TECHNICAL REPORT

# ISO/TR 17427-9

First edition
2015-11-01

# Intelligent transport systems — Cooperative ITS —

## Part 9: Compliance and enforcement aspects

*Systèmes intelligents de transport — Systèmes intelligents de transport coopératifs —*

*Partie 9: Conformité et aspects relatifs à l'application*

Reference number
ISO/TR 17427-9:2015(E)

© ISO 2015



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

# Contents

Page

**Foreword** ..... **iv**
**Introduction** ..... **vi**
**1 Scope** ..... **1**
**2 Terms and definitions** ..... **1**
**3 Abbreviations and acronyms** ..... **2**
**4 How to use this Technical Report** ..... **2**
4.1 Acknowledgements ..... 2
4.2 Guidance ..... 2
4.3 ITS and 'compliance and enforcement aspects' ..... 3
4.3.1 Compliance ..... 3
4.3.2 Enforcement ..... 3
4.3.3 Compliance and enforcement within the context of C-ITS ..... 3
4.4 C-ITS compliance and enforcement aspects issues ..... 3
4.4.1 Private vehicles ..... 3
4.4.2 Commercial vehicles ..... 5
4.4.3 Surveillance devices ..... 7
4.4.4 Comparative systems ..... 7
**5 What are the key compliance and enforcement aspects issues** ..... **10**
5.1 General ..... 10
5.1.1 Application to C-ITS ..... 10
5.2 International approaches ..... 10
5.2.1 United States ..... 10
5.2.2 Europe ..... 11
5.2.3 Australia ..... 11
5.2.4 Other countries ..... 12
**6 Policy questions and options** ..... **12**
6.1 Option 1: Continue current approach ..... 12
6.2 Option 2: Amend current road rules ..... 12
6.3 Option 3: Create guidelines or principles for manufacturers ..... 12
6.4 Option 4: Examine technology options as they develop ..... 12
**7 Summary of findings** ..... **13**
**Bibliography** ..... **16**

© ISO 2015 – All rights reserved

# 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*.

ISO 17427 consists of the following parts, under the general title *Intelligent transport systems — Cooperative ITS*:

— *Part 2: Framework overview* [Technical Report]

— *Part 3: Concept of operations (ConOps) for 'Core' systems* [Technical Report]

— *Part 4: Minimum system requirements and behaviour for core systems* [Technical Report]

— *Part 6: Core systems risk assessment methodology* [Technical Report]

— *Part 7: Privacy aspects* [Technical Report]

— *Part 8: Liability aspects* [Technical Report]

— *Part 9: Compliance and enforcement aspects* [Technical Report]

— *Part 10: Driver distraction and information display* [Technical Report]

The following parts are under preparation:

— *Part 1: Roles and responsibilities in the context of co-operative ITS architechtures(s)*

— *Part 5: Common approaches to security* [Technical Report]

— *Part 11: Compliance and enforcement aspects* [Technical Report]

— *Part 12: Release processes* [Technical Report]

— *Part 13: Use case test cases* [Technical Report]

— *Part 14: Maintenance requirements and processes* [Technical Report]

 © ISO 2015 – All rights reserved

This Technical Report provides an informative consideration of 'Compliance and Enforcement Aspects' for Cooperative Intelligent Transport Systems (C-ITS). It is intended to be used alongside ISO 17427-1, ISO/TR 17465-1, other parts of the ISO 17465 series and ISO 21217. Detailed specifications for the application context will be provided by other ISO, CEN and SAE deliverables, and communications specifications will be provided by ISO, IEEE and ETSI.

© ISO 2015 – All rights reserved

# Introduction

*Intelligent transport systems (ITS)* (2.7) are transport systems in which advanced information, communication, sensor and control technologies, including the internet, are applied to increase safety, sustainability, efficiency, and comfort.

A distinguishing feature of *'ITS'* are their communication with outside entities.

Some *ITS* systems operate autonomously, for example, 'adaptive cruise control' uses radar/lidar/and/or video to characterize the behaviour of the vehicle in front and adjust its vehicle speed accordingly. Some *ITS* systems are informative, for example, 'Variable Message Signs' at the roadside, or transmitted into the vehicle, provide information and advice to the driver. Some *ITS* systems are semi-autonomous, in that they are largely autonomous, but rely on 'static' or 'broadcast' data, for example, *GNSS* (2.6) based 'SatNav' systems operate autonomously within a vehicle but are dependent on receiving data broadcast from satellites in order to calculate the location of the vehicle.

