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BSI Standards Publication

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

Part 25: Overhead clearance monitoring

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee EPL/278, Intelligent transport systems.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Part 25: Overhead clearance monitoring

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Full document details: BS ISO 15638-25:2024

Contents

Page

Foreword ... **v**
Introduction ... **vi**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Symbols and abbreviated terms ... **2**
5 Conformance ... **2**
6 General overview and framework ... **2**
7 Basic conceptual operational requirements ... **5**
7.1 General ... 5
7.2 Basic requirement ... 6
8 Requirements for services using generic vehicle data ... **6**
8.1 General ... 6
8.1.1 Introduction ... 6
8.1.2 Unregulated application services using only generic basic vehicle data ... 7
8.1.3 Unregulated application services using both generic vehicle data and additional application-specific data ... 7
8.2 Conveyance identifiers ... 7
9 Concept of operations for unregulated application services with additional data requirements including roadside sensors ... **7**
9.1 General ... 7
9.2 Strategies, tactics, policies and constraints affecting the system ... 7
9.3 Organizations, activities, and interactions among participants and stakeholders ... 8
9.4 Operational roles and processes for the system ... 8
9.4.1 Common role of the prime service provider ... 8
9.4.2 Common role of the application service provider ... 9
9.4.3 Role of the application service ... 9
9.4.4 Service requirements definition ... 9
9.4.5 Common role of user ... 9
9.4.6 Role of driver ... 10
9.4.7 Role of operator ... 10
9.4.8 Framework for operation ... 10
9.4.9 ROAM "app" library and data pantry ... 11
10 Sequence of operations for identified unregulated application services with additional data requirements ... **11**
10.1 Overview ... 11
10.1.1 General ... 11
10.1.2 Commands ... 12
10.2 Quality of service requirements ... 15
10.3 Test requirements ... 15
10.4 Marking, labelling and packaging ... 16
11 Common features of unregulated TARV application services ... **16**
11.1 Generic operational processes for the system ... 16
11.2 Common characteristics for instantiations of unregulated application services ... 17
11.3 Common sequence of operations for unregulated application services ... 18
11.4 Quality of service ... 19
11.5 Information security ... 19
11.6 Software engineering quality systems ... 19
11.7 Quality monitoring station ... 19
11.8 Audits ... 19

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AVA Documents
Document Sharing Hub

Full document details: BS ISO 15638-25:2024

11.9 Data access control policy 19
11.10 Approval of roadside sensors 19
Annex A (informative) **Application examples** **20**
Bibliography **23**

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Document Sharing Hub
Full document details: BS ISO 15638-25:2024

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 document 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).

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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*.

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.

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Introduction

Regions around the world share a common global target of achieving a safe and sustainable society. However, the number of bridge strike incidents caused by freight vehicles is increasing worldwide. Within this context, monitoring information provisioning to vehicles carrying freights which are higher than a bridge girder bottom is recommended. This can be made possible by building on the framework of ISO 15638-21 (TARV; telematics applications for regulated vehicles). This document defines an unregulated TARV service application framework for overhead clearance monitoring information provisioning.

The principle of overhead clearance monitoring information provisioning is that the service provider provides advance vehicle height clearance information when it is anticipated that clearance between an oncoming bridge girder bottom height and the vehicle's highest point is insufficient. Jurisdictions or road operators can also monitor vehicle height through roadside sensors mounted on the bridge girder low point, and can provide infrastructure information to:

— service providers (provided as in-advance road facility information);

— users (real-time basis through variable message sign; for vehicles with non-on-board units);

— roadside units (for vehicles with on-board units).

When the user provides vehicle height data to a service provider in advance, they receive better information from that service provider.

This document standardizes the conceptual operational framework of safety information provision provided by service providers. The ISO 15638 series is based on a group of vehicle operators with in-vehicle systems, on-board application service providers and jurisdictions. ISO 15638-1 focuses on the transactions between these parties via ITS-stations and roadside sensors. Using this system architecture, additional safety information provision services to freight vehicles can be realized. A new means of safe road transport management and enforcement can be enabled by using this document where a jurisdiction requires such regulated monitoring.

This document is intended to be used for unregulated services, but it can also be used for the deployment of regulated services, if necessary.

This document is intended for public road transport, but it can also be applied to private roads/property, if necessary.

NOTE This document is consistent with the provisions of EC regulation 165/2014.[11]

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

Part 25: Overhead clearance monitoring

1 Scope

This document specifies a freight vehicle safety information provisioning service application or function. It is intended for use within non-enforcement applications and potentially for regulated application services (RAS), for the road transport safety management purposes of regulated commercial freight vehicle movements.

This document reinforces vehicle safety for non-enforcement purposes and other purposes by providing safety advisory information concerning overhead clearance provisions to freight vehicle drivers or operators transporting heavy goods on freight vehicles.

This document specifies the framework for remote vehicle safety information provision for non-enforcement and for the conceptual operation of other management purpose applications.

This document is intended to be beneficial to entities whose purpose is vehicle safety management. It provides additional use cases for TARV (telematics applications for regulated vehicles) service applications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/TS 15638-4, *Intelligent transport systems — Framework for cooperative 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 15638-7:2013, *Intelligent transport systems — Framework for collaborative Telematics Applications for Regulated commercial freight Vehicles (TARV) — Part 7: Other applications*

ISO/TS 14812, *Intelligent transport systems — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 14812 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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4 Symbols and abbreviated terms

ASD	application service data
ASP	application service provider
CALM	communications access for land mobiles
C-ITS	cooperative intelligent transport system
CONOPS	concept of operations
GNSS	global navigation satellite system
HMC	host management centre
ID	identity
ITS-S	ITS station
IVS	in-vehicle system
LDM	local dynamic map
LDT	local data tree
QoS	quality of service
RAS	regulated application service
ROAM	regime for open application management
TARV	telematics applications for regulated vehicles
VIN	vehicle identification number

5 Conformance

Requirements necessary for demonstrating conformance to any of the general provisions or specific application services described in this document shall be defined by the service provider.

6 General overview and framework

This document utilizes the framework and architecture for freight vehicle stability monitoring defined in ISO 15638-21. The general conceptual operation description of the roles of the actors in "extended" TARV architecture is defined in ISO 15638-21.

Figure 1 provides a summary of the "extended" role model conceptual architecture, showing the key actors and their relationships as defined in ISO 15638-21.

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