



Institut luxembourgeois de la normalisation  
de l'accréditation, de la sécurité et qualité  
des produits et services

## ILNAS-EN ISO 16410-1:2017

### **Electronic fee collection - Evaluation of equipment for conformity to ISO 17575-3 - Part 1: Test suite structure and test purposes (ISO 16410-1:2017)**

Elektronische Gebührenerhebung -  
Konformitätsbeurteilung von Geräten  
nach ISO 17575-3 - Teil 1: Struktur und  
Zweck des Prüfprogramms (ISO

Perception du télépéage - Évaluation de  
la conformité de l'équipement à l'ISO  
17575-3 - Partie 1: Structure de la suite  
d'essais et objectifs des essais (ISO

12/2017



## National Foreword

This European Standard EN ISO 16410-1:2017 was adopted as Luxembourgish Standard ILNAS-EN ISO 16410-1:2017.

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ILNAS-EN ISO 16410-1:2017

**EUROPEAN STANDARD** **EN ISO 16410-1**

**NORME EUROPÉENNE**

**EUROPÄISCHE NORM**

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Supersedes CEN ISO/TS 16410-1:2011

English Version

**Electronic fee collection - Evaluation of equipment for  
conformity to ISO 17575-3 - Part 1: Test suite structure  
and test purposes (ISO 16410-1:2017)**

Perception du télépéage - Évaluation de la conformité  
de l'équipement à l'ISO 17575-3 - Partie 1: Structure de  
la suite d'essais et objectifs des essais (ISO 16410-  
1:2017)

Elektronische Gebührenerhebung -  
Konformitätsbeurteilung von Geräten nach ISO/TS  
17575-3 - Teil 1: Struktur und Zweck des  
Prüfprogramms (ISO 16410-1:2017)

This European Standard was approved by CEN on 12 December 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN ISO 16410-1:2017) 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 16410-1:2011.

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 16410-1:2017 has been approved by CEN as EN ISO 16410-1:2017 without any modification.

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**Electronic fee collection — Evaluation  
of equipment for conformity to ISO  
17575-3 —**

**Part 1:  
Test suite structure and test purposes**

*Perception du télépéage — Évaluation de la conformité de  
l'équipement à l'ISO 17575-3 —*

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



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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](http://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](http://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 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](http://www.iso.org/iso/foreword.html).

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

This first edition of ISO 16410-1 cancels and replaces the first edition of ISO/TS 16410-1:2011, which has been technically revised.

The following changes have been made:

- this document has been converted from a Technical Specification to an International Standard;
- amendments have been made to reflect changes to the underlying base standards, especially ISO 17575 (all parts);
- major changes have been made regarding:
  - data element changes introduced by ISO 17575-1 and ISO 17575-3;
  - new test purposes related to:
    - protocol version handling;
    - toll context partitions;
    - fee calculation algorithm;
    - rounding rules;
    - alternative currency;
  - test purposes related to the following have been removed:
    - communications services;

- rules with respect to support of context data which are no longer required by ISO 17575-3;
- the terms and definitions have been revised;
- editorial and formal corrections, as well as changes to improve readability, have been made.

## Introduction

This document is part of a series of standards that supports interoperability of autonomous 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 equipment (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 may 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 context data specified in ISO 17575-3.

This document is based on

- ISO 17575-3, and
- the ISO 9646 series on conformance test methodology.