ICS 03.220.20, 35.240.60 SLOVENSKÁ TECHNICKÁ NORMA September 2015

STN	**Inteligentné dopravné systémy. Kooperatívne systémy. Definícia globálneho konceptu pre miestne dynamické mapy(ISO/TS 18750:2015).**	**STN P CEN ISO/TS 18750** 01 8516

Intelligent transport systems - Cooperative systems - Definition of a global concept for Local Dynamic Maps (ISO/TS 18750:2015)

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 31.05.2017.

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TECHNICAL SPECIFICATION

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CEN ISO/TS 18750

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English Version

Intelligent transport systems - Cooperative systems - Definition of a global concept for Local Dynamic Maps (ISO/TS 18750:2015)

Systèmes intelligents de transport - Systèmes coopératifs - Définition d'un concept global pour cartes dynamiques locales (ISO/TS 18750:2015)

Intelligente Transportsysteme - Kooperative Systeme - Festlegung eines globalen Konzeptes für lokale dynamische Karten (ISO/TS 18750:2015)

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

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Foreword

This document (CEN ISO/TS 18750:2015) 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.

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Endorsement notice

The text of ISO/TS 18750:2015 has been approved by CEN as CEN ISO/TS 18750:2015 without any modification.

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TECHNICAL SPECIFICATION

ISO/TS 18750

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Intelligent transport systems — Cooperative systems — Definition of a global concept for Local Dynamic Maps

Systèmes intelligents de transport — Systèmes coopératifs — Définition d'un concept global pour cartes dynamiques locales

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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

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Foreword

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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 18750 was prepared by the 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

An essential property of cooperative intelligent transport systems (C-ITS)[16] is the sharing of data between different ITS applications providing different ITS services to the users. This approach replaces the traditional approach where each application is operated in an isolated environment, i.e. referred to as “silo approach”. The C-ITS approach enables synergies in components of an ITS station unit, e.g. sharing of communication tools, improves overall performance and reliability, and reduces overall cost. In order to protect the interests of the various ITS applications, C-ITS implements the concept of an ITS station (ITS-S) operated as bounded secured managed domain.

The sharing of data between applications is achieved by subscribe/publish mechanisms, where at least two mechanisms are distinguished, i.e. one allowing ITS-S application processes to subscribe to standardized messages from ITS message sets (direct forwarding upon reception of such messages in an ITS station unit) and one using a Local Dynamic Map (LDM) as repository of standardized data objects. Such data objects stored in an LDM are named LDM Data Objects (LDM-DOs). LDM-DOs provide self-consistent information on real objects existing at a given geo-location during a given lifetime-interval. Authorized ITS-S application processes may add LDM-DOs to an LDM and may retrieve LDM-DOs from an LDM. Retrieval of LDM-DOs may be performed in queries and by means of subscription. A subscription will result in automatic notifications of selected LDM-DOs either in defined time intervals or event driven.

This Technical Specification introduces the usage of LDMs and specifies the LDM for global usage in C-ITS.

Initial implementations of LDMs were in the EU research projects CVIS[32] and Safespot[34].

Intelligent transport systems — Cooperative systems — Definition of a global concept for Local Dynamic Maps

1 Scope

This Technical Specification

— describes the functionality of a "Local Dynamic Map" (LDM) in the context of the "Bounded Secured Managed Domain" (BSMD), and

— specifies

  — general characteristics of LDM Data Objects (LDM-DOs) that may be stored in an LDM, i.e. information on real objects such as vehicles, road works sections, slow traffic sections, special weather condition sections, etc. which are as a minimum requirement location-referenced and time-referenced,

  — service access point functions providing interfaces in an ITS station (ITS-S) to access an LDM for

    — secure add, update, and delete access for ITS-S application processes,

    — secure read access (query) for ITS-S application processes,

    — secure notifications (upon subscription) to ITS-S application processes, and

    — management access,

      — secure registration, de-registration, and revocation of ITS-S application processes at LDM, and

      — secure subscription and cancellation of subscriptions of ITS-S application processes,

  — procedures in an LDM considering

    — means to maintain the content and integrity of the data store, and

  — mechanisms supporting several LDMs in a single ITS station unit.

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

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

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

