
**Intelligent transport systems (ITS) —
Nomadic device service platform for
micro mobility —**

**Part 2:
Functional requirements and dataset
definitions**

*Systèmes de transport intelligents - Plateforme de services de
dispositifs portables pour la micro mobilité - Partie 2 : Exigences
fonctionnelles et définitions des données —*

Partie 2: Exigences fonctionnelles et définitions des données



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

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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).

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*.

A list of all parts in the ISO 22085 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.

Introduction

Micro mobility can be defined as a small or compact-sized electric vehicle. Normally, it is designed to be used as a first-mile and last-mile service connecting public transit routes or to provide personal mobility with one or two passengers for a short-distance trip.

The nomadic device service platform aims to accommodate the specific needs of integrated mobility services for either urban or rural areas. The service platform focuses on the use of data exchange interface standards between micro mobility and nomadic devices to enable the development of cloud-based ITS using wireless networks.

This document fosters the introduction of nomadic devices in the public transport and automotive world. It specifies functional requirements and dataset definitions based on Vehicle Interface Data Format (VIDF) at the application level regarding pre-trip, post-trip and while driving, in order to identify connectivity between a user's personal ITS stations (P-ITS-S, for example nomadic devices), roadside-ITS-station, vehicle-ITS-station gateway (V-ITS-S) and central ITS station (C-ITS-S). The functional requirements and the dataset can be used as a measure for exchanging information required to implement mobility services to be included in integrated mobility and parcel delivery services.

Intelligent transport systems (ITS) — Nomadic device service platform for micro mobility —

Part 2: Functional requirements and dataset definitions

1 Scope

This document provides definitions of functional requirements for connectivity among nomadic devices, cloud servers and micro mobility during pre-trip, post-trip and while driving, which is defined in ISO/TR 22085-1, and datasets for providing seamless mobility service. In addition, it also delivers related standards required to develop and operate the service platform between a nomadic device and micro mobility with intelligent transport systems (ITS) technologies. The functional requirements and the datasets can be used as a measure of exchanging information required to promote micro mobility as a new type of urban and rural transport mode, and so increase the possibility of being included in an integrated mobility and parcel delivery system.

This document defines functional requirements and messages set by use case and a dataset of each message to provide services for use cases, which are defined in ISO/TR 22085-1 as follows:

- Pre-trip (Use case 1.1-1.5)
- En-route (Use case 2.1-2.7)
- Post-trip (Use case 3.1-3.4)

2 Normative references

There are no normative references in this document.

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

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

ISO and IEC maintain terminological 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

central ITS station

C-ITS-S

network server between personal ITS server (i.e. nomadic device or mobile device) and micro mobility service provider