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STN	**Inteligentné dopravné systémy. Kooperatívne inteligentné dopravné systémy. Slovník informačných dátových štruktúr vo vozidle (VI) (ISO/TS 19321: 2015).**	**STN P CEN ISO/TS 19321** 01 8517

Intelligent transport systems - Cooperative ITS - Dictionary of in-vehicle information (IVI) data structure (ISO/TS 19321:2015)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/15

Táto predbežná STN je určená na overenie. Pripomienky zasielajte ÚNMS SR najneskôr do 30.04.2017.

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English Version

Intelligent transport systems - Cooperative ITS - Dictionary of in-vehicle information (IVI) data structure (ISO/TS 19321:2015)

Systèmes intelligents de transport - Coopérative STI - Dictionnaire de structures de données d'informations dans les véhicules (IVI) (ISO/TS 19321:2015)

Intelligente Transportsysteme - Kooperative ITS - Beschreibungsverzeichnis fahrzeuginterner Informationen von Datenstrukturen (IVI) (ISO/TS 19321:2015)

This Technical Specification (CEN/TS) was approved by CEN on 7 March 2015 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (CEN ISO/TS 19321:2015) 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.

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Endorsement notice

The text of ISO/TS 19321:2015 has been approved by CEN as CEN ISO/TS 19321:2015 without any modification.

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TECHNICAL SPECIFICATION

ISO/TS 19321

First edition
2015-04-15

Intelligent transport systems — Cooperative ITS — Dictionary of in-vehicle information (IVI) data structures

Systèmes intelligents de transport — Coopérative STI — Dictionnaire de structures de données d'informations dans les véhicules (IVI)

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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).

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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 19321 was prepared by European Committee for Standardization (CEN) in collaboration with ISO/TC 204, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Introduction

In Cooperative-ITS (C-ITS), presenting information related to the traffic situation or regulation of a road to the driver of a vehicle is an important component of road operations. The road operators are responsible for road setup, operation, signage, and maintenance for traffic management and road safety, and in some countries, also for the enforcement of road laws. For road operators, efficient transport of vehicles on roadways ensures a safe and predictable trip for all road users. Road operators, together with equipment manufacturers, be it that they are of vehicles or of roadside equipment, contribute to how road information is properly presented to drivers.

So far, one defined C-ITS method for notifying road users of road and/or traffic situations and events is by transmission of messages such as Cooperative Awareness Messages (CAM), Decentralized Environment Notification Messages (DENM), or Basic Safety Messages (BSM).

This Technical Specification supports mandatory and advisory road signage such as contextual speeds and road works warnings. In-vehicle information can be sent by an ITS-S and either corresponds to physical road signs such as static or variable road signs or not correspond to physical road signs (a virtual sign) or correspond to road works. IVI does not include identification of road events as already provided by DENM.

This Technical Specification provides a toolbox of information elements for IVI. It can be used to fulfil the requirements of the service provider considering the needs of receiving ITS-S. The container concept provides a way for an ITS-S to manage the relevant IVI information, determine where the IVI is relevant, and to provide details for the application of IVI. The description of data elements encompasses the data syntax and semantics, i.e. a definition of data format and content, together with a description of how to use those data elements.

This Technical Specification is of an enabling nature. It does not specify which information is necessary for a certain service, but it supports those IVI information elements that can be necessary to be transmitted to a receiving ITS-S to carry out a certain service. Usage of the IVI information elements depends on the specific context and application of IVI for a specific service and usage is established as mandatory or optional only for messaging purposes, not for application purposes. The IVI Structure is intended to be profiled to fulfil the requirements of a specific service.

This Technical Specification refers to ISO/TS 14823 as one system of standardized codes for existing road signs codes. Note that ISO/TS 14823 does not contain codes for specific national or regional signs which are not commonly used. ISO/TS 14823 also does not represent a catalogue of road sign pictograms for all applicable nations.

Intelligent transport systems — Cooperative ITS — Dictionary of in-vehicle information (IVI) data structures

1 Scope

This Technical Specification specifies the in-vehicle information (IVI) data structures that are required by different ITS services (for example, refer to ISO/TS 17425 and ISO/TS 17426) for exchanging information between ITS Stations. A general, extensible data structure is specified (see Clause 5). This is split into structures called containers to accommodate current-day information (see Clause 6). Transmitted information includes IVI such as contextual speed, road works warnings, vehicle restrictions, lane restrictions, road hazards warnings, location-based services, re-routing, etc. The information in the containers is organized in sub-structures called data frames and data elements which are described in terms of its content (see Clause 7) and its syntax (see Annex A).

The data structures are specified as communications agnostic. This Technical Specification does not provide the communication protocols. This Technical Specification then provides scenarios for usage of the data structure, e.g. in case of real time, short-range communications.

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 639-1:2002, *Codes for the representation of names of languages — Part 1: Alpha-2 code*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO 14816:2005, *Road transport and traffic telematics — Automatic vehicle and equipment identification — Numbering and data structure*

ISO 14906:2011, *Electronic fee collection — Application interface definition for dedicated short-range communication*

ISO/IEC 8824-1:2008, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation*

ISO/TS 14823, *Traffic and travel information — Messages via media independent stationary dissemination systems — Graphic data dictionary for pre-trip and in-trip information dissemination systems*

ETSI/TS 102 894-2 V1.1.12, *Intelligent Transport Systems (ITS); Users and applications requirements; Part 2: Applications and facilities layer common data dictionary*

