INTERNATIONAL STANDARD

ISO 13111-2

First edition
2022-07

Intelligent transport systems (ITS) — The use of personal ITS stations to support ITS service provision for travellers —

Part 2: General requirements for data exchange between ITS stations

Systèmes de transport intelligents (ITS) — Utilisation d'une station ITS personnelle pour la fourniture de services ITS aux voyageurs —

Partie 2: Exigences générales pour l'échange de données entre station ITS personnelle et autres stations ITS

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Reference number
ISO 13111-2:2022(E)

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Published in Switzerland

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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.

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

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Introduction

This document defines the data exchange protocol between personal ITS stations and other ITS stations which are used to implement the use case defined in ISO 13111-1.

This document defines protocol based on the data exchange message (DXM) at application level between personal ITS stations and other ITS stations, such as vehicle ITS stations, central ITS stations, roadside ITS stations, etc.

Applications supporting ITS service provisions and multimedia use via personal ITS stations need to harmonize with existing or developing documents in the relevant areas. These applications can be implemented using vehicle information, driver advisory systems, warning systems, entertainment systems, traffic information, public transport information, slow transportation system (non-motorized travel) information and multimodal navigation services based on the communication architecture and protocol defined in ISO/TR 13185-1 and other related documents listed below:

— the ISO 13185 series, defining the vehicle interface for provisioning and support of ITS services;

— ISO 19132, ISO 19133 and ISO 19134, defining the conceptual schema of location-based services, tracking and navigation services, and multimodal navigation services;

— the ISO 15031 series, defining emissions-related diagnostic data supported by vehicles in all countries requiring on-board diagnostics (OBD) compliance;

— ISO 22900-2, defining the modular vehicle communication interface (MVCI) diagnostic protocol data unit (D-PDU API) to separate the protocol data unit (PDU) from vehicle-specific protocols;

— the ISO 22902 series,[1)] defining provisions for multimedia and telematics based on automotive multimedia interface collaboration (AMI-C) specifications and reference documents for the automotive industry. The important logical element of the architecture is a vehicle interface;

— ISO 22837, defining the reference architecture for probe vehicle systems and a basic data framework for probe data;

— the ISO 27145 series, defining diagnostic data (emissions-related systems, future safety-related systems, etc.) to be supported by vehicles in all countries implementing the GTR (Global Technical Regulation) into their local legislation;

— ISO/TS 29284, defining the standardization of information, communication and control systems in the field of urban and rural surface transport, including intermodal and multimodal aspects thereof, traveller information, traffic management, public transport, commercial transport, emergency services and commercial services in the ITS field;

— SAE J2735, defining the support of interoperability among dedicated short-range communication (DSRC) applications through the use of standardized message sets, data frames and data elements.

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