International Standard

ISO 17573-2

First edition
2025-10

Electronic fee collection — System architecture for vehicle related tolling —

Part 2: Vocabulary

Perception de télépéage — Architecture de systèmes pour le péage lié aux véhicules —

Partie 2: Vocabulaire

Reference number
ISO 17573-2:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025
All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Published in Switzerland

Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
Bibliography **22**
Index **24**

© ISO 2025 – All rights reserved

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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*, 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 of ISO 17573-2 cancels and replaces ISO/TS 17573-2:2020, which has been technically revised.

The main changes are as follows:

— conversion of this document from a technical specification to an international standard;

— several new terms (e.g. mode of transport, true positive and negative events) have been added.

A list of all parts in the ISO 17573 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.

© ISO 2025 – All rights reserved

Introduction

This document is a part of the ISO 17573 series that defines the system architecture for vehicle-related tolling. ISO 17573-1 gives a reference model for the system architecture. ISO 17573-3 provides a data dictionary that contains the definitions of ASN.1 (data) types and the associated semantics.

This document provides a collection of terms and definitions within the field of electronic fee collection (EFC) and road user charging that are used in the different documents published in ISO and CEN under the general title “Electronic fee collection”.

This document is based on guidelines from the relevant ISO International Standards for terminologies, in particular ISO 704 and ISO 1087. Experiences were also drawn from more general work done on terminology, in particular from the work on the Nordic ITS terminology.[30]

This document is intended to be used as a reference by editors of documents in EFC and in related areas of standardization (such as intelligent transport systems, ITS). It may also be used by the general public and the stakeholders in EFC as a vocabulary, fostering a harmonized language when describing EFC systems in specifications, reports and other texts.

As this document is the main source for standardized EFC terms, any previous source references have intentionally been left out. However, source references are listed in the Bibliography.

It is foreseen that the terminology work on EFC terms will continue with addition of new terms, revision of existing terms and replacement or deletion of deprecated terms.

© ISO 2025 – All rights reserved

Electronic fee collection — System architecture for vehicle related tolling —

Part 2: Vocabulary

1 Scope

This document defines terms within the field of electronic fee collection (EFC).

This document defines:

— terms that are used in standards related to electronic fee collection;

— terms of a more general use that are used more specifically in standards related to electronic fee collection.

This document does not define terms related primarily to other fields that operate in conjunction with EFC, such as terms for intelligent transport systems (ITS), common payment systems, the financial sector, etc.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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/

3.1
absolute charging error
difference between the measured *toll* (3.198) charge value and the value as determined by a reference system

Note 1 to entry: Positive error means that the measurement exceeds the value determined by a reference system.

3.2
acceptance testing
examination that a product, process or service is in conformity with its specification

3.3
accepted charging error interval
interval of the *relative charging error* (3.159) that the *toll charger* (3.199) considers as acceptable, i.e. as correct charging

3.4
access credentials
AC-CR
trusted *attestation* (3.12) or secure module that establishes the claimed identity of an object or application

© ISO 2025 – All rights reserved

3.5
access list
DEPRECATED: white list
list of users for which the service provider accepts contractual responsibility

3.6
accountability
property that ensures that the actions of an entity can be traced uniquely to the entity

3.7
accreditation
third-party *attestation* (3.12) related to a *conformity assessment body* (3.49) conveying formal demonstration of its competence, consistent operation and *impartiality* (3.94) in performing specific conformity assessment activities

[SOURCE: ISO/IEC 17000:2020, 7.7]

3.8
activist
especially active, vigorous advocate of a cause, especially a political cause

3.9
area charging
area pricing
charging based on road usage within a given area

3.10
asset
anything that has value to a stakeholder

3.11
assurance requirement
security requirements to assure confidence in the implementation of *functional requirements* (3.91)

3.12
attestation
issue of a statement, based on a decision that fulfilment of *specified requirements* (3.181) has been demonstrated

[SOURCE: ISO/IEC 17000:2020, 7.3 — Notes to entry have been removed.]

3.13
attack
attempt to destroy, expose, alter, disable, steal or gain unauthorized access to or make unauthorized use of an *asset* (3.10)

3.14
attribute
addressable package of data consisting of a single *data element* (3.57) or structured sequences of data elements

3.15
audit
independent review and examination to ensure compliance with established *policy* (3.147) and operational procedures

3.16
authentication
security mechanism allowing *verification* (3.240) of the provided identity

© ISO 2025 – All rights reserved

3.17
authenticator
data, possibly encrypted, that is used for *authentication* (3.16)

3.18
authenticity
property that an entity is what it claims to be

3.19
automated number plate recognition
ANPR
technology to automatically read vehicle registration plates

Note 1 to entry: A vehicle registration plate typically contains the indicator or the code of the country that issued the vehicle registration plate.

