

PD CEN ISO/TS 17423:2014



BSI Standards Publication

**Intelligent transport systems  
— Cooperative systems —  
ITS application requirements  
and objectives for selection of  
communication profiles**

**bsi.**

...making excellence a habit.™

**National foreword**

This Published Document is the UK implementation of CEN ISO/TS 17423:2014.

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 secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014. Published by BSI Standards Limited 2014

ISBN 978 0 580 84387 7

ICS 03.220.20; 35.240.60

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 April 2014.

**Amendments issued since publication**

Date	Text affected
------	---------------

---

ICS 35.240.60; 03.220.20

English Version

**Intelligent transport systems - Cooperative systems - ITS  
application requirements and objectives for selection of  
communication profiles (ISO/TS 17423:2014)**

Systèmes intelligents de transport - Systèmes coopératifs -  
Exigences d'application d'ITS pour sélection d'interfaces de  
communication (ISO/TS 17423:2014)

Intelligente Transportsysteme - Kooperative Systeme - ITS  
Anwendungsanforderungen zur automatischen Auswahl  
von Kommunikationsschnittstellen (ISO/TS 17423:2014)

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**

## Foreword

This document (CEN ISO/TS 17423:2014) has been prepared by Technical Committee ISO/TC 204 "Intelligent transport systems" in collaboration with Technical Committee CEN/TC 278 "Intelligent transport systems" the secretariat of which is held by NEN.

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 17423:2014 has been approved by CEN as CEN ISO/TS 17423:2014 without any modification.

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Abbreviated terms</b> .....	<b>2</b>
<b>5 Communication service parameters</b> .....	<b>4</b>
5.1 Abstraction of application processes from communications.....	4
5.2 Communication service parameter classes.....	7
5.3 Operational communication service parameters.....	8
5.4 Destination communication service parameters.....	9
5.5 Performance communication service parameters.....	10
5.6 Security communication service parameters.....	12
5.7 Protocol communication service parameter.....	12
5.8 Communication service parameters overview.....	13
<b>6 Policies and regulations</b> .....	<b>14</b>
6.1 Cost policy.....	14
6.2 Need for station anonymity.....	16
6.3 Need for station location privacy.....	16
6.4 Support of station authentication.....	16
<b>7 ITS-S procedures for ITS-S communication profile selection</b> .....	<b>16</b>
7.1 Overview.....	16
7.2 Presentation of communication service parameters.....	16
7.3 Monitoring of capabilities of communications.....	17
7.4 Monitoring of regulations and policies.....	18
7.5 Selection of ITS-S communication profiles.....	18
7.6 Interaction with user of ITS-SU.....	18
7.7 Support of other application processes.....	18
<b>Annex A (normative) ASN.1 modules</b> .....	<b>20</b>
<b>Annex B (informative) Example of presentation of communication service parameters</b> .....	<b>26</b>
<b>Annex C (informative) On communication requirements and objectives</b> .....	<b>29</b>
<b>Bibliography</b> .....	<b>32</b>

## 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](http://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](http://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.