*Cooperative Intelligent Transport Systems (C-ITS)* are a group of *ITS* technologies where service provision is enabled by, or enhanced by, the use of "live", present situation related, dynamic data/information from other entities of similar functionality [for example from one vehicle to other vehicle(s)], and/or between different elements of the transport network, including vehicles and infrastructure [for example from the vehicle to an infrastructure managed system or from an infrastructure managed system to vehicle(s)]. Effectively, these systems allow vehicles to "talk" to each other and to the infrastructure. These systems have significant potential to improve the transport network.

A distinguishing feature of *'C-ITS'* is that data is used across *application*/service boundaries.

It will be immediately clear to the reader that such systems present possibilities for 'Compliance and Enforcement'. However such issues are highly sensitive, bound closely with issues of personal privacy, and may have a major impact on the whole public acceptance of *cooperative ITS*.

Further Technical Reports in this series are expected to follow. Please also note that these TRs are expected to be updated from time to time as the *C-ITS* evolves.


© ISO 2015 – All rights reserved

# Intelligent transport systems — Cooperative ITS —

# Part 9:
# Compliance and enforcement aspects

## 1 Scope

This Technical Report identifies potential critical compliance and enforcement aspects issues that C-ITS service provision may face or introduce; to consider strategies for how to identify, control, limit or mitigate such issues. The objective of this Technical Report is to raise awareness of and consideration of such issues and to give pointers, where appropriate, to standards deliverables existing that provide specifications for all or some of these aspects. This Technical Report does not provide specifications for solutions of these issues.

## 2 Terms and definitions

**2.1**
**application**
**app**
software application

**2.2**
**application service**
service provided by a service provider accessing data from the in-vehicle system (within the vehicle), in the case of *C-ITS* (2.4), via a wireless communications network, or provided on-board the vehicle as the result of software (and potentially also hardware and firmware) installed by a service provider or to a service provider's instruction

**2.3**
**compliance**
assurance that equipment or a service behaves within a set of predetermined, declared and accepted parameters

**2.4**
**cooperative ITS**
**C-ITS**
group of ITS technologies where service provision is enabled, or enhanced by, the use of 'live', present situation related, data/information from other entities of similar functionality (for example, from one vehicle to other vehicle(s)), and/or between different elements of the transport network, including vehicles and infrastructure (for example, from the vehicle to an infrastructure managed system or from an infrastructure managed system to vehicle(s))

**2.5**
**enforcement**
regulatory measures to ensure observance with certain requirements

**2.6**
**global navigation satellite system**
**GNSS**
several networks of satellites that transmit radio signals containing time and distance data that can be picked up by a receiver, allowing the user to identify the location of its receiver anywhere around the globe

© ISO 2015 – All rights reserved

**2.7**
**intelligent transport systems**
**ITS**
transport systems in which advanced information, communication, sensor and control technologies, including the internet, are applied to increase safety, sustainability, efficiency, and comfort

**2.8**
**jurisdiction**
government, road or traffic authority which makes and enforce regulations

EXAMPLE Country, state, city council, road authority, government department (customs, treasury, transport), etc.

**2.9**
**type approval**
certificate of conformity granted to a product that meets a minimum set of regulatory, technical and safety requirements, generally, by regulation required before certain products are allowed to be sold

Note 1 to entry: Often called 'Homologation'.

## 3 Abbreviations and acronyms

**ANPR** automatic number plate recognition

**C-ITS** cooperative intelligent transport systems, cooperative ITS

**ITS** intelligent transport systems (2.7)

**TR** technical report

**TTA** Transport Ticketing Authority

## 4 How to use this Technical Report

### 4.1 Acknowledgements

Much of the inspiration for this Technical Report and its considerations and content originate from the reports l "Cooperative ITS Regulatory Policy Issues" and "Cooperative Intelligent Transport Systems Policy Paper" National Transport Commission, Australia. And this source is acknowledged and thanked. References [9] and [10].

Contribution from the European Commission project EETS is also acknowledged.

See Bibliography for further details.

### 4.2 Guidance

This Technical Report is designed to provide guidance and a direction for considering the issues concerning *compliance* (2.3) *and enforcement* (2.5) *aspects* associated with the deployment of *C-ITS* service provision. It does not purport to be a list of all potential *compliance* and *enforcement* aspects factors, which will vary according to the *application service* (2.2) being provided, the regime of the *jurisdiction* (2.8), the location of the instantiation, and to the form of the instantiation; nor does it provide definitive specification for the solution of these issues. Rather, this Technical Report discusses and raises awareness of the major *compliance* and *enforcement* aspects issues to be considered, and provides guidance and direction for considering and managing *compliance* and *enforcement* aspects in the context of future and instantiation specific deployments of *C-ITS*.


© ISO 2015 – All rights reserved