Note 2 to entry: Optical character recognition techniques are typically part of the technology associated with automated number plate recognition.

3.20
autonomous electronic fee collection system
autonomous EFC system
electronic fee collection (EFC) system (3.73) which is able to obtain usage data using *on-board equipment* (3.132) independent from *roadside equipment (RSE)* (3.166)

3.21
availability
property of being accessible and useable upon demand by an authorized entity

3.22
average relative charging error
ratio between the sum of computed charges (measurement) associated to a set of vehicles during a certain period of time and the actual charge due (reference) minus 1

Note 1 to entry: relative error = (computed value – actual value)/actual value

3.23
back end
part of a back-office system interfacing to one or more *front ends* (3.90) or other back ends

3.24
base standard
approved International Standard, Technical Specification or ITU-T Recommendation

Note 1 to entry: This includes but is not limited to approved standard deliverables from ISO, ITU, CEN, CENELEC, ETSI and IEEE.

3.25
big-endian
format for transmission of binary data in which the most significant byte appears first

3.26
billing detail
information needed to determine or verify the amount due for the usage of a given service

3.27
block list
DEPRECATED: black list
list of users for which the service provider denies contractual responsibility

© ISO 2025 – All rights reserved

3.28
central account
payment means (3.140), value or service rights stored in a central system

3.29
certificate revocation list
signed list indicating a set of certificates that are no longer considered valid by the certificate *issuer* (3.110)

3.30
certification
third-party *attestation* (3.12) related to *objects of conformity assessment* (3.130), with the exception of *conformity assessment bodies* (3.49)

Note 1 to entry: Certification is applicable to all objects of conformity assessment except for conformity assessment bodies themselves, to which *accreditation* (3.7) is applicable.

[SOURCE: ISO/IEC 17000:2020, 7.6, modified — In the definition, “accreditation” was changed to “conformity assessment bodies”; Note 1 to entry was added.]

3.31
channel
information transfer path

3.32
charge object
geographic or road-related object for the use of which a charge is applied

3.33
charge object detection
event marking the detection of the usage of a *charge object* (3.32) by a vehicle

3.34
charge object detector
functionality of the system responsible for detecting the use of a *charge object* (3.32)

3.35
charge parameter change
event occurring within a tolling system that is relevant for charge calculation, such as change of vehicle category, but that is not relevant for the detection of a *charge object* (3.32) itself

3.36
charge report
information containing road usage and related information originated at the *front end* (3.90)

3.37
charging data
relevant data on the usage of a certain service

3.38
charging performance metrics
specific calculations used to describe the charging performance of a system

3.39
charging point
location where the *toll* (3.198) is charged

3.40
charging scheme
general description of a tolling system and its context including the motivation and strategy for the fee collection and the *toll context data* (3.202)

© ISO 2025 – All rights reserved

3.41
clearing house
organization that reallocates value generated in the payment system between the various actors, which enables these actors to execute settlement

3.42
common service rights
service rights for use in two or more schemes

EXAMPLE Number of *trips* (3.225), usage allowance for a time span, zone and distance.

3.43
common service rights provider
entity providing *common service rights* (3.42)

3.44
common toll service rights
service rights for use in two or more *toll schemes* (3.209)

3.45
communication provider
provider of information transmission services

3.46
compatibility
suitability of products, processes or services for use together under specific conditions to fulfil *specified requirements* (3.181) without causing unacceptable interactions

3.47
confidentiality
prevention of information leakage to non-authenticated individuals, parties or processes

3.48
conformance testing
assessment to determine whether an implementation complies with the *specified requirements* (3.181)

3.49
conformity assessment body
body that performs conformity assessment activities, excluding *accreditation* (3.7)

[SOURCE: ISO/IEC 17000:2020, 4.6]

3.50
consent
freely given specific and informed recorded permission allowing the *processing of personal data* (3.151)

3.51
context dependent itinerary
itinerary (3.111) of which the syntax and semantics depend on the *toll domain's* (3.206) *context data* (3.202)

3.52
context independent itinerary
itinerary (3.111) of which the syntax and semantics are independent of the *toll domain's* (3.206) *context data* (3.202)

3.53
continuous toll scheme
toll scheme (3.209) where the charge is calculated based on the accumulation of continuously measured parameter(s)

EXAMPLE Distance and time.

