

# Executive Summary

Starting May 1, 2006, all newly registered vehicles with a maximum permissible total weight (mptw) of 3.5 tons and buses with more than 9 seats (including driver) must be equipped with a digital tachograph. The obligation to control drivers also affects those vehicles the maximum permissible mass of which is less than 3.5 tons but, in combination with a trailer or semi-trailer, exceed the maximum permissible total weight of 3.5 tons. In conjunction with other data sets generated in the vehicle (e.g. CAN bus), the data provided by the digital tachograph (driving and resting times, kilometers traveled, proof of activities, etc.) could be used for integrated mobility services (traffic information, road conditions, etc.).

The new version of the provisions on the digital tachograph (control unit in the vehicle) by Regulation (EU) No. 165/2014 offers new possibilities for the use of data generated in the vehicle, as therein, for official control purposes, satellite positioning and wireless data transmission to organs of the control authority are required in the course of an inspection of a stationary vehicle, as well as an interface to potential intelligent traffic systems is provided as an option (see Article 8, Article 9 and Article 10 of Regulation (EU) No. 165/2014). A digital tachograph, which is equipped with the above communication link and / or interface, is referred to as an intelligent tachograph (hereinafter "intelligent tachograph") in Regulation (EU) No. 165/2014.

## Procedure

The present service includes

- (i) a survey and analysis of the technical and legal framework of the digital and intelligent tachograph (hardware and software equipment as well as guidelines and regulations) at national and international level,
- (ii) conducting interviews and online surveys with representatives of the relevant stakeholders to gather technical and legal information in practice as well as information on requirements, organizational challenges and wishes, fears and concerns regarding future mobility services and / or cooperative systems,
- (iii) the identification of possible integrated mobility services on the basis of the generated data and the technical possibilities of the intelligent tachographs,
- (iv) the preparation of the findings,
- (v) a comprehensive analysis of the legal framework for possible integrated mobility services and
- (vi) the compilation of recommendations for the implementation of services, including the deduction of RTI issues for integrated mobility services.

## Key results

As a result, a total of 13 services have been identified which have been grouped according to function and result as follows:

- Position recording,
- Survey of the traffic state,
- Use for statistical surveys,
- Tolling and Weighing in Motion,
- Use as an accident data recorder,
- Applications for insurance services (ad hoc insurance and pay as you drive),
- Use for communication purposes (deposit certificates for ports, etc. and automated driving),
- Extending the control function of the digital tachograph for monitoring of the driving time (confirmation of days of rest, documentation of controls, combination driving license - driver card) and
- Technically inaccessible service wishes (intelligent tachograph with telephone function).

## Recommendations for action

On the basis of the findings of the investigations, further steps have been identified, which can be summarized in the following recommendations for action:

- **In the EU Regulation No. 165/2014, the communication interface** to the ITS systems should no longer be listed as "optional", but as **mandatory**.
- With regard to future applications of cooperative systems and applications relating to the topic of automated driving, the **communication interface** provided in the intelligent tachographs should enable

a **bidirectional data exchange (directly into the intelligent tachograph without using the workshop card or business card)**. This could provide the basis for secure (encrypted) communication between the vehicles as well as to the infrastructure. This would also allow the import and preservation of required certificates for secure communication within the framework of logistics solutions (trusted third party) and automated driving. Furthermore, the results of the official inspections could be filed in the intelligent tachograph, also.

- In this context, there would be a **need for development** in order to ensure that the intelligent tachograph both provides data, but also records from the outside and via various communication channels, e.g. from the C-ITS platform, or similar platforms. By developing and implementing an encryption strategy for a tamper-proof interface between the intelligent tachograph and the outside world, on the one hand, a bi-directional communication is to be made possible and on the other hand, harmful external interference with the intelligent tachograph is to be prevented. This is mainly about the security against manipulations of the intelligent tachographs. This could guarantee the transmission of safety-relevant certificates for communication with and between the devices in order to ensure a clear identification of the individual tachographs for applications in the context of automated driving as well as in the course of various applications for which a clear identification is necessary.
- Regulation (EU) No. 165/2014 should be amended in such a way that the **location information** is recorded and stored in the device not only for the position at the start and the end of the journey or after 3 hours of continuous driving time, but at a **more dense** interval of approximately 1 minute. In this way, a denser position chain could be generated which, in conjunction with the possibility to transmit the position data to a superordinate intelligent traffic system (ITS), enables relevant data to be used for assessing travel times and traffic conditions.

Furthermore, a data base could be created for the simplified collection of information for the purposes of **national and European traffic statistics**. On the basis of the position information, which is thus registered across Europe in a **standardized format**, an enormous potential for improvement in the determination of vehicle mileage and transport mileage as well as the collection of the routes traveled would result. This information would significantly expand and improve the planning bases for a coordinated, pan-European expansion of high-level infrastructure facilities.

