SIST

SLOVENSKI STANDARD
SIST EN ISO 14823:2017

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Nadomešča:
SIST-TS CEN ISO/TS 14823:2009

Inteligentni transportni sistemi - Seznam grafičnih simbolov (ISO 14823:2017)

Intelligent transport systems - Graphic data dictionary (ISO 14823: 2017)

Intelligente Verkehrsysteme - Graphisches Verzeichnis (ISO 14823: 2017)

Systèmes de transport intelligents - Dictionnaire de données graphiques (ISO 14823:2017)

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ICS:

35.240.60	Uporabniške rešitve IT v prometu	IT applications in transport
43.040.15	Avtomobilska informatika. Vgrajeni računalniški sistemi	Car informatics. On board computer systems

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EUROPEAN STANDARD

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English Version

Intelligent transport systems - Graphic data dictionary (ISO 14823:2017)

Systèmes de transport intelligents - Dictionnaire de données graphiques (ISO 14823:2017)

Intelligente Verkehrsysteme - Graphisches Verzeichnis (ISO 14823:2017)

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European foreword

This document (EN ISO 14823:2017) 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of an identical text or by endorsement, at the latest by November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

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.

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Endorsement notice

The text of ISO 14823:2017 has been approved by CEN as EN ISO 14823:2017 without any modification.

INTERNATIONAL STANDARD

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Intelligent transport systems — Graphic data dictionary

Systèmes de transport intelligents — Dictionnaire de données graphiques

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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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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: www.iso.org/iso/foreword.html.

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

This first edition cancels and replaces ISO/TS 14823:2008, which has been technically revised.

Introduction

This document specifies a Graphic Data Dictionary (GDD) that has been developed with the intent of creating a common basis for transmitting encoded information for existing road traffic signs and pictograms. The coding system has been developed to be language independent, such that data that can be interpreted, irrespective of language or regional differences. It supports Intelligent Transport System (ITS) application such as in-vehicle signage or in-vehicle information.

This document supports

— the efficient IT-centric encoding for ITS messaging to represent specific road traffic signs and pictograms, and

— the consistent decoding of encoded road traffic signs and pictogram data for display in ITS.

This document can support the translation of signs and pictograms with a similar purpose from the representation used in one country to the representation used in another country.

Intelligent transport systems — Graphic data dictionary

1 Scope

This document specifies a graphic data dictionary, a system of standardised codes for existing road traffic signs and pictograms used to deliver Traffic and Traveller Information (TTI). The coding system can be used in the formation of messages within intelligent transport systems.

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 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

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

3.1
attribute
code attached to the *pictogram* (3.4) in order to clarify the meaning of pictogram

3.2
country code
internationally recognised codes stipulated by ISO 3166-1 when referring to countries and subdivisions of countries

3.3
graphic data dictionary
catalogue of codes for *pictograms* (3.4) organised systematically

3.4
pictogram
sign or icon rendered on a display of IT system such as computer or VMS to inform travellers of information such as traffic regulations or public facilities

3.5
pictogram category code
codes assigned to the more detailed category of a *pictogram* (3.4) type under the service category

3.6
qualifier
parameter for an *attribute* (3.1) used to express the meaning of *pictogram* (3.4) quantitatively

3.7
service category code
codes assigned to distinguish the service category such as a regulation or public facilities

4 Conformance

An implementation is conformant with this document when the following conditions are met.

— The implementation and transmission of graphic data shall comply with requirements listed in this document.

— The pictogram code shall be selected from the categorized codes listed in this document.

5 Abbreviated terms

ASN.1	Abstract Syntax Notation One
ITS	Intelligent Transport Systems
IT	Information Technology
UML	Unified Modelling Language
U.N.	United Nations
VMS	Variable Message Sign

6 Requirements

The intended usage of this document is to support the efficient IT-centric encoding for ITS messaging to represent specific road traffic signs and pictograms and the consistent decoding of encoded road traffic signs and pictogram data for display in ITS.

This document supports the translation of pictograms with similar purpose from the representation used in one country to the representation used in another country. For illustrative purposes, it is foreseen that this document can be used to encode information concerning a specific pictogram that is then embedded into other information to be exchanged; if needed, on receipt of this information, the receiver can use the contents of this document to decode the information concerning the specific pictogram to support display across a range of dissemination systems. Examples of these dissemination systems may include: Traffic Control Centre system user interfaces; Variable Message Signs; Public Access Terminals; mobile personal information systems; and, on-board units.

Requirements for ITS applications which utilize the Graphic Data Dictionary are as follows.

— Graphic data shall consist country code, category code, and optionally Attribute indicator.

— Category code shall be decided based on Table 1.

— Regulatory pictogram code shall be selected from Table 3.

— Guide pictogram code shall be selected from Table 4.

— Public facilities pictogram code shall be selected from Table 5.

— Ambient/road conditions pictogram code shall be selected from Table 6.

— Integer value which indicate the direction shall be determined based on Table B.3.

— If Attribute indicator is on, graphic data shall include attributes listed in Table B.1.

— When transmitting Graphic data, it shall be coded based on the ASN.1 code described in Annex A.

NOTE For transmission efficiency purposes, compression can be considered. This is outside the scope of this document.

7 Structure of Graphic Data Dictionary

7.1 General

The Graphic Data Dictionary shall consist of country code, category code. The Graphic Data Dictionary supports the definition of optional attributes.

7.2 Country code

Country code stipulated by ISO 3166-1 is used to distinguish the country where Graphic Data Dictionary is provided, as the style of pictograms can be different in each country. For example, if the on-board unit has multiple countries' pictograms, it can render pictogram on the display in accordance to each county code when the traveller driving through adjacent countries.

7.3 Category code

7.3.1 Categorization policy

Category code consists of a service category code and a pictogram category code. Service category has following three types of categories: Traffic sign, Public facilities and Ambient/road conditions.

— Traffic signs are officially established pictograms in each country to control traffic using warning, regulatory or informative sign.

— Public facilities indicates the existence of certain public facilities and their service details (e.g. toilets, restaurants, first aid facilities, etc.).

— "Ambient/road condition" is concerned with the ambient condition of a roadway or local condition which may affect the flow of road traffic (such as bad weather and traffic congestion).

Pictograms to be used for information display may vary from country to country, political jurisdiction to political jurisdiction, or system operator to system operator.