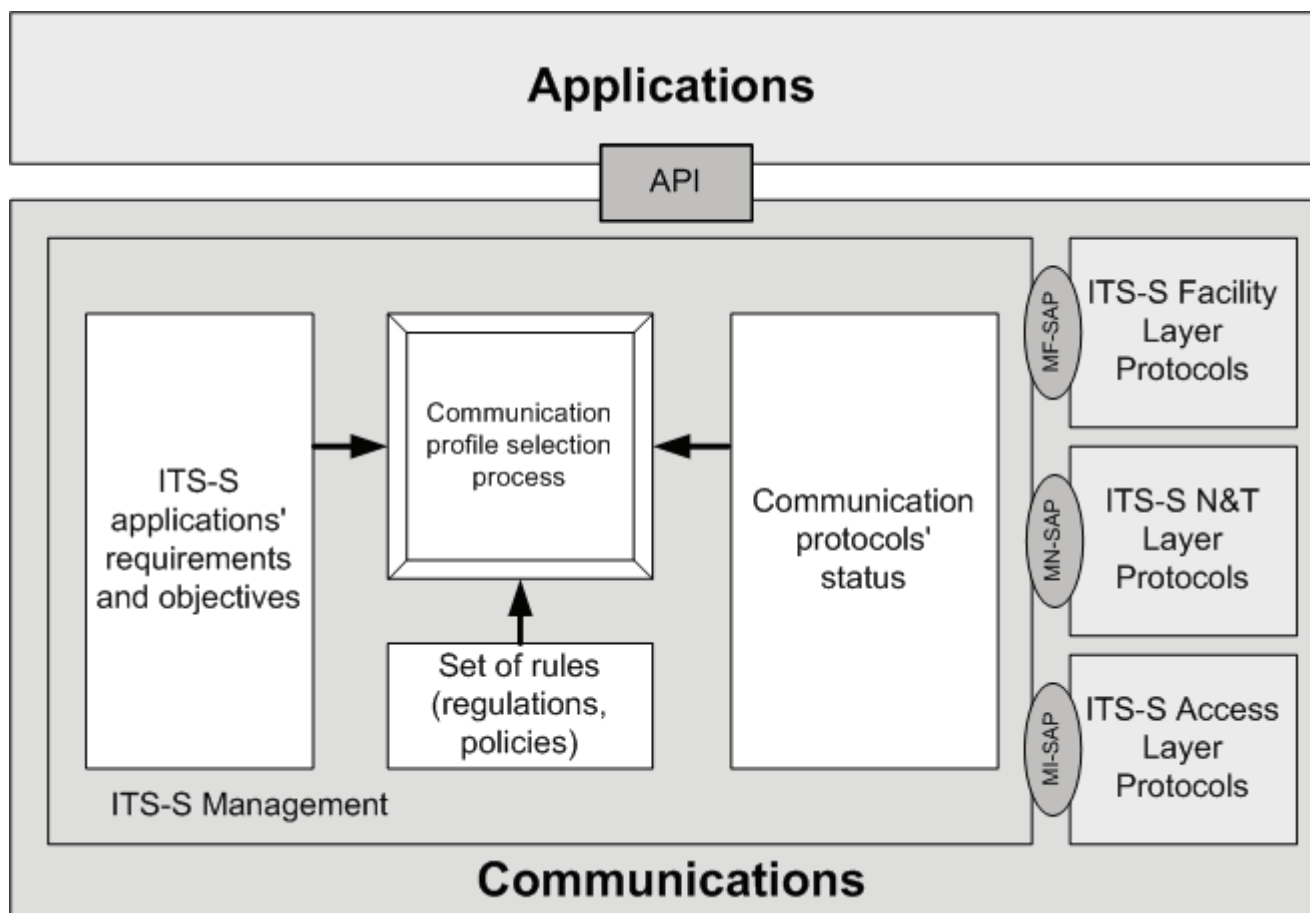
For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO/TS 17423 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

Abstracting applications from communications is a useful basic architectural principle of Intelligent Transport Systems <sup>1)</sup> (ITS) embodied in the ITS station and communication architecture presented in ISO 21217.

Applications and communications are linked together using the concepts of flows and paths and communication profiles described in ISO 21217 with related flow and path management procedures specified in Reference [6]. The ITS station management uses communication requirements and objectives of applications together with the capabilities of the ITS station (status of available communication protocol stacks) and sets of decision rules (regulations and policies) to select suitable parameterized ITS-S communication protocol stacks, also referred to as “ITS-S Communication Profiles” (ITS-SCP), for each source of a potential flow as illustrated in [Figure 1](#). A set of communication requirements is referred to as a Flow Type in Reference [6]. There may be well-known registered Flow Types as specified in ISO/TS 17419.



**Figure 1 — ITS-S communication profile selection process**

An ITS-S communication profile is independent of any destination address. However an instantiation of a communication profile includes the address of the next hop recipient, and a path includes address information of the next hop recipient, the anchor and the destination as specified in Reference [6].

A user of an ITS station unit may be able to influence the selection of ITS-S communication profiles by providing his own policies.

1) The term “Cooperative ITS” (C-ITS) indicates specific features of ITS<sup>[1]</sup>. For the purpose of this Technical Specification, no distinction between ITS and C-ITS is needed.

Information from a Local Dynamic Map (LDM) on neighbouring stations offering certain communication capabilities may also be useful for the ITS-S communication profile selection process, although not indispensable.

# Intelligent transport systems — Cooperative systems — ITS application requirements and objectives for selection of communication profiles

## 1 Scope

This Technical Specification

- specifies communication service parameters presented by ITS station (ITS-S) application processes to the ITS-S management in support of automatic selection of ITS-S communication profiles in an ITS station unit (ITS-SU),
- specifies related procedures for the static and dynamic ITS-S communication profile selection processes at a high functional level,
- provides an illustration of objectives used to estimate an optimum ITS-S communication profile.

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

ISO 21218, *Intelligent transport systems — Communications access for land mobiles (CALM) — Access technology support*

ISO/TS 17419, *Intelligent transport systems — Cooperative systems — Classification and management of ITS applications in a global context*

ISO 24102-3, *Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management — Part 3: Service access points*

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

ISO 4217:2008, *Codes for the representation of currencies and funds*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 17419, ISO 21217, ISO 21218 and the following apply.

### 3.1 authorization

prescription that a particular behaviour shall not be prevented

Note 1 to entry: Unlike a permission, an authorization is an empowerment.