INTERNATIONAL STANDARD

ISO 17438-4

First edition
2019-04

Intelligent transport systems — Indoor navigation for personal and vehicle ITS station —

Part 4: Requirements and specifications for interface between personal/vehicle and central ITS stations

Systèmes de transport intelligents — Navigation interne pour station personelle et véhicule ITS —
Partie 4: Exigences et spécifications de l'interface entre les stations personnelle/véhicule et centrale ITS

Reference number
ISO 17438-4:2019(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

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*.

For a list of all the parts in the ISO 17438 series, see the ISO website www.iso.org.

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.

Introduction

With the spread of nomadic and mobile devices such as smart phones and the rapid expansion of indoor spaces, many of the services and facilities related to the transport system have become accessible to indoor spaces. Consequently, navigation in indoor space is considered a new killer application in the transport industry.

The objective of this document is to provide message specifications required for indoor navigation functionality. This document is intended to be used by designers, developers and providers of indoor navigation services. This document defines use cases, requirements and message specifications for supporting indoor navigation in intelligent transport systems. When implemented, this document will:

1) Provide developers and designers with concepts and appropriate information to implement indoor navigation service;

2) Provide developers and designers with interoperable ways to use indoor navigation data from various sources for indoor navigation;

3) Enable users to be provided with indoor navigation;

4) Provide developers and designers with an extendable base for indoor navigation.

Intelligent transport systems — Indoor navigation for personal and vehicle ITS station —

Part 4: Requirements and specifications for interface between personal/vehicle and central ITS stations

1 Scope

This document defines detailed use cases, requirements and message specifications for supporting indoor navigation functionality between a personal/vehicle (P/V) ITS station and a central ITS station.

This document defines:

a) Clusters of use cases based on processing flows for indoor navigation between a P/V ITS station and a central ITS station;

b) Detailed use cases derived from the clusters of use cases for indoor navigation;

c) Message specifications to support some of the detailed use cases. The message specifications include mandatory, conditional and optional elements.

This document is only applicable to the core flow for the navigational functionality in indoor space. The following issues which are adjunctive but essential for commercial navigation services are beyond the scope of this document:

— Authorized and authenticated access of users and services, including security;

— Payment;

— Preparation of indoor data which are necessary for indoor navigation;

— Detailed data formats for indoor navigation data, including indoor maps and indoor positioning references (these form a part of ISO 17438-2[1)] and ISO 17438-3[2)]);

— How to transfer and share data required for indoor navigation between a roadside ITS station and a central ITS station, i.e. low-level communication protocols;

— Other issues dependent on implementation of an instance of indoor navigation, e.g. indoor-outdoor seamless navigation.

This document uses the XML and Data eXchange Message (DXM) format defined in ISO 13184-2 to encode defined messages.

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.

1) Under development. Current stage 0.00.

2) Under development. Current stage 0.00.