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Intelligent transport systems — Framework for Green ITS (G-ITS) standards —

Part 2: Integrated mobile service applications

Systèmes intelligents de transport - Cadres de référence pour les normes ITS vertes (G-ITS) —

Partie 2: Applications de services mobiles intégrés

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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 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).

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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*.

A list of all parts in the ISO 20529 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

Work by ISO/TC 204 on nomadic and portable devices for intelligent transport systems (ITS) services is defined to facilitate the development, promotion and standardization of the use of nomadic and portable devices to support ITS service provision and multimedia use (such as passenger information, automotive information, driver advisories and warning systems and entertainment system interfaces) to ITS service providers and motor vehicle communication networks. This document fosters the introduction of multimedia and telematics nomadic devices in the public transport and the automotive world.

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Intelligent transport systems — Framework for Green ITS (G-ITS) standards —

Part 2: Integrated mobile service applications

1 Scope

This document provides information and requirements for identifying cost-effective technologies and related standards required to deploy, manage and operate sustainable "green" ITS technologies in surface transportations with eco-mobility. These ITS technologies can increase operational efficiencies and unlock enhanced transportation safety and eco-mobility applications.

The ISO 20529 series builds on the existing standards and best practices of transport operation and management systems, as well as ITS applications, and aims to accommodate the specific needs of eco-mobility.

G-ITS standards are expected to focus on the use of data exchange interface standards to enable the deployment of cloud-based multi-modal mobility solutions using wireless networks and nomadic devices. These forward-looking solutions are "infrastructure light" and can thus impact developing regions with little or no legacy transportation infrastructure.

This document is intended to provide mobility information according to user preference on demand, utilizing a variety of existing apps on nomadic devices related to various means of transport. An integrated mobility information platform is defined in this document as a service methodology to be integrated with a variety of mobile apps with respect to different modes of transport.

The framework described in this document includes:

— Identification of implementation aspects of related standards by means of use case.

— Identification of the multi-modal transport information necessary to support G-ITS.

— Eco-friendly route guidance according to user preference.

— Smart modal choice service based on carbon footprint, fuel efficiency and carbon-free zones for G-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 14817-1, *Intelligent transport systems — ITS central data dictionaries — Part 1: Requirements for ITS data definitions*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

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

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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/

3.1.1
nomadic device
ND
implementation of a *personal ITS station* (3.1.2) which provides communication connectivity via equipment such as cellular telephones, mobile wireless broadband (WIMAX, HC-SDMA, etc.) or WiFi, and includes short range links, such as Bluetooth or Zigbee to connect portable devices to the motor vehicle communications system network

[SOURCE: ISO 18561-1:2020, 3.1.1]

3.1.2
personal ITS station
P-ITS-S
implementation of an ITS station in a personal ITS subsystem

[SOURCE: ISO 18561-1:2020, 3.1.2]

3.1.3
roadside ITS station
R-ITS-S
system installed at the roadside that receives and processes vehicular and pedestrian information within a certain zone and determines the situation in order to provide a safety warning and parking guide service to vehicles and pedestrians

[SOURCE: ISO 18561-1:2020, 3.1.3]

3.1.4
Green ITS
G-ITS
new-concept transportation system expected to arise following the paradigm shift toward eco-friendly, low-carbon green growth as global policies in the transportation sector

[SOURCE: ISO 18561-1:2020, 3.1.4, modified — added “in the transportation sector”.]

3.1.5
eco-mobility
eco-transport systems and services based on eco-vehicles and their related facilities

[SOURCE: ISO 18561-1:2020, 3.1.5]

3.1.6
central ITS station
ITS station assuming a central role

[SOURCE: ISO 18561-1:2020, 3.1.6]

3.1.7
eco-mileage
incentive given to transport users who voluntarily cut back on fossil fuels in utilizing transportation modes

3.2 Abbreviated terms

ASN.1 **abstract syntax notation one**

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