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Intelligent transport systems — Framework for cooperative telematics applications for regulated commercial freight vehicles (TARV) —

Part 9: Remote digital tachograph monitoring

Systèmes intelligents de transport — Cadre pour applications télématiques coopératives pour véhicules de fret commercial réglementé (TARV) —

Partie 9: Monitorage du tachygraphe électronique à distance (RTM)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

This first edition of ISO 15638-9 cancels and replaces ISO/TS 15638-9:2013, which has been technically revised. The main changes compared to the previous edition are as follows:

— Inclusion of remote inspection using short-range wireless interrogator for enforcement inspection purposes.

A list of all parts in the ISO 15638 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Many ITS technologies have been embraced by commercial transport operators and freight owners in the areas of fleet management, safety and security. On-board applications have also been developed for governmental use. Such regulatory services in use or being considered vary from jurisdiction to jurisdiction, but include electronic on-board recorders, digital tachograph, on-board mass monitoring, 'mass' data for regulatory control and management, weigh-in-motion, vehicle access methods, hazardous goods tracking and eCall. Additional applications with a regulatory impact being developed include fatigue management, speed monitoring and vehicle penalties imposed based on location, distance and time.

In such an emerging environment of regulatory and commercial applications, it is timely to consider an overall architecture (business and functional) that could support these functions from a single platform within a commercial freight vehicle that operates within such regulations. International Standards will allow for a speedy development and specification of new applications that build upon the functionality of a generic specification platform. A series of standards deliverables is required to describe and define the framework and requirements so that the on-board equipment and back office systems can be commercially designed in an open market to meet common requirements of jurisdictions.

The ISO 15638 TARV series addresses and defines the framework for a range of cooperative telematics applications for regulated vehicles (e.g. access methods, driver fatigue management, speed monitoring, on-board mass monitoring, Remote Tachograph Monitoring, ADR management). The overall scope includes the concept of operation, legal and regulatory issues, and the generic cooperative provision of services to regulated vehicles, using an on-board ITS platform. The framework is based on a (multiple) service provider-oriented approach with provisions for the approval and auditing of service providers.

The ISO 15638 series provides both the means to achieve current requirements for telematics applications for regulated vehicles and the basis for future development of cooperative telematics applications for regulated vehicles.

The ISO 15638 series is timely, as many governments (Europe, North America, Asia and Australia/New Zealand) are considering the use of telematics for a range of regulatory purposes.

This document provides specifications for weigh-in-motion and on-board weighing monitoring and supports several defined communication profiles in which this function may be performed.

NOTE 1 The definition of what comprises a 'regulated' vehicle is regarded as an issue for national decision and can vary from jurisdiction to jurisdiction. This series does not impose any requirements on nations in respect of how they define a regulated vehicle.

NOTE 2 The definition of what comprises a 'regulated' service is regarded as an issue for national decision and can vary from jurisdiction to jurisdiction. This series does not impose any requirements on nations in respect of which services for regulated vehicles jurisdictions they will require, or support as an option, but will provide standardized sets of requirements descriptions for identified services to enable consistent and cost-efficient implementations where implemented.

Intelligent transport systems — Framework for cooperative telematics applications for regulated commercial freight vehicles (TARV) —

Part 9:
Remote digital tachograph monitoring

1 Scope

This document addresses the provision of 'Remote Digital Tachograph Monitoring' and specifies the form and content of the transmission of such data required to support such systems, and access methods to that data.

This document provides specifications for common communications and data exchange aspects of the application service remote digital tachograph monitoring that a jurisdiction regulator can elect to require or support as an option, including:

a) High level definition of the service that a service provider provides. The service definition describes common service elements but does not define the detail of how such an application service is instantiated, nor the acceptable value ranges of the data concepts defined.

b) Means to realize the service.

c) Application data naming, content and quality that an IVS delivers, including a number of profiles for data (noting that requirements and constraints of what can/cannot be transmitted over the air can vary between jurisdictions).

d) Support for a number of defined communication profiles to enable remote inspection.

This document is not applicable for analogue tachograph equipment/systems.

This document provides specifications for the following communication profiles:

— **Communication Profile C1: Roadside inspection using a short-range wireless communication interrogator instigating a physical roadside inspection (master<>slave)**

  Profile C1a: via a hand aimed or temporary roadside mounted and aimed interrogator

  Profile C1b: via a vehicle mounted and directed interrogator

  Profile C1c: via a permanent or semi-permanent roadside or overhead gantry

— **Communication Profile C2: Roadside inspection using a short-range wireless communication interrogator instigating a download of data to an application service provider via an ITS-station communication (master<>slave + peer<>peer)**

  Profile C2a: via a hand aimed or temporary roadside mounted and aimed interrogator

  Profile C2b: via a vehicle mounted and directed interrogator

  Profile C2c: via a permanent or semi-permanent roadside or overhead gantry

— **Communication Profile C3: Remote inspection addressed via an ITS-station instigating a download of data to an application service provider via a wireless communications interface** (as defined in ISO 15638-2).