© ISO 2025 – All rights reserved

3.54
cordon
border line of an area

3.55
cordon charging
cordon pricing
charging for the crossing of a *cordon* (3.54)

3.56
cryptography
principles, means and methods for the transformation of data to hide its information content, prevent its undetected modification or prevent its unauthorized use

3.57
data element
coded information, which can itself consist of lower level information structures

3.58
data group
class of closely related *attributes* (3.14)

3.59
data integrity
information integrity
property of data that has not been altered or destroyed in an unauthorized manner

3.60
data privacy
information privacy
rights and obligations of individuals and organizations with respect to the collection, use, retention, disclosure and disposal of personal information

3.61
data protection commissioner
data privacy commissioner
person responsible for the *enforcement* (3.77) and *monitoring* (3.126) of compliance with the applicable data protection legislation

3.62
data set
logical set of *data elements* (3.57) with a semantic relation

3.63
dedicated short-range communication
DSRC
short-range wireless communication for the exchange of information between *on-board equipment (OBE)* (3.132) and *roadside equipment (RSE)* (3.166)

Note 1 to entry: DSRC technologies are designed to provide small communication service areas for information exchange between *on-board units (OBU)* (3.133)/*OBE* (3.132) and RSE.

3.64
digital signature
one or more *data elements* (3.57) resulting from the digital signature process

© ISO 2025 – All rights reserved

3.65
discrete electronic fee collection system
discrete EFC system
electronic fee collection (EFC) system (3.73) which is able to obtain usage data by the means of *roadside equipment (RSE)* (3.166)

Note 1 to entry: The RSE may use communication with an *on-board equipment (OBE)* (3.132) or an optical system to record the usage through *automated number plate recognition (ANPR)* (3.19)

3.66
discrete toll scheme
toll scheme (3.209) where the charge is calculated based on distinct events associated with the identification of *charge objects* (3.32) such as crossing a *cordon* (3.54), passing a bridge and being present in an area

3.67
domestic state agency
agency of the state under whose jurisdiction a *toll scheme* (3.209) is operated

3.68
dedicated short-range communication on-board unit
DSRC on-board unit
minimum component of an *on-board equipment (OBE)* (3.132), whose functionality always includes at least the support of the *dedicated short-range communication (DSRC)* (3.63) interface

3.69
dynamic toll
toll (3.198) adjusted in real time in response to the actual traffic situation or other actual external conditions

3.70
electronic fee collection architecture
EFC architecture
description of the key elements of an *electronic fee collection (EFC) system* (3.73), their functions and interrelationships

3.71
electronic fee collection information exchange
EFC information exchange
exchange of *electronic fee collection (EFC)* (3.74)-related information between EFC actors

3.72
electronic fee collection-session
EFC-session
exchange of information and interaction, via *dedicated short-range communication (DSRC)* (3.63) between the *roadside equipment (RSE)* (3.166) and the *on-board equipment (OBE)* (3.132)

3.73
electronic fee collection system
EFC system
system that electronically debits for the use of *transport services* (3.222)

3.74
electronic fee collection
EFC
fee (3.198) collection by electronic means

3.75
electronic fee collection Element
EFC Element
coherent set of data and functionality

Note 1 to entry: The functionality includes, where applicable, the security-related functions and the associated security keys.

© ISO 2025 – All rights reserved

Note 2 to entry: EFC Elements are created by the applications and addressed using Element identifiers (EIDs).

Note 3 to entry: In a given *on-board equipment (OBE)* (3.132), the EID is used to address a *toll context* (3.201), identified by the EFC-ContextMark, in which *attributes* (3.14) can be addressed unambiguously by AttributeIDs inside an EFC Element of the OBE.

3.76
electronic money
e-money
electronic store of monetary value on an electronic device used for making payments to entities other than the e-money *issuer* (3.110)

Note 1 to entry: The electronic money can be stored on an integrated circuit (IC)-card or on a computer, for example.

Note 2 to entry: This definition is based on the European Central Bank's definition of electronic money[29].

3.77
enforcement
measures or actions performed to achieve compliance with relevant laws, regulations or rules

3.78
equipment access point
point of control and observation of the *implementation under test* (3.99)

3.79
evaluation
systematic process of determining how individuals, procedures, systems or programs have met formally agreed objectives and *specified requirements* (3.181)

3.80
evaluation assurance level
EAL
set of *assurance requirements* (3.11), usually involving documentation, analysis and testing, representing a point on a predefined assurance scale, that forms an assurance package

3.81
external in-vehicle device
component that can be connected to a piece of *on-board equipment (OBE)* (3.132) in a vehicle

EXAMPLE Mobile phone or digital tachograph.

