concept should ensure interoperability with current and future recording devices.

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- Combine driver card and driver license in one media, as this may encourage drivers to take better care of their card and may reduce the administrative burden for card issuing and roadside checks
- Foster use of fast download and remote download options by enforcers and users. Update of some enforcement tools might be required in order to utilize the high download speed of recent recording units
- Re-consider the requirement to provide 28 days of activity data to enforcers. A reduction to 2-3 weeks would reduce the effort and shorten the time for download and control.
- Force implementation of functions to allow for improved accident analyses which has always been an integral part of tachograph systems.
- Evaluate acceptance of wireless data extraction to enforcers, whereby mass memory or driver card data will not be transferred, but only an infringement indication plus eventually driver ID and vehicle registration number. This information could then be used to select vehicles / drivers for detailed inspection.
- Equip enforcers in EU and non-EU countries with appropriate tools
- Use graphical printout of activities profile for easy and quick compliance checks.
- Allow vehicle unit and card manufacturers to perform real life field tests of their products with test keys.
- Change ERCA and national policies in order to allow VU-manufacturers to get real cards for all card issuing authorities for test purposes.
- Define procedures in order to provide specialised workshop cards to device manufacturers enabling them to handle recording units in countries without a card issuing infrastructure.

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Abbreviations:

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| AETR | Accord Européen pour le Transport par Route |
| CIS | Commonwealth of Independent States |
| CV | Commercial Vehicles |
| DLD | Down Load Device, a Continental solution |
| driver ID | driver Identification |
| EC | European Commission |
| EEC | European Economic Community |
| ERCA | European Root Certification authority |
| EU MS | European Union Member State |
| GNSS | Global Navigation Satellite System |
| GPS | Global Positioning System (USA) |
| HMI | Human Man Interface |
| HW | Hardware |
| ITS | Information Technology Systems |
| NAFTA | North American Free Trade Agreement |
| OEM | Original Equipment Manufacturer |
| RSA Key | Electronic Encryption Key |
| SHA-1 | Secure Hash Algorithm |
| SW | Software |
| TIS web | Tachograph Information Service, a web based Continental solution |
| UNECE | United Nation Economic Council for Europe |
| USB | Universal Serial Bus |