Technical Specification

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Intelligent transport systems — Energy-based green ITS services for smart city mobility applications via nomadic and mobile devices —

Part 2: Functional requirements of data platform

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Systèmes de transport intelligents - Services STI écologiques basés sur l'énergie pour les applications de mobilité des villes intelligentes via des dispositifs nomades et mobiles —

Partie 2: Exigences fonctionnelles des plateformes de données

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Foreword

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

A list of all parts in the ISO 17748 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

Environmentally friendly and energy-efficient mobility services have been deployed around the world due to rising urban energy problems caused by population growth, rapid climate change, and increased our energy use. While transportation and energy technical solutions are attempting to converge for energy efficiency, there are no traffic-energy-related guidelines for the various needs of diverse stakeholders in the business.

Under these circumstances, Smart City deals with foundation technologies for energy-efficient management based on total energy measurement, energy metering, energy demand forecasting, and data platforms in the transportation sector, which can be presented as management requirements for solving urban problems.

Energy-based Green-ITS service in Smart City provides users with customized services for each energy demand by informed energy in the transportation sector and integrating management based on nomadic devices to maximize the energy utilization efficiency in the transportation sector.

ISO 17748 provides various information and references to support the implementation of applications related to standardized access to framework for energy-based G-ITS using personal ITS stations. It consists of the following parts.

— Part 1: General information and use case definitions

This part provides the overview of ISO 17748, general information including the conceptual aspects, set and framework along with the use case definitions and common set of resources (definitions, references), which are used for all subsequent parts.

— Part 2 (this document): Functional requirements of data platform

This part specifies all functional requirements of the data platform related to the integrated mobile service application for energy-based G-ITS to be used on the nomadic devices and to be interfaced with smart city and utilities (electric charging stations, vehicle ITS stations, etc). The guidelines reflect the user services from the use cases as defined in ISO/TR 17748-1.

— Part 3: Data exchange requirements for electric vehicle (EV)-based demand response charging services

This part specifies dataset definitions and data procedures related to DR (Demand Response) services specified in ISO/TR 17748-1. In addition, data interfaces using the data platform specified in ISO/TS 17748-2 are presented.

— Part 4: Service framework for sustainable urban public transport operation and management

This part defines the service framework for sustainable urban public transport operation and management. It also defines the data, interfaces, and functions of the framework for urban public transportation operations and management utilizing nomadic devices between users, service providers, data platform, and cloud server.

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Part 2: Functional requirements of data platform

1 Scope

This document specifies functional requirements for data platforms to support connectivity among nomadic devices, smart city cloud server and mobility service provider for energy-based green intelligent transport systems (ITS) services which are defined in ISO/TR 17748-1. In addition, it delivers related guidelines required to develop and operate the data platform among nomadic devices, smart city cloud and mobility with ITS technologies.

The data platform aims to accommodate the specific needs of energy-based green ITS service to manage total energy capacity in smart city. The data platform focuses on the use of data exchange functional requirement standards between eco-mobility and nomadic devices to enable the development of cloud-based ITS using wireless networks.

Sample Document

This document includes:

— role model of data platforms using nomadic and mobile devices for energy-based green ITS services;

— functional requirements of data platforms for energy-based green ITS services using nomadic and mobile devices which are defined in ISO/TR 17748-1.

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2 Normative references

There are no normative references in this document.

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
nomadic device
ND
device that provides communications connectivity via equipment such as cellular telephones, mobile wireless broadband (WIMAX, HC-SDMA, etc.) and WiFi, etc.

[SOURCE: ISO 23795-1:2022, 3.1 — modified, adjusted wording and removed "and includes short range links, such as Bluetooth, Zigbee", Note 1 to entry removed.]

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