SLOVENSKI STANDARD
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Inteligentni transportni sistemi - Specifikacije za izmenjavo podatkov DATEX II pri upravljanju prometa in informiranju - 15. del: Povezovanje s shemo JSON

Intelligent transport systems — DATEX II data exchange specifications for traffic management and information — Part 15: JSON Schema mapping

Intelligente Verkehrssysteme - DATEX II Datenaustauschspezifikation für Verkehrsmanagement und Verkehrsinformation - Teil 15: Abbildung des JSON-Schema

Systèmes de transport intelligents — Spécifications Datex II d'échange de données pour la gestion du trafic et l'information routière — Partie 15 : Mappage de Schéma JSON

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Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 15: JSON Schema mapping

Systèmes de transport intelligents - Spécifications Datex II d'échange de données pour la gestion du trafic et l'information routière - Partie 15 : Mappage de Schéma JSON

Intelligente Verkehrssysteme - DATEX II Datenaustauschspezifikation für Verkehrsmanagement und Verkehrsinformation - Teil 15: Abbildung des JSON-Schema

This draft Technical Specification is submitted to CEN members for Vote. It has been drawn up by the Technical Committee CEN/TC 278.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (FprCEN/TS 16157-15:2026) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

This document is currently submitted to the Vote as TS.

This document will supersede CEN/TS 17466.

The CEN 16157 series consist of several parts under the general title “Intelligent transport systems — DATEX II data exchange specifications for traffic management and information”. Other parts may be developed in the future.

A list of all parts in a series can be found on the CEN website: www.cencenelec.eu.

As a user of this document, 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 EN 16157 DATEX II.

Introduction

This document defines a common set of data exchange specifications to support the vision of a seamless interoperable exchange of road 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.

Deploying intelligent transport systems in line with European Sustainable and Smart Mobility Strategy as issued by the European Commission requires co-ordination of traffic management operation and development of seamless pan-European information services. These jointly aim at contributing to the transformation of the European transport system for the objectives of efficient, safe, sustainable, smart and resilient mobility.

In this context the European Commission has been supporting the development of information exchange between the actors of road traffic management and related services for several 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 of the further evolution of the standard and user support ecosystem. With this standardization of DATEX II, there is a real basis for common exchange between the actors of the traffic and travel information sector both in the collaboration between traffic management organisations and their systems, as well as in coherent information provision to service providers. DATEX II supports the requirements of the stakeholder organisations involved in the road traffic and travel domain in compliance with the EU policy and legal frameworks aimed at the sector.

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 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.

Part 15 of the CEN/TS 16157 series (this Technical Specification) specifies the mapping from UML models into a JSON Schema representation, in compliance with CEN/EN 16157-1, which defines the overall context and framework for such mappings, including the corresponding XML Schema representation.

1 Scope

The CEN 16157 multipart standard specifies and defines component aspects supporting the shared use of data and information in the field of traffic and travel. The component aspects include the modelling approach, the data content, the data structure and relationships and the communications specification.

This document defines a mapping from UML models, compliant with EN 16157-1, into JavaScript Object Notation (JSON) using JSON Schema as specified in draft 2020-12 and subsequent versions.

The schema mapping conforms to the JSON format defined by the Internet Engineering Task Force (IETF) in RFC 8259.

In the context of describing generation of schema, this refers to the webtool made available as part of the CEN 16157 multipart standard, which can generate the JSON schema mapping specified in this document.

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.

<std>EN 16157-1:2018, *Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 1: Context and framework*</std>

3 Terms and definitions

There are no terms and definitions listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp/

— IEC Electropedia: available at https://www.electropedia.org/

4 Symbols and abbreviations

UML	Unified Modeling Language
JSON	JavaScript Object Notation
LCC	lower camel case
UCC	upper camel case
URI	Uniform Resource Identifier
URL	Uniform Resource Locator

5 Overall document structure and namespaces

5.1 General

The mapping rules described in this document define the structure of types, properties, and elements derived from the UML model. In order to provide a usable implementation format these types, properties and elements are organised into JSON Schema definition files. Each file corresponds to one «D2Namespace» and contains the complete set of class, enumeration, and reference definitions belonging to that package.