3.82
false positive event
event that did not take place, but was detected

3.83
false negative event
event that did take place, but was not detected

3.84
fare collection regime
set of rules, including *enforcement* (3.77) rules, which governs the fare system in the public transport domain

3.85
field test
test (3.187) that is performed under real-life conditions

3.86
fixed roadside equipment
roadside equipment (RSE) (3.166) located at a fixed position

© ISO 2025 – All rights reserved

3.87
fixed toll
toll (3.198) applied according to a predefined *tariff scheme* (3.185)

3.88
foreign state agency
agency of any state except the state under whose jurisdiction a *toll scheme* (3.209) is operated

3.89
freezing per declaration
process that freezes the *itinerary* (3.111) related to the *toll declaration* (3.204) by sending a cryptographic commit or the whole itinerary to the *toll charger* (3.199)

3.90
front end
part of an *electronic fee collection (EFC) system* (3.73) which consists of *on-board equipment (OBE)* (3.132) and possibly of a *proxy* (3.154) where road tolling information and usage data are collected and processed for delivery to the *back end* (3.23)

3.91
functional requirement
requirement for a function that a system or system component is able to perform

3.92
functionality test
assessing the performance of a system, based on specific parameters

3.93
hacker
person who attempts or succeeds to gain unauthorized access to protected resources

3.94
impartiality
objectivity with regard to the outcome of a conformity assessment activity

Note 1 to entry: Objectivity can be understood as freedom from bias or freedom from conflicts of interest.

[SOURCE: ISO/IEC 17000:2020, 5.3]

3.95
implementation conformance statement
ICS
statement of capabilities and options that have been implemented that defines to what extent the implementation is compliant with a given specification

3.96
implementation conformance statement proforma
document, in the form of a questionnaire, that when completed for an implementation or a system becomes an *implementation conformance statement (ICS)* (3.95)

3.97
implementation extra information for testing
IXIT
statement containing all of the information related to the *implementation under test (IUT)* (3.99) and its corresponding *system under test (SUT)* (3.183) that will enable the testing laboratory to run an appropriate test suite against that IUT

3.98
implementation extra information for testing proforma
document, in the form of a questionnaire, that when completed for an *implementation under test (IUT)* (3.99) becomes an *implementation extra information for testing (IXIT)* (3.97)

© ISO 2025 – All rights reserved

3.99
implementation under test
IUT
implementation of one or more open systems interconnection (OSI) protocols in an adjacent user/provider relationship, being part of a real system, which is to be studied by testing

3.100
information asset
knowledge or data that has value to the relevant stakeholder

3.101
information security
preservation of *confidentiality* (3.47), integrity, *availability* (3.21), *authenticity* (3.18), *accountability* (3.6), *non-repudiation* (3.128) and *reliability* (3.161) of information

3.102
information security event
identified occurrence of a system, service or network state indicating a possible breach of information *security policy* (3.173) or failure of controls, or a previously unknown situation that can be *security* (3.147) relevant

3.103
information security incident
one or more unwanted *information security events* (3.102) that have a significant probability of compromising business operations and threatening *information security* (3.101)

3.104
inspection
examination of an *object of conformity assessment* (3.130) and determination of its conformity with detailed requirements or, on the basis of professional judgement, with general requirements

Note 1 to entry: For additional information on the concepts of testing and inspection see ISO/IEC 17000.

Note 2 to entry: The procedure can be intended to control variables within testing as a contribution to the accuracy or *reliability* (3.161) of the results.

Note 3 to entry: The output of testing can include comments (e.g. opinions and interpretations) about the test results and fulfilment of *specified requirements* (3.181).

[SOURCE: ISO/IEC 17000:2020, 6.3]

3.105
integrated circuit card
IC card
ICC
card with electronic components performing processing or memory functions and with the capability to communicate with an interrogator

3.106
international registrar
organization authorized to register protection *profiles* (3.152) at an international level

3.107
international standardized profile
internationally agreed-to, harmonized document which specifies one or more *profiles* (3.152)

3.108
interoperability
ability of systems to exchange information and to make mutual use of the information that has been exchanged

© ISO 2025 – All rights reserved

3.109
interoperable application profile
IAP
profile (3.152) to support *interoperability* (3.108) between systems on an application level

3.110
issuer
entity responsible for issuing the *payment means* (3.140) to the user

3.111
itinerary
travel diary organized in one or more *itinerary records* (3.115) enabling assessment of the correctness of the *toll declaration* (3.204)

3.112
itinerary leaf
sequence of sequential *itinerary records* (3.115) of the same type all pertaining to a defined set of *toll domains* (3.206)

3.113
itinerary freezing
registering an *itinerary* (3.111) and undeniably committing oneself to it

3.114
itinerary trunk
sequence of aggregated data committing to a number of underlying *itinerary leaves* (3.112)

3.115
itinerary record
atomic *data element* (3.57) describing use of the road network or use of the vehicle

3.116
key certification authority
authority trusted by one or more users to create and assign public-key certificates

3.117
key management
encryption key control
generation, distribution, storage, application and revocation of encryption keys

3.118
laboratory test
test (3.187) which is performed in a laboratory under specified conditions

3.119
level of transport service
rating of the *quality* (3.156) of transportation facilities and services from the user perspective, with reference to speed, travel time, freedom to manoeuvre or traffic interruptions

Note 1 to entry: The level of transport service can be used to evaluate problems and potential solutions.

