



**International
Standard**

ISO 12855

**Electronic fee collection —
Information exchange between
service provision and toll charging**

*Perception de télépéage — Échange d'informations entre la
prestation de service et la perception du péage*

**Fourth 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 fourth edition cancels and replaces the third edition (ISO 12855:2022), which has been technically revised.

The main changes are as follows:

- the application data units (ADUs) have been revised;
- the data definitions and semantics have been updated, including making reference to ISO/TS 17573-2 as the primary source;
- the remaining references to the ISO 17575 series in [5.2.7](#) and in the Bibliography have been removed;
- the `MacKeyObject` has been removed from the `TrustObjectAdu` (see [6.7](#));
- the ADUs have been adapted to support automatic number plate recognition (ANPR)-based fee collection and enforcement;
- the structure of all major clauses has been harmonized to improve readability.

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

The widespread use of road tolling requires provisions for users of vehicles that circulate through many different toll domains. Users should be offered a single contract for driving a vehicle through various toll domains. Where vehicles require on-board equipment (OBE) or where tolling is based on automatic number plate recognition (ANPR), these options should be interoperable with the toll systems in the various toll domains. In Europe, this need has been officially recognized and legislation on interoperability has already been adopted (see Directive 2019/520,^[7] related Commission delegated regulation 2020/2003^[9] and Commission implementing regulation 2020/204^[8]). There is both a commercial and an economic justification regarding the OBE and the toll systems for International Standards supporting interoperability.

The system architecture specified in ISO 17573-1 is the basis for all ISO and CEN Standards in the road tolling domain. This document:

- adopts the concepts and basic system functionalities and structure of ISO 17573-1;
- uses the terminology of ISO 17573-1; and
- specifies the interfaces identified in ISO 17573-1.

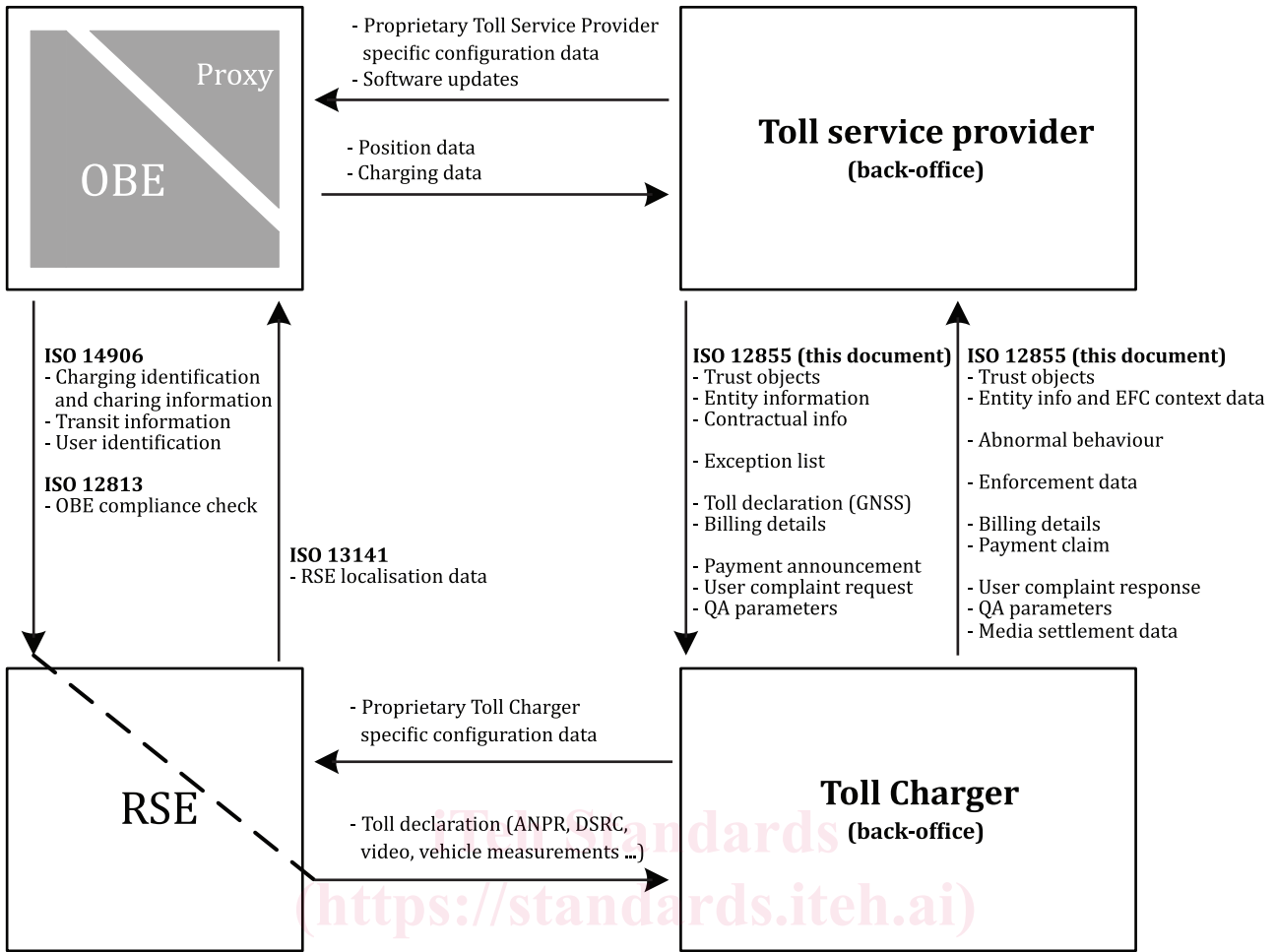
ISO 17573-1 uses ISO/IEC 10746-3 for the description of the architecture.

[Figure 1](#) shows the scope of the group of International Standards related to electronic fee collection (EFC) based upon the ISO 17573-1 system architecture.

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Key

- ANPR automatic number plate recognition
- DSRC dedicated short-range communication
- GNSS global navigation satellite system
- QA quality assurance
- OBE on-board equipment
- RSE roadside equipment

Figure 1 — Scope of EFC-related International Standards

A given transport service for a given vehicle is fully identified by one or several toll declarations made available to the toll charger (TC). It is necessary to make toll declarations available according to the rules of the toll regime of the toll domain. These toll declarations can either be acquired on the road-side equipment (RSE) of the TC or acquired by an autonomous OBE and sent to the TC by the toll service provider (TSP).

The amount due for a given transport service used by a vehicle liable to toll is finalized by the TC with the use of the acquired or received toll declarations (as described above) and calculations are made according to the rules of the toll regime (formula, tariff tables, specific situations rules, traffic conditions, etc.). This means that the TC has the authority to decide on the amount due, even if it decides to assign the task of calculating the amount due to the TSP.

The calculated amount due, associated with a given transport service, is referred to as "billing details". For a given transport service, the billing details refer to one or several toll declarations.

Depending on the toll regime, billing details are computed by means of the information collected either by the TC or the relevant TSP, or both. They are finalized by the TC – or by the TSP if the TC has assigned this task to the TSP – and sent to the counterpart.