

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 Transportsysteme - DATEX II Datenaustausch
Spezifikationen für Verkehrsmanagement und
Informationen - Teil 2: Positionsreferenz

This Technical Specification (CEN/TS) was approved by CEN on 10 April 2011 for provisional application.

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Foreword

This document (CEN/TS 16157-2:2011) has been prepared by Technical Committee CEN/TC 278 “Road transport and traffic telematics”, 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 supersedes ENV 13777:2000, ENV 13106:2000.

As a user of the standard, attention is drawn to the resources of www.datex2.eu. This web site contains related software tools and software resources that aid the implementation of CEN/TS 16157 DATEX II.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This Technical Specification 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. Standardisation 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 standardisation of DATEX II, there is a real basis for common exchange between the actors of the traffic and travel information sector.

This Technical Specification includes the framework and context for exchanges, the modelling approach, data content, data structure and relationships, communications specification.

This Technical Specification supports a methodology that is extensible.

This Part, Part 2 of this Technical Specification, deals with DATEX II location referencing. It references existing location referencing Standards or Technical Specifications.

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1 Scope

This Technical Specification (CEN/TS 16157-2) 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, communications specification.

This Technical Specification 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).

This Technical Specification 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 Technical Specification may be applicable for use by other actors.

This Technical Specification 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 CEN/TS 16157 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 Conformance

The DATEX II platform independent data model of which the location referencing packages as well as Predefined Locations Publication sub-model are parts, corresponds to the Level A model as defined in CEN/TS 16157-1.

Conformance with this Part shall require platform independent models from which platform specific models are generated to comply with the UML modelling rules defined in CEN/TS 16157-1 and with the following requirements of this sub-model which are expressed in this Part:

- comply with all stipulated minimum and maximum multiplicity requirements for UML elements and relationships;
- comply with all definitions, types and ordering;
- employ optional elements as specified;
- comply with all expressed constraints.

It should be noted that conformance of a publication service with all the structural requirements stated above does not necessarily ensure that the informational content of that service will be semantically comprehensible.

3 Normative references

The following referenced documents are indispensable for the application 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.

CEN/TS 16157-1:2011, *Intelligent Transport Systems — DATEX II data exchange specifications for traffic management and information — Part 1: Context and framework*

CEN ISO/TS 18234-6:2006, *Traffic and Travel Information (TTI) — TTI via Transport Protocol Expert Group (TPEG) data-streams — Part 6: Location Referencing application (TPEG-Loc) (ISO/TS 18234-6:2006)*

CEN ISO/TS 24530-2:2006, *Traffic and Travel Information (TTI) — TTI via Transport Protocol Experts Group (TPEG) Extensible Markup Language (XML) — Part 2: tpeg-locML (ISO/TS 24530-2:2006)*

EN ISO 14819-3:2004, *Traffic and Travel Information (TTI) — TTI messages via traffic message coding — Part 3: Location referencing for ALERT-C (ISO 14819-3:2004)*

prEN ISO 19148, *Geographic Information — Linear Referencing (ISO/DIS 19148:2009)*

4 Terms and definitions

For the purposes of this document, the terms and definitions given in CEN/TS 16157-1:2011 and the following apply.

4.1

area

two-dimensional, geographical region on the surface of the Earth

[ISO 17572-1:2008]

4.2

descriptor

characteristic of a geographic object, usually stored in an attribute

EXAMPLE Road names or road numbers.

4.3

destination

specification of the end point of a defined route or itinerary

NOTE This may be either a location on a network or an area location.