3.120
localization augmentation
information delivered to *on-board equipment (OBE)* (3.132) about the current geographical location or the identity of a *charge object* (3.32)

Note 1 to entry: The localization augmentation may be used at locations where the satellite signals are insufficient for positioning, for example.

© ISO 2025 – All rights reserved

3.121
maintainability
ability of a system or subsystem to be maintained or restored to specified conditions within a given period of time

3.122
message authentication code
MAC
fixed-length string of bits used to verify the *authenticity* (3.18) of a message

Note 1 to entry: A MAC is usually generated by the sender of the message, transmitted together with the message, and verified by the receiver of the message.

3.123
missed recognition event
usage of a *charge object* (3.32) that is not recorded by the system

3.124
mobile roadside equipment
equipment used along the road that can be moved between different locations

EXAMPLE Equipment mounted on a mobile unit or handheld equipment.

3.125
mode of transport
method of transport of either people or goods, or both

EXAMPLE Air, maritime, rail and road transport.

3.126
monitoring
collection and assessment of status data for a process or a system

3.127
multi-modal transport
transport of people or goods by more than one *mode of transport* (3.125) during a single journey

3.128
non-repudiation
ability to prove the occurrence of a claimed event or action and its originating entities

3.129
on-board equipment personalization
OBE personalization
transferring *personalization assets* (3.143) to the *on-board equipment (OBE)* (3.132)

3.130
object of conformity assessment
object to which *specified requirements* (3.181) apply

EXAMPLE Product, process, service, system, installation, project, data, design, material, claim, person, body or organization or any combination thereof.

Note 1 to entry: The term "body" is used to refer to *conformity assessment bodies* (3.49) and *accreditation* (3.7) bodies. The term "organization" is used in its general meaning and may include bodies according to the context. The more specific ISO/IEC Guide 2 definition of an organization as a body based on membership is not applicable to the field of conformity assessment.

[SOURCE: ISO/IEC 17000:2020, 4.2, modified — The preferred term "object" was removed.]

3.131
on-board account
payment means (3.140), value or service rights stored in the *payment medium* (3.141)

© ISO 2025 – All rights reserved

3.132
on-board equipment
OBE
all required equipment on-board a vehicle for performing required *electronic fee collection (EFC)* (3.74) functions and communication services

3.133
on-board unit
OBU
electronic unit on-board a vehicle for performing specific *electronic fee collection (EFC)* (3.74) functions and for communication with external systems

3.134
on-road service integrator
toll service provider (3.211) that in addition delivers services from various *value-added service (VAS)* (3.238) providers to its clients

3.135
open payment
use of open industry interface standards or specifications for payment

3.136
overcharging
situation where the calculated charge is above the *accepted charging error interval* (3.3)

3.137
passive radio-frequency identification
passive RFID
RFID (3.157) using passive-backscatter

3.138
passive UHF radio-frequency identification
passive UHF RFID
passive *RFID* (3.157) operating in the UHF frequency range

Note 1 to entry: The UHF range is 860 MHz to 960 MHz.

3.139
payment claim
statement made available to the payer by the payee to justify the amount due

Note 1 to entry: The statement can include the concluded *billing details* (3.26).

3.140
payment means
means accepted by the service provider that gives the user the right to use provided services

EXAMPLE 1 *On-board account* (3.131) examples: Tokens and stored electronic values.

EXAMPLE 2 *Central account* (3.28) examples: Fleet card number, bank account number, credit card number and contract ID.

3.141
payment medium
carrier of *payment means* (3.140)

EXAMPLE IC-card, *on-board equipment (OBE)* (3.132) and smart phone.

