



NSAI
Standards

Irish Standard Recommendation
S.R. CEN ISO/TS 17419:2014

Intelligent transport systems - Cooperative systems - Classification and management of ITS applications in a global context (ISO/TS 17419:2014)

S.R. CEN ISO/TS 17419:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

CEN ISO/TS 17419:2014

Published:

2014-04-16

This document was published under the authority of the NSAI and comes into effect on:

2014-04-29

ICS number:

03.220.20

35.240.60

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN ISO/TS 17419

April 2014

ICS 35.240.60; 03.220.20

English Version

**Intelligent transport systems - Cooperative systems -
Classification and management of ITS applications in a global
context (ISO/TS 17419:2014)**

Systèmes intelligents de transport - Classification et gestion
des applications de systèmes intelligents de transport dans
un contexte global (ISO/TS 17419:2014)

Intelligente Transportsysteme - Kooperative Systeme -
Klassifikation und Steuerung von ITS Anwendungen im
globalen Zusammenhang (ISO/TS 17419:2014)

This Technical Specification (CEN/TS) was approved by CEN on 8 March 2014 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

CEN ISO/TS 17419:2014 (E)

| Contents | Page |
|----------------------|-------------|
| Foreword..... | 3 |

Foreword

This document (CEN ISO/TS 17419:2014) has been prepared by Technical Committee CEN/TC 278 "Intelligent transport systems", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 204 "Intelligent transport systems".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO/TS 17419:2014 has been approved by CEN as CEN ISO/TS 17419:2014 without any modification.

This page is intentionally left blank

TECHNICAL SPECIFICATION

ISO/TS 17419

First edition
2014-04-15

Intelligent transport systems — Cooperative systems — Classification and management of ITS applications in a global context

*Systèmes intelligents de transport — Classification et gestion des
applications de systèmes intelligents de transport dans un contexte
global*



Reference number
ISO/TS 17419:2014(E)

© ISO 2014

ISO/TS 17419:2014(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2014

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
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

| | |
|--|-----------|
| Foreword | iv |
| Introduction | v |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Abbreviated terms | 4 |
| 5 Application management | 5 |
| 5.1 Introduction..... | 5 |
| 5.2 ITS communications architecture..... | 6 |
| 5.3 PKI architecture..... | 7 |
| 5.4 Regulations and policies..... | 7 |
| 5.5 ITS station..... | 7 |
| 5.6 Applications and messages..... | 9 |
| 5.7 Communications..... | 10 |
| 5.8 Identifiers and addresses summary..... | 11 |
| 6 GCMA organizational framework | 12 |
| 6.1 Overview..... | 12 |
| 6.2 Registration of globally unique identifiers..... | 13 |
| 6.3 Certification of ITS-S equipment..... | 14 |
| 6.4 Certification of ITS-S application processes..... | 15 |
| 6.5 Issuance of ITS-SCU certificates..... | 16 |
| 6.6 Issuance of certificates for real-time operation..... | 17 |
| 6.7 ITS application repository..... | 17 |
| 6.8 Secure installation and maintenance of facilities and communication protocols..... | 18 |
| 6.9 Registries..... | 18 |
| 6.10 Wrong behaviour reporting..... | 23 |
| 7 GCMA technical framework | 23 |
| 7.1 Addresses and identifiers..... | 23 |
| 7.2 Online management..... | 27 |
| Annex A (normative) ASN.1 modules | 29 |
| Bibliography | 39 |

ISO/TS 17419:2014(E)

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. 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. 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](#)

ISO/TS 17419 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Intelligent transport systems*, in collaboration with ISO Technical Committee ISO/TC 204, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Introduction

Classification and management of ITS applications in a global context covers more than just the ITS applications themselves. It also covers elements of the environment in which ITS applications are instantiated.

Intelligent Transport Systems (ITS) provide ITS services to users by execution of ITS applications which typically requires communications between ITS station application processes residing in ITS station units (ITS-SU). Communications includes exchange of messages dedicated to ITS applications, and exchange of messages from ITS message sets.

ITS applications and ITS application classes are referred to as ITS application objects. ITS application objects are uniquely identified by the registered "ITS Application Identifier" (ITS-AID) specified in this Technical Specification.

NOTE An ITS application class groups ITS applications together that provide the same type of service, e.g. "Electronic Fee Collection" (EFC), but operate in different contexts. The definition of ITS application classes is based on the concept of the DSRC Application entity as introduced in Reference [4], which is identified by a DSRCApplicationEntityID.

In Reference [17] ITS message sets were referred to as ITS application objects. This definition is not adopted in this Technical Specification due to the fundamentally different nature of ITS message sets and ITS application objects. ITS message sets are uniquely identified by the registered "ITS Message Set Identifier" (ITS-MsgSetID) specified in this Technical Specification.

This Technical Specification is an extension towards more general and global applicability of Reference [17]. This Technical Specification introduces the term "ITS-S object" as a general reference to ITS application objects, ITS message sets and other objects that may require globally unique identification and registration.

NOTE Examples of other ITS-S objects are ITS-S communication protocols and ITS-S security protocols.

Management of ITS-S objects is specified in the ISO 24102 series of International Standards [6][7][8][9][10][11] and in the Technical specification ISO/TS 17423. This Technical Specification focuses on some management aspects related to authorized and controlled operation of ITS-S objects which requires considerations of ITS-S object identifiers, i.e. ITS-AID, ITS-MsgSetID, ITS-SUID, ITS-SCUID, addresses and protocol identifiers used in the communication protocol stack of an ITS-S, and others.

Intelligent transport systems — Cooperative systems — Classification and management of ITS applications in a global context

1 Scope

This Technical Specification illustrates and specifies “Global Classification and Management of ITS Applications” (GCMA). It

- is based on the ITS station and communication architecture described in ISO 21217,
- describes and specifies globally unique addresses and identifiers (ITS-S object identifiers) which are both internal and external to ITS stations and are used for ITS station management,
- describes how ITS-S object identifiers and related technical parameters are used for classification, registration and management of ITS applications and ITS application classes,
- describes how ITS-S object identifiers are used in the ITS communication protocol stack,
- introduces an organizational framework for registration and management of ITS-S objects, and
- defines and specifies management procedures at a high functional level.

2 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/TS 17423, *Intelligent transport systems — Cooperative systems — ITS application requirements and objectives for selection of communication profiles*

ISO 21217, *Intelligent transport systems — Communications access for land mobiles (CALM) — Architecture*

ISO/IEC 8825-2:2008, *Information technology — ASN.1 encoding rules: Specification of Packed Encoding Rules (PER) — Part 2*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21217 and the following apply.

3.1

authorization

prescription that a particular behaviour shall not be prevented

Note 1 to entry: Unlike *permission* (3.22), an authorization is an empowerment.

3.2

ITS application

instantiation of an ITS service that involves an association of two or more complementary ITS-S application processes

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-