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STN	**Inteligentné dopravné systémy Kooperatívne inteligentné dopravné systémy Miestne dynamické mapy (ISO 18750: 2018)**	**STN EN ISO 18750** 01 8516

Intelligent transport systems - Co-operative ITS - Local dynamic map (ISO 18750:2018)

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. 12/18

Obsahuje: EN ISO 18750:2018, ISO 18750:2018

Oznámením tejto normy sa ruší
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 18750

June 2018

ICS 03.220.20; 35.240.60 Supersedes CEN ISO/TS 18750:2015

English Version

Intelligent transport systems - Co-operative ITS - Local dynamic map (ISO 18750:2018)

Systèmes de transport intelligents - Systèmes intelligents de transport coopératifs - État des connaissances des cartes (ISO 18750:2018)

Intelligente Transportsysteme - Kooperative Systeme - Festlegung eines globalen Konzeptes für lokale dynamische Karten (ISO 18750:2018)

This European Standard was approved by CEN on 12 June 2018.

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EN ISO 18750:2018 (E)

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European foreword

This document (EN ISO 18750:2018) 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.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

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

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Endorsement notice

The text of ISO 18750:2018 has been approved by CEN as EN ISO 18750:2018 without any modification.

INTERNATIONAL STANDARD

ISO 18750

First edition
2018-05

Intelligent transport systems — Co-operative ITS — Local dynamic map

Systèmes de transport intelligents — Systèmes intelligents de transport coopératifs — État des connaissances des cartes

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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 voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 204, *Intelligent transport systems*.

This first edition cancels and replaces the first edition (ISO/TS 18750:2015), which has been technically revised.

Introduction

An essential property of cooperative intelligent transport systems (C-ITS), see ISO TR 17465-1[17], 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 operated as a 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 Data Objects either in defined time intervals, or event driven.

This document 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[40] and Safespot[42].

INTERNATIONAL STANDARD ISO 18750:2018(E)

Intelligent transport systems — Co-operative ITS — Local dynamic map

1 Scope

This document:

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

— 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;

    — management access:

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

      — 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;

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

ISO/IEC 9646-7, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 7: Implementation Conformance Statements*

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