3.142
personal data
information relating to an identified or identifiable natural person

© ISO 2025 – All rights reserved

3.143
personalization assets
specific data stored in the *on-board equipment (OBE)* (3.132) related to the user and the vehicle

3.144
personalization equipment
equipment for transferring *personalization assets* (3.143) to the *on-board equipment (OBE)* (3.132)

3.145
personalization card
set-up card
IC card (3.105) used to transcribe individual data such as vehicle or contract information into *on-board equipment (OBE)* (3.132)

3.146
point of observation
interface, or other identifiable access to a system, where conformance can be stated and verified

3.147
policy
overall intention and direction as formally expressed by management

3.148
population
totality of items under consideration

3.149
prebilling operator
entity for clearing of billing data and for informing on *payment claims* (3.139) to *issuers* (3.110)

3.150
probe data
in-vehicle sensor information that is transmitted to *roadside equipment (RSE)* (3.166) or a central system

Note 1 to entry: The probe data can be used to create an improved understanding of the driving environment.

3.151
processing of personal data
operation or set of operations performed upon *personal data* (3.142), whether or not by automatic means

Note 1 to entry: Operations can include collection, recording, organization, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, blocking, erasure or destruction.

3.152
profile
set of requirements and selected options from *base standards* (3.24) or *international standardized profiles* (3.107) used to provide a specific functionality

3.153
profile taxonomy
classification scheme for referencing *profiles* (3.152) or sets of profiles unambiguously

3.154
proxy
optional part of a *front end* (3.90) that communicates with external equipment and translates the data received into an agreed format to be delivered to the *back end* (3.23)

© ISO 2025 – All rights reserved

3.155
public transport services
shared passenger *transport service* (3.222) which is available for use by the general public

EXAMPLE Bus, tram and train.

3.156
quality
degree to which a set of inherent characteristics of an object fulfils requirements

3.157
radio frequency identification
RFID
wireless system that uses radio-frequency electromagnetic fields to obtain an identifier

3.158
real-time freezing
freezing of each *itinerary record* (3.115) as soon as its acquisition has terminated using a *trusted recorder* (3.229)

3.159
relative charging error
ratio between the *absolute charging error* (3.1) and the reference value

3.160
relative time
point in time relative to a defined event

3.161
reliability
ability of a device or a system to perform its intended function under given conditions of use for a specified period of time or number of cycles

3.162
representative trips
trips (3.225) that are of a distance larger than a defined threshold and so have to be considered by the related metrics

3.163
road and traffic manager
RTM
manager responsible for a road transport network operation including *monitoring* (3.126) of the *level of transport service* (3.119)

3.164
road section charging
road section tolling
tolling principle where the *toll* (3.198) is due if predefined sections of roads are used

3.165
road usage data
time, place or distance-related information accumulated per road user

Note 1 to entry: The road usage data can be used to calculate the *toll* (3.198) due.

3.166
roadside equipment
RSE
electronic fee collection (EFC) (3.74) by means of a *fixed roadside equipment* (3.86) or *mobile roadside equipment* (3.124) located along or on the road

Note 1 to entry: Movable RSE can be mounted temporarily along the road or in a vehicle.

© ISO 2025 – All rights reserved

3.167
roaming rules
set of *attributes* (3.14) to be used in the *electronic fee collection (EFC)* (3.74) communication to enable users to circulate between contracting *toll domains* (3.206)

3.168
role
specified responsibilities

3.169
sample
subset of a *population* (3.148) made up of one or more of its individual parts

3.170
secure application module
SAM
physical module that securely executes cryptographic functions and stores keys

3.171
secure application module for verification
SAM for verification
secure application module (SAM) (3.170) capable of providing cryptographic services to verify a *trusted recorder* (3.229)*message authentication code (MAC)* (3.122) in such a manner that the proof of *non-repudiation* (3.128) is provided

3.172
secure monitoring compliance checking
concept that allows a *toll charger* (3.199) to rely on the trustworthiness of *toll declarations* (3.204) produced by *toll service providers* (3.211)

3.173
security policy
set of rules that regulate how to handle *security threats* (3.176) or define the appropriate security level

3.174
security service
service, provided by communicating systems, which ensures adequate security of the systems or of data transfers

EXAMPLE *Confidentiality* (3.47), *data integrity* (3.59), *authentication* (3.16) and *non-repudiation* (3.128).

3.175
security target
set of security requirements and specifications to be used as the basis for *evaluation* (3.79) of an identified *target of evaluation (TOE)* (3.184)

3.176
security threat
potential action or manner intended to violate the security of a system

3.177
sensitive electronic fee collection data
sensitive EFC data
EFC (3.74)-related data, either data itself or combined with other EFC-related data, that could be used for identifying an EFC user

3.178
service primitive
elementary communication service provided by the application layer protocol to the application processes

© ISO 2025 – All rights reserved

3.179
short-range communication
transfer of information via a radio connection over a short distance

Note 1 to entry: Technique commonly used in tolling to transfer information between *roadside equipment (RSE)* (3.166) and *on-board equipment (OBE)* (3.132).