- Provision should be made for the possibility to securely import information about the **number of free parking spaces on rest stops**, linked to the information on daily and weekly remaining driving periods. As a feature, the possibility of documenting the complete occupancy of a rest stop should be provided here in order to register, in this connection, an exceeding of the driving time, but not or only slightly to penalize it.
- **"Weighing in Motion"** by means of the vehicle-internal survey of the relevant data from the CAN bus and the secure transmission of the information to the local infrastructure or a representative of the control authorities for control purposes should be ensured by creating appropriate legal bases (within the scope of Regulation (EU) No. 165/2014 and national motor vehicle and road traffic legislation). Furthermore, the data available in this way could make a major contribution to the improvement of traffic safety, and the information collected could also be further processed for the purposes of national and European traffic statistics.
- The **operation of the intelligent tachograph** should be adapted to the current technological options and equipment of the vehicles. Thus, the manual input of the country is an outdated system, as this could be done automatically by integrating GPS from the vehicles. This would also reduce the number of potential misentries.
- Also, for traffic safety reasons, it should be required by the legislature that **all transport vehicles be equipped with a digital or intelligent tachograph**. In the future, it should also be considered - and this is due to the rapidly increasing number of registrations of vehicles – to equip in particular delivery vehicles even under 3.5 tons maximum permissible total weight with digital or intelligent tachographs. Thus, working hours in the area of CEP services (courier, express and parcel services) could be captured. This would, on the one hand, lead to improved working and driving hours regulations and, on the other hand, make it possible for the first time for them to be checked.
- From a legal point of view, any amendment to Regulation (EU) No. 165/2014 as described above (for example, the obligatory establishment of the communication interface for ITS solutions) is the responsibility of the EU. In this context, it is practically impossible to implement Austrian solutions on the basis of extended equipment, in real-policy terms, since the competence to amend the law lies with the

EU. In this context, a coordinated approach would be favorable, an approach by a number of Member States (or, for example, by the transport and infrastructure ministries of several Member States) which have come to similar solutions and recommendations for action with regard to the present research topic and collectively initiate a corresponding amendment to the law at the European Commission. The temporal component of the European legislative process, which usually takes several years due to the involvement of various institutions (Commission, Parliament, Council, Committee of the Regions, Economic and Social Committee, etc.) is to be considered.

For example, the legal acts for the introduction of Smart Metering in the Member States could serve as a model for the proposed amendments to Regulation (EU) No. 165/2014, since numerous experiences and best practice examples could already be collected at EU level and nationally, regarding both the handling of standardization issues and data protection issues in connection with the reading of data as well as the bidirectional communication between the measuring device and the IT systems of third parties. Moreover, in the context of smart metering based on European legislation (e.g. Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 on common rules for the internal electricity market), established national legislation (in particular EIWOG 2010<sup>1</sup> and the Regulation on the Requirement of Intelligent Measuring Devices 2011) is in force and additionally, there are recommendations from the European Commission and opinions from the Article-29-Data-Protection-Group for this area (e.g. a model for the impact assessment of data protection for intelligent networks and intelligent measuring systems), which, due to the technical comparability of the designs of both systems as well as the overlapping with regard to the applied legal frameworks, could be used as a basis for a potential adaptation of the legal framework for intelligent tachographs.

From the point of view of the data protection and employment law, there are legal obstacles to the use of these data for the identified services, in particular with regard to the processing of location data, which generally allow to establish a reference to the drivers and affect their human dignity. Both in terms of data protection as well as in the scope of employment law, the use of personal data is only allowed with the driver's consent, which basically can be revoked at any time, however. For several years, the general legal trend has clearly moved in the direction of increased data protection and the strengthening of workers' rights, which is why necessary legislative amendments for facilitating the use of data for mobility services are currently not on the political agenda of either the EU or the Member States as well as they are generally hard to be implemented and would also encounter the toughest opposition from data privacy groups and workers' representatives. For these reasons, technical equipment and methods should be encouraged, which collect data for mobility services in an anonymous way. Anonymized data are not subject to data protection regulations, which is why neither the Federal Act concerning the Protection of Personal Data (DSG 2000) or the General Data Protection Regulation (EU) No. 2016/679, nor the separate data protection provisions of Regulation (EU) No. 165/2014 or of the ITS Act would apply. Anonymized data also do not affect human dignity in the sense of labor legislation, which is why workers' individual rights of consent or the conclusion of works agreements with the involvement of the works council could be dispensed with, thereby avoiding an additional burden on the companies concerned.

In this context, a survey for the purposes of traffic statistics could be carried out by means of a closed, anonymous system, accessible only to national statistical institutes and Eurostat (statistical office of the European Union). To achieve this, however, a uniform solution would have to be established, which will collect the information on the goods transported at the transporters'.

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<sup>1</sup> Federal Act Providing New Rules for the Organisation of the Electricity Sector