ICS 03.220.20, 35.240.60 SLOVENSKÁ TECHNICKÁ NORMA Jún 2018

STN	**Elektronický výber poplatkov Hodnotenie zhody zariadenia podľa CEN ISO/TS 17575-1 Časť 1: Abstraktný testovací program a skúšobné ciele (ISO 16407-1: 2017)**	**STN EN ISO 16407-1** 01 8592

Electronic fee collection - Evaluation of equipment for conformity to ISO 17575-1 - Part 1: Test suite structure and test purposes (ISO 16407-1:2017)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/18

Obsahuje: EN ISO 16407-1:2017, ISO 16407-1:2017

Oznámením tejto normy sa ruší
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EUROPEAN STANDARD

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EN ISO 16407-1

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ICS 03.220.20; 35.240.60

Supersedes CEN ISO/TS 16407-1:2011

English Version

Electronic fee collection - Evaluation of equipment for conformity to ISO 17575-1 - Part 1: Test suite structure and test purposes (ISO 16407-1:2017)

Perception du télépéage - Évaluation de la conformité de l'équipement à l'ISO 17575-1 - Partie 1: Structure de la suite d'essais et objectifs des essais (ISO 16407-1:2017)

Elektronische Gebührenerhebung - Konformitätsbeurteilung von Geräten nach ISO/TS 17575-1 - Teil 1: Struktur und Zweck des Prüfprogrammes (ISO 16407-1:2017)

This European Standard was approved by CEN on 5 December 2017.

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European foreword

This document (EN ISO 16407-1:2017) has been prepared by Technical Committee ISO/TC 204 “Intelligent transport systems” in collaboration with Technical Committee CEN/TC 278 “Intelligent transport systems” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN ISO/TS 16407-1:2011.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 16407-1:2017 has been approved by CEN as EN ISO 16407-1:2017 without any modification.

INTERNATIONAL STANDARD

ISO 16407-1

First edition
2017-11

Electronic fee collection — Evaluation of equipment for conformity to ISO 17575-1 —

Part 1: Test suite structure and test purposes

Perception du télépéage — Évaluation de la conformité de l'équipement à l'ISO 17575-1 —

Partie 1: Structure de la suite d'essais et objectifs des essais

Reference number
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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).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

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

This first edition cancels and replaces ISO/TS 16407-1:2011, which has been technically revised.

The main changes compared to the previous edition are as follows:

— this document has been converted from a Technical Specification to an International Standard;

— this document has been amended to reflect changes to the underlying base standards, especially ISO 17575;

— this document contains major changes regarding

  — data element changes introduced by ISO 17575-1 and ISO 17575-3,

  — new test purposes related to protocol version handling and authenticated data elements,

  — removed test purposes related to rules with respect to charging which are not anymore required by ISO 17575-1,

  — revised terms and definitions, and

  — editorial and formal corrections, as well as changes to improve readability.

A list of all parts in the ISO 16407 series can be found on the ISO website.

Introduction

This document, is part of a series of International Standards that supports interoperability of autonomous electronic fee collection (EFC) systems. Autonomous systems use satellite positioning, often combined with additional sensor technologies, such as gyroscopes, odometers and accelerometers, to localize the vehicle and to find its position on a map containing the charged geographic objects, such as charged roads or charged areas. From the charged objects, the vehicle characteristics, the time of day and other data that are relevant for describing road use, the tariff and ultimately, the road usage fee is determined.

Autonomous on-board equiment (OBE) operates without relying on dedicated road-side infrastructure by employing wide-area technologies such as Global Navigation Satellite Systems (GNSS) and Cellular Communications Networks (CN). Therefore, autonomous systems can also be referred to as GNSS/CN systems.

Within the series of EFC standards, this document defines tests for conformity evaluation of Front End and Back End that comply with the requirements towards the charging specified in ISO 17575-1.

This document is based on ISO 17575-1 and the ISO/IEC 9646 series of standards on conformance test methodology.

INTERNATIONAL STANDARD **ISO 16407-1:2017(E)**

Electronic fee collection — Evaluation of equipment for conformity to ISO 17575-1 —

Part 1: Test suite structure and test purposes

1 Scope

The ISO 16407 series of standards specifies a suite of tests in order to assess the Front End and Back End behaviour compliancy towards the requirements listed in ISO 17575-1. This document contains the definition of such tests in the form of test purposes, listing the required initial conditions, references and individual steps in a structured textual manner.

Test purposes defined in this document reflect the structural and semantical requirements stated in ISO 17575-1:

— presence/absence of particular data elements;

— semantics related to various data elements:

  — data group General (see ISO 17575-1:2016, 7.3);

  — data group Security (see ISO 17575-1:2016, 7.4);

  — data group Contract (see ISO 17575-1:2016, 7.5);

  — data group Usage (see ISO 17575-1:2016, 7.6);

  — data group Account (see ISO 17575-1:2016, 7.7);

  — data group Versioning (see ISO 17575-1:2016, 7.8).

With regard to the individual data sets and EFC attributes defined in ISO 17575-1, the test purposes have been organized into the test suite groups designated for the Front End and Back End, respectively.

Besides the test purposes, this document also specifies proforma conformance test report templates for both the Front End and Back End test purposes.

For more information regarding the requirements against which the conformance is evaluated in this document, see ISO 17575-1.

Testing of the following behaviours and functionalities is outside of the scope of this document:

— dynamic behaviour, i.e. sequence of messages and triggering events that can be exchanged/happen to fulfil certain charging scenarios;

— profiles and business logic built on top of particular pricing schemas;

— as ISO 17575-1 does not specify any Behaviour Invalid of Front End and Back End, BI test purposes are not applicable for any test purpose group.

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 17575-1:2016, *Electronic fee collection — Application interface definition for autonomous systems — Part 1: Charging*