Note 2 to entry: Active (transceiver or backscatter) and passive radio frequency technologies which provide bi-directional or unidirectional communication and have low capability of causing interference to other radio equipment.

EXAMPLE CEN, Italian, Association of Radio Industries and Businesses (ARIB) and Wireless Access in Vehicular Environments (WAVE) *dedicated short-range communication (DSRC)* (3.63) technologies.

3.180
simulation
representation of selected behavioural characteristics of one physical or abstract system using another system

3.181
specified requirement
need or expectation that is stated

Note 1 to entry: Specified requirements can be stated in normative documents such as regulations, standards and technical specifications.

Note 2 to entry: Specified requirements can be detailed or general.

[SOURCE: ISO/IEC 17000:2020, 5.1]

3.182
successful charging
situation where the user has been correctly charged according to the rules of the system

3.183
system under test
SUT
real system in which the *implementation under test* (3.99) resides

3.184
target of evaluation
TOE
set of software, firmware or hardware possibly accompanied by guidance

3.185
tariff scheme
set of rules to determine the *toll* (3.198) due for a vehicle within a *toll domain* (3.206)

3.186
tariff modifier
classes of *attributes* (3.14) on which the tariff depends for the use of a *charge object* (3.32)

3.187
test
procedure designed to measure characteristics of a component or system in specified conditions

3.188
test case
description of test purpose, unique test case identifier, test inputs, test execution conditions, test steps, and the results required to pass the *test* (3.187)

3.189
test house
third party that carries out the *test* (3.187)

© ISO 2025 – All rights reserved

3.190
test parameter
parameter that specifies one or more characteristics of a system to be tested

3.191
test procedure
instructions for the set-up, execution, and *evaluation* (3.79) of results for a given *test case* (3.188)

3.192
test type
kind of test

EXAMPLE *Inspection* (3.104), *simulation* (3.180), *laboratory test* (3.118) or *field test* (3.85).

3.193
tester
combination of equipment, humans and processes able to perform specified conformance tests

3.194
threat
potential cause of an unwanted *information security incident* (3.103), which can result in harm

3.195
threat agent
entity that has the intention to act adversely on an *asset* (3.10)

3.196
threat analysis
systematic detection, identification, and *evaluation* (3.79) of *threats* (3.194)

3.197
time lock
mechanism ensuring that a new operation can only be commissioned after a configurable period of time or processor clock cycles since the previous operation

3.198
toll
fee
charge, tax or duty levied in connection to using a vehicle in a *toll domain* (3.206)

3.199
toll charger
TC
entity which levies *toll* (3.198) for the use of *charge objects* (3.32) by vehicles in a *toll domain* (3.206)

3.200
toll cluster
group of *toll schemes* (3.209) operating under a common agreement providing *interoperability* (3.108) for road users having a contract with a service provider being part of the cluster

3.201
toll context
logical view as defined by *attributes* (3.14) and functions of the basic elements of a *toll scheme* (3.209) consisting of a single basic tolling principle, a spatial distribution of the *charge objects* (3.32) and a single behaviour of the related *front end* (3.90).

3.202
toll context data
information defined by the responsible *toll charger* (3.199) necessary to establish the *toll* (3.198) due for using a vehicle on a particular *toll context* (3.201) and to conclude the toll *transaction* (3.216)

© ISO 2025 – All rights reserved

3.203
toll context layout
group of *attributes* (3.14) of the *toll context data* (3.202) providing the geographic information of a *toll domain* (3.206)

3.204
toll declaration
statement to declare the usage of a given *toll service* (3.210) to a *toll charger* (3.199)

3.205
toll declaration period
period covered by a *toll declaration* (3.204)

3.206
toll domain
area or a part of a road network where a certain *toll regime* (3.208) is applied

3.207
toll domain identifier
toll domain ID
unique identifier of a *toll domain* (3.206)

3.208
toll regime
set of rules, including *enforcement* (3.77) rules, governing the collection of *tolls* (3.198) in a *toll domain* (3.206)

3.209
toll scheme
organizational view of a *toll regime* (3.208), including the actors and their relationships

3.210
toll service
service enabling users to pay *toll* (3.198)

3.211
toll service provider
TSP
entity providing *toll services* (3.210) to *toll service users* (3.212) in one or more *toll domains* (3.206)

3.212
toll service user
customer of a *toll service provider* (3.211), i.e. one liable for *toll* (3.198)

EXAMPLE Owner of the vehicle, fleet operator or driver depending on the context.

