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

## Part 15: Vehicle location monitoring

*Systèmes intelligents de transport — Cadre pour applications télématiques coopératives pour véhicules réglementés (TARV) —*

*Partie 15: Monitorage de la localisation des véhicules*

Reference number
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# Contents

Page

**Foreword** ... **iv**
**Introduction** ... **vi**
**1 Scope** ... **1**
**2 Conformance** ... **1**
**3 Normative references** ... **2**
**4 Terms and definitions** ... **2**
**5 Symbols and abbreviated terms** ... **7**
**6 General overview and framework requirements** ... **8**
**7 Requirements for services using generic vehicle data** ... **9**
**8 Application services that require data in addition to basic vehicle data** ... **9**
8.1 General ... 9
8.2 Quality of service requirements ... 9
8.3 Test requirements ... 9
8.4 Marking, labelling, and packaging ... 9
**9 Common features of regulated TARV application services** ... **9**
9.1 General ... 9
9.2 Common role of the jurisdiction, approval authority, service provider, and user ... 11
9.3 Common characteristics for instantiations of regulated application services ... 11
9.4 Common sequence of operations for regulated application services ... 12
9.5 Quality of service ... 12
9.6 Information security ... 12
9.7 Data naming content and quality ... 12
9.8 Software engineering quality systems ... 12
9.9 Quality monitoring station ... 12
9.10 Audits ... 12
9.11 Data access control policy ... 12
9.12 Approval of IVSs and service providers ... 12
**10 Vehicle location monitoring (**VLM**)** ... **13**
10.1 TARV VLM service description and scope ... 13
10.2 Concept of operations for TARV VLM ... 14
10.3 Sequence of operations for TARV VLM ... 21
10.4 TARV VLM service elements ... 23
10.5 Generic TARV VLM data naming content and quality ... 26
10.6 TARV VLM service specific provisions for quality of service ... 27
10.7 TARV VLM application service specific provisions for test requirements ... 27
10.8 TARV VLM application specific rules for the approval of IVSs and 'service providers' ... 27
**11 Declaration of patents and intellectual property** ... **27**
**Annex A** (informative) **ASN.1 modules for ISO 15638-15 data concepts** ... **29**
**Annex B** (informative) **Independent testing of the protocols defined in this part of ISO 15638** ... **32**
**Bibliography** ... **54**

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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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 204, *Intelligent transport systems*.

This first edition cancels and replaces ISO/TS 15638-15:2013.

ISO 15638 consists of the following parts, under the general title *Intelligent transport systems — Framework for cooperative telematics applications for regulated vehicles (TARV)*:

— *Part 1: Framework and architecture*

— *Part 2: Common platform parameters using CALM*

— *Part 3: Operating requirements, 'Approval Authority' procedures, and enforcement provisions for the providers of regulated services*

— *Part 5: Generic vehicle information*

— *Part 6: Regulated applications*

— *Part 7: Other applications*

— *Part 8: Vehicle access management and monitoring*

— *Part 9: Remote electronic tachograph monitoring (RTM)*

— *Part 10: Emergency messaging system/eCall (EMS)*

— *Part 11: Driver work records*

— *Part 12: Vehicle mass monitoring*

— *Part 14: Vehicle access control*

— *Part 15: Vehicle location monitoring*

— *Part 16: Vehicle speed monitoring*

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— *Part 17: Consignment and location monitoring*

— *Part 18: ADR (Dangerous Goods) transport monitoring (ADR)*

— *Part 19: Vehicle parking facilities (VPF)*

The following parts are under preparation:

— *Part 4: System security requirements*

— *Part 13: 'Mass' information for jurisdictional control and enforcement*

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# Introduction

Many ITS technologies have been embraced by commercial transport *operators (4.33)* and freight owners, in the areas of fleet management, safety and security. *Telematics (4.44)* applications have also been developed for governmental use. Such regulatory services in use or being considered vary from *jurisdiction (4.28)* to *jurisdiction*, but include electronic on-board recorders, digital *tachograph (4.43)*, on-board *mass (4.31)* monitoring, 'mass' data for regulatory control and *management (4.32)*, vehicle *access (4.1) methods*, *hazardous goods (4.25)* tracking and emergency message service/eCall. Additional applications with a regulatory impact being developed include, fatigue management, speed monitoring and heavy vehicle penalties imposed based on location, distance and time.

In such an emerging environment of regulatory and *commercial applications (4.14)*, it is timely to consider an overall *architecture (4.10)* (business and functional) that could support these functions from a single platform within a commercial freight vehicle that operate within such regulations. International Standards will allow for a speedy development and *specification (4.42)* of new applications that build upon the functionality of a generic specification platform. A suite of standards deliverables is required to describe and define the *framework (4.22)* 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 (4.28)*.

This International Standard addresses and defines the *framework (4.22)* for a range of cooperative *telematics (4.44)* applications for *regulated commercial freight vehicles (4.37)*, such a*s access methods (4.2), driver fatigue management, speed monitoring, on-board mass (4.31) monitoring, 'mass' data for regulatory control and management (4.32)*. The overall scope includes the concept of operation, legal and regulatory issues, and the generic cooperative provision of services to *regulated commercial freight vehicles*, using an on-board ITS platform. The *framework* is based on a (multiple) *service provider (4.40)* oriented approach with provisions for the *approval (4.7)* and *auditing (4.11)* of *service providers*.

