Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 2: Location referencing

EESTI STANDARDIKESKUS EVS
ESTONIAN CENTRE FOR STANDARDISATION

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NATIONAL FOREWORD

See Eesti standard EVS-EN 16157-2:2019 sisaldab Euroopa standardi EN 16157-2:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 16157-2:2019 consists of the English text of the European standard EN 16157-2:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.03.2019.	Date of Availability of the European standard is 06.03.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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English Version

Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 2: Location referencing

Systèmes de transport intelligents - Spécifications Datex II d'échange de données pour la gestion du trafic et l'information routière - Partie 2 : Localisation

Intelligente Verkehrssysteme - DATEX II Datenaustauschspezifikation für Verkehrsmanagement und Verkehrsinformationen - Teil 2: Ortsreferenzierung

This European Standard was approved by CEN on 2 December 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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European foreword

This document (EN 16157-2:2019) has been prepared by 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 September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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.

This document supersedes CEN/TS 16157-2:2011.

The major differences introduced in the new edition of this part are the following:

— introduction of a new location referencing system based on ISO/TS 21219-22 "OpenLR™";

— introduction of a new location refrencing g system for linear features based on GML LineString;

— introduction of features to deal with 3D coordinates and accuracy assessment;

— flexibility when using linear referencing systems;

— remodelling of the "PredefinedLocationsPublication";

— correction of different bugs.

EN 16157-2 is the second part of the EN 16157 series, *Intelligent transport systems — DATEX II data exchange specifications for traffic management and information"*; the other parts are:

— *Part 1: Context and framework*;

— *Part 3: Situation Publication*;

— *Part 4: Variable Message Sign (VMS) Publications* [Technical Specification];

— *Part 5: Measured and elaborated data publications* [Technical Specification];

— *Part 6: Parking Publications* [Technical Specification];

— *Part 7: Common data elements*.

Other parts will be developed in the future.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard defines a common set of data exchange specifications to support the vision of a seamless interoperable exchange of traffic and travel information across boundaries, including national, urban, interurban, road administrations, infrastructure providers and service providers. Standardization in this context is a vital constituent to ensure interoperability, reduction of risk, reduction of the cost base, promotion of open marketplaces and many social, economic and community benefits to be gained from more informed travellers, network managers and transport operators.

Delivering European Transport Policy in line with the White Paper issued by the European Commission requires co-ordination of traffic management and development of seamless pan European services. With the aim to support sustainable mobility in Europe, the European Commission has been supporting the development of information exchange mainly between the actors of the road traffic management domain for a number of years. In the road sector, DATEX II has been long in fruition, with the European Commission being fundamental to its development through an initial contract and subsequent co-funding through the Euro-Regional projects. With this standardization of DATEX II, there is a real basis for common exchange between the actors of the traffic and travel information sector.

This European Standard includes the framework and context for exchanges, the modelling approach, data content, data structure and relationships.

This European Standard supports a methodology that is extensible.

This part of EN 16157 deals with DATEX II location referencing. It references existing location referencing Standards or European Standards.

1 Scope

This European Standard series (EN 16157) specifies and defines component facets supporting the exchange and shared use of data and information in the field of traffic and travel.

The component facets include the framework and context for exchanges, the modelling approach, data content, data structure and relationships.

This European Standard series is applicable to:

— traffic and travel information which is of relevance to road networks (non-urban and urban),

— public transport information that is of direct relevance to the use of a road network (e.g. road link via train or ferry service),

— traffic and travel information in the case of Cooperative intelligent transport systems (C-ITS).

This European Standard series establishes specifications for data exchange between any two instances of the following actors:

— Traffic Information Centres (TICs),

— Traffic Control Centres (TCCs),

— Service Providers (SPs).

Use of this European Standard series may be applicable for use by other actors.

This European Standard series covers, at least, the following types of informational content:

— road traffic event information – planned and unplanned occurrences both on the road network and in the surrounding environment,

— operator initiated actions,

— road traffic measurement data, status data, and travel time data,

— travel information relevant to road users, including weather and environmental information,

— road traffic management information and instructions relating to use of the road network.

This part of the EN 16157 series specifies the informational structures, relationships, roles, attributes and associated data types, for the implementation of the location referencing systems used in association with the different publications defined in the Datex II framework. It also defines a DATEX II publication for exchanging predefined locations. This is part of the DATEX II platform independent data model.

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.

EN 16157-1:2018, *Intelligent transport systems – DATEX II data exchange specifications for traffic management and information – Part 1: Context and Framework*

EN 16157-7, *Intelligent transport systems – DATEX II data exchange specifications for traffic management and information – Part 7: Common data elements*

EN 16803-1, *Space – Use of GNSS-based positioning for road Intelligent Transport Systems (ITS) – Part 1: Definitions and system engineering procedures for the establishment and assessment of performances*

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

EN ISO 14819-1, *Intelligent transport systems – Traffic and travel information messages via traffic message coding – Part 1: Coding protocol for Radio Data System – Traffic Message Channel (RDS-TMC) using ALERT-C (ISO 14819-1)*

EN ISO 14819-3:2013, *Intelligent transport systems – Traffic and travel information messages via traffic message coding – Part 3: Location referencing for Radio Data System – Traffic Message Channel (RDS-TMC) using ALERT-C (ISO 14819-3:2013)*

EN ISO 14825:2011, *Intelligent transport systems – Geographic Data Files (GDF) – GDF5.0 (ISO 14825:2011)*

CEN ISO/TS 18234-6, *Traffic and Travel Information (TTI) – TTI via Transport Protocol Expert Group (TPEG) data-streams – Part 6: Location referencing applications (ISO/TS 18234-6)*

EN ISO 19136:2009, *Geographic information – Geography Markup Language (GML) (ISO 19136:2007)*

EN ISO 19148:2012, *Geographic information Linear referencing (ISO 19148:2012)*

CEN ISO/TS 24530-2, *Traffic and Travel Information (TTI) – TTI via Transport Protocol Experts Group (TPEG) Extensible Markup Language (XML) – Part 2: tpeg-locML (ISO/TS 24530-2)*

ISO 3166-2, *Codes for the representation of names of countries and their subdivisions – Part 2: Country subdivision code*

ISO/IEC 19505-1, *Information technology – Object Management Group Unified Modeling Language (OMG UML) – Part 1: Infrastructure*

ISO/TS 21219-22, *Intelligent transport systems – Traffic and travel information (TTI) via transport protocol experts group, generation 2 (TPEG2) – Part 22: OpenLR location referencing (TPEG2-OLR)*