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Intelligent transport systems — Graphic data dictionary —

Part 1: Specification

Systèmes de transport intelligents — Dictionnaire de données graphiques —

Partie 1: Spécification

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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 document 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 of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204*, Intelligent transport systems,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Intelligent transport systems,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces the first edition (ISO 14823:2017), which has been technically revised.

The main changes are as follows:

— the mechanism of "relative object identifier" has been specified (7.3);

— the inclusion of up to 4 pictograms in the graphic data dictionary (GDD) has been allowed;

— redundant pictogram codes have been deleted;

— new pictogram codes requested by certain countries have been added;

— new attributes to comply with new signs have been added;

— redundant attributes have been deleted;

— existing attributes have been changed to be more flexible and to be harmonized with existing International Standards.

A list of all parts in the ISO 14823 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

0.1 Design principle

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. The GDD 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.

Existing road traffic signs and pictograms from various countries are listed in Annex I.

0.2 Background of revision

The first edition of this document (ISO 14823:2017) used the country codes stipulated by ISO 3166-1 to distinguish the country where the GDD is provided and used the following numbering structure to identify the pictogram codes stipulated in Clause 8.

— The two-digit category of the sign.

— The one-digit nature of the sign.

— The two-digit serial number of the sign.

However, this mechanism lacked a global identification of pictogram codes and a flexibility when adding new pictogram codes.

To cope with these issues, the present document, ISO 14823-1:2023, has been developed.

0.3 Backward compatibility

This document has been developed to be backward compatible with ISO 14823:2017 to assist in transitions from earlier implementations, while not hindering spreads of ISO 14823:2017 and being able to support many new features.

Specifically, the GDD allows the selection of two versions described in 7.1. The GDD allows the use of the ASN.1 description specified in Annex A or Annex E, and allows the use of the attributes specified in Annex B or Annex F.

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Intelligent transport systems — Graphic data dictionary —

Part 1: Specification

1 Scope

This document specifies a graphic data dictionary (GDD), a system of standardized 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 (ITS).

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 code*

ISO 8601-1:2019, *Date and time — Representations for information interchange — Part 1: Basic rules*

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

ISO/IEC 8825-5:2021, *Information technology — ASN.1 encoding rules — Part 5: Mapping W3C XML schema definitions into ASN.1*

ISO/IEC 8859-1, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

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

3 Terms and definitions

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

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/

3.1
attribute
coded information which can be associated to a *pictogram* (3.5) in order to clarify the meaning of the pictogram

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