This International Standard

— provides the basis for future development of cooperative *telematics (4.44)* applications for *regulated commercial freight vehicles (4.37)*. Many elements to accomplish this are already available. Existing relevant standards will be referenced, and the *specifications (4.42)* will use existing standards (such as *CALM*) wherever practicable,

— allows for a powerful platform for highly cost-effective delivery of a range of *telematics* applications for *regulated commercial freight vehicles (4.37)*,

— provides a business *architecture (4.10)* based on a (multiple) *service provider (4.40)* oriented approach, and

— addresses legal and regulatory aspects for the *approval (4.7)* and *auditing (4.11)* of *service providers.*

This International Standard is timely as many governments (Europe, North America, Asia, and Australia/New Zealand) are considering the use of *telematics (4.44)* for a range of regulatory purposes. Ensuring that a single in-vehicle platform can deliver a range of services to both government and industry through open standards and competitive markets is a strategic objective.

This part of the ISO 15638 provides *specifications (4.42)* for vehicle location monitoring.

NOTE 1 The definition of what comprises a 'regulated' vehicle is regarded as an issue for national decision and might vary from *jurisdiction (4.28)* to *jurisdiction*. This International Standard does not impose any requirements on nations in respect of how they define a *regulated vehicle (4.37)*.

NOTE 2 The definition of what comprises a 'regulated' service is regarded as an issue for national decision and might vary from *jurisdiction (4.28)* to *jurisdiction*. This International Standard does not impose any requirements on nations in respect of which services for *regulated vehicles (4.37) jurisdictions* 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.


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

# Part 15:
# Vehicle location monitoring

## 1 Scope

This part of ISO 15638 addresses the provision of *'vehicle location monitoring'* and specifies the form and content of such data required to support such systems and *access methods (4.2)* to that data.

The scope of this part of ISO 15638 is to provide *specifications (4.42)* for common communications and data exchange aspects of the *application service (4.4)* vehicle location monitoring that a *regulator (4.38)* may elect to require or support as an option, including

a) high-level definition of the service that a s*ervice provider (4.40)* has to provide,

NOTE The service definition describes common service elements; but does not define the detail of how such an *application service (4.4)* is instantiated, not the acceptable value ranges of the data concepts defined.

b) means to realize the service, and

c) application data, naming content, and quality that an *IVS (4.26)* has to deliver.

The definition of what comprises a 'regulated' service is regarded as an issue for national decision, and may vary from *jurisdiction (4.28)* to *jurisdiction*. This International Standard does not impose any requirements on nations in respect of which services for *regulated vehicles jurisdictions* will require, or support as an option, but provides standardized sets of requirements descriptions for identified services to enable consistent and cost efficient implementations where instantiated.

This International Standard has been developed for use in the context of regulated commercial freight vehicles [hereinafter referred to as 'regulated vehicles' *(4.37)*]. There is nothing however to prevent a jurisdiction extending or adapting the scope to include other types of regulated vehicles, as it deems appropriate.

## 2 Conformance

Requirements to demonstrate conformance to any of the general provisions or specific *application services (4.4)* described in this part of ISO 15638 shall be within the regulations imposed by the *jurisdiction (4.28)* where they are instantiated. Conformance requirements to meet the provisions of this International Standard are therefore deemed to be under the control of, and to the specification of, the *jurisdiction* where the *application service*(s) is/are instantiated.

The protocols defined in this part of ISO 15638 have been independently tested. Annex B provides results of these tests. In any conformance assurance process undertaken by candidate systems, where appropriate, the results may be used as part of its process of conformance compliance.

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## 3 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15638-1, *Intelligent transport systems — Framework for collaborative Telematics Applications for Regulated commercial freight Vehicles (TARV) — Part 1: Framework and architecture*

ISO 15638-2, *Intelligent transport systems — Framework for collaborative Telematics Applications for Regulated commercial freight Vehicles (TARV) — Part 2: Common platform parameters using CALM*

ISO 15638-3, *Intelligent transport systems — Framework for collaborative telematics applications for regulated commercial freight vehicles (TARV) — Part 3: Operating requirements, 'Approval Authority' procedures, and enforcement provisions for the providers of regulated services*

ISO 15638-4:—[1)], *Intelligent transport systems — Framework for collaborative telematics applications for regulated commercial freight vehicles (TARV) — Part 4: System security requirements*

ISO 15638-5, *Intelligent transport systems — Framework for collaborative Telematics Applications for Regulated commercial freight Vehicles (TARV) — Part 5: Generic vehicle information*

ISO 15638-6, *Intelligent transport systems — Framework for collaborative telematics applications for regulated commercial freight vehicles (TARV) — Part 6: Regulated applications*

## 4 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15638-1 and the following apply.

**4.1**
**access**
admittance, entry, permit to use the road network and/or associated infrastructure (bridges, tunnels etc.)

**4.2**
**access methods**
procedures and protocols to provision and retrieve data

**4.3**
**app**
small (usually) Java™[2)] applets, organized as software bundles, that support *application services (4.4)* by keeping the *data pantry (4.18)* provisioned with up-to-date data

**4.4**
**application service**
service provided by a *service provider (4.40)* enabled by accessing data from the *IVS (4.26)* of a *regulated vehicle (4.37)* through a wireless communications network

**4.5**
**application service provider**
**ASP**
party that provides an *application service (4.4)*

1) To be published.

2) This information is given for the convenience of users of this document and does not constitute an endorsement by ISO.


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