



**International
Standard**

ISO 21719-1

**Electronic fee collection —
Personalization of on-board
equipment (OBE) —**

**Part 1:
Framework**

*Perception de télépéage — Personnalisation des équipements
embarqués —*

Partie 1: Cadre

**First edition
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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 document 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).

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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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Intelligent Transport Systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces the first edition of ISO/TS 21719-1:2018, which has been technically revised.

The main changes are as follows:

- the terms and definitions have been updated;
- ISO 17573-2 has been included as the primary source for harmonized vocabulary across electronic fee collection (EFC) standards.

A list of all parts in the ISO 21719 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

On-board equipment (OBE) refers to an in-vehicle device that can contain one or more application instances to support different intelligent transportation system (ITS) implementations, such as electronic fee collection (EFC). Examples of EFC applications are road toll collection (also known as "road user charging"), localization augmentation communication (LAC) and compliance check communication (CCC).

To assign the EFC application in the OBE to a certain user or vehicle, or both, personalization is performed. This means that unique user- and vehicle-related data are transferred to the OBE. This document is applicable to the EFC interface between the personalization equipment (PE) and OBE as shown in [Figure 1](#)

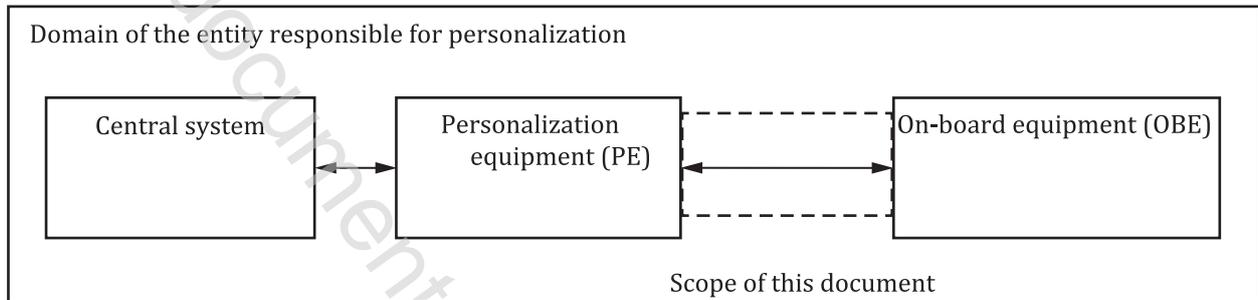


Figure 1 — Scope of this document (box delimited by the dotted line)

CEN/TR 16152 already assesses many aspects of the personalization process and it also defines the overall personalization assets, i.e. application data, application keys and vehicle data.

Different communication media may be used for transferring these personalization assets to the OBE, but for all media, common procedures may be applied, such as an overall message exchange framework and necessary security functionality to ensure data protection and integrity.

By standardizing the personalization procedure, compatibility of personalization equipment is supported, and the entity responsible for the personalization (e.g. a toll service provider) will be able to outsource parts of, or a complete, personalization to a third party, e.g. another service provider or a personalization agent.

This document defines common functionality for personalization that is independent of the communication media and personalization equipment (PE) used. Subsequent parts of the ISO 21719 series define in detail how the functions are realized on different defined communication media and interfaces.

Electronic fee collection — Personalization of on-board equipment (OBE) —

Part 1: Framework

1 Scope

This document establishes a framework and specifies electronic fee collection (EFC) functions for the personalization process of on-board equipment (OBE) used for EFC.

The personalization process takes place within the domain of the entity that is responsible for the application in the OBE.

This document is applicable to the EFC interface, e.g. using dedicated short-range communication or integrated circuit(s) card, between the personalization equipment (PE) and OBE as shown in [Figure 1](#).

This document does not cover the following:

- whether the personalization functionality resides completely in the PE or whether this functionality instead resides in a central system, where the PE is more or less “transparent”;
- the exact application command or message structures for the EFC personalization functionality (these are dependent on the communication media and are described in subsequent parts of the ISO 21719 series);
- the test procedures for evaluation of an implementation for conformity to the requirements in this document;
- setting-up of operating organizations (e.g. toll service provider, personalization agent, trusted third party).

NOTE Some of the issues listed above are subject to separate documents prepared by ISO/TC 204, CEN/TC 278 and the European Telecommunications Standards Institute – Electromagnetic compatibility and Radio Spectrum Matters (ETSI ERM).

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 17573-2, *Electronic fee collection — System architecture for vehicle related tolling — Part 2: Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17573-2 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/>