3.213
toll system layout
geographic area where a *toll* (3.198) is charged for the use of a *charge object* (3.32)

3.214
tolled area
geographic area where a *toll* (3.198) is charged for road usage

3.215
traffic flow information
average speed, traffic volume and traffic density as a function of time

3.216
transaction
whole of the exchange of information between two physically separated communication facilities

© ISO 2025 – All rights reserved

3.217
transaction counter
data value in the *on-board unit (OBU)* (3.133) that is incremented by the *roadside equipment (RSE)* (3.166) at each *transaction* (3.216)

3.218
transaction model
functional model describing the structure of electronic payment *transactions* (3.216)

3.219
transaction type
identifier of a set of *transactions* (3.216) that adhere to the same rules for the exchanged application protocol data units in terms of triggers, timings, content and sequence

3.220
transit data
road usage data (3.165) necessary to calculate *tolls* (3.198) based on the use of the *charge object* (3.32)

3.221
transport performance requirement
necessary *level of transport service* (3.119) related to a set of operational goals and performance measures

3.222
transport service
transport infrastructure-related service which is offered to the user

EXAMPLE Provision of roads.

3.223
transport service provider
entity that provides a *transport service* (3.222)

3.224
travel demand model
model for estimating travel demand and behaviour

3.225
trip
part of space-time trajectory of a vehicle within a *toll domain* (3.206)

3.226
true negative event
event that did not take place and was not detected

3.227
true positive event
event that took place and was detected

3.228
trust object
information object that is exchanged between entities to ensure mutual trust

3.229
trusted recorder
logical entity capable of cryptographic functions, used to provide the *on-board equipment (OBE)* (3.132) with *security services* (3.174)

3.230
trusted third party
TTP
security authority or its agent trusted by other entities with respect to security-related activities

© ISO 2025 – All rights reserved

3.231
type approval
approval based on conformity testing on the basis of one or more specimens of a product representative of the production

3.232
undercharging
situation where the calculated charge is below the *accepted charging error interval* (3.3)

3.233
undetected observation
observation of road usage, performed by the *toll charger* (3.199), which is unknown to the driver or *on-board equipment (OBE)* (3.132), both before and after the observation

3.234
unexpected observation
observation of road usage, performed by the *toll charger* (3.199), which is unknown to the driver or *on-board equipment (OBE)* (3.132) before the observation but can potentially be known after the observation

3.235
user account
centrally or on-board stored transport related service rights of the user in relation to a service provider

3.236
user complaint
complaints from users related to a specific service provision

3.237
validation
confirmation of plausibility for a specific intended use or application, through the provision of objective evidence that *specified requirements* (3.181) have been fulfilled

Note 1 to entry: Validation can be applied to claims to confirm the information declared with the claim regarding an intended future use.

3.238
value added service
VAS
service that is offered in addition to the core service in question thus creating additional value

3.239
value units bearing device
device under the control of the service user that contains value units

3.240
verification
confirmation of truthfulness, through the provision of objective evidence that *specified requirements* (3.181) have been fulfilled

Note 1 to entry: Verification can be applied to claims to confirm the information declared with the claim regarding events that have already occurred or results that have already been obtained.

3.241
vulnerability
weakness of an *asset* (3.10) or control that can be exploited by an attacker

© ISO 2025 – All rights reserved

Bibliography

[1] ISO 704, *Terminology work — Principles and methods*

[2] ISO 1087, *Terminology work and terminology science — Vocabulary*

[3] ISO 4006, *Measurement of fluid flow in closed conduits — Vocabulary and symbols*

[4] ISO 7498-2, *Information processing systems — Open Systems Interconnection — Basic Reference Model — Part 2: Security Architecture*

[5] ISO 9000, *Quality management systems — Fundamentals and vocabulary*

[6] ISO 10795, *Space systems — Programme management and quality — Vocabulary*

[7] ISO/TS 16791, *Health informatics — Requirements for international machine-readable coding of medicinal product package identifiers*

[8] ISO 17573-1, *Electronic fee collection — System architecture for vehicle-related tolling — Part 1: Reference model*

[9] ISO 17573-3, *Electronic fee collection — System architecture for vehicle-related tolling — Part 3: Data dictionary*

[10] ISO/TS 17975, *Health informatics — Principles and data requirements for consent in the collection, use or disclosure of personal health information*

[11] ISO 19105, *Geographic information — Conformance and testing*

[12] ISO 21188, *Public key infrastructure for financial services — Practices and policy framework*

[13] ISO/IEC Guide 2:2004, *Standardization and related activities — General vocabulary*

[14] ISO/IEC 9594-8, *Information technology — Open systems interconnection — Part 8: The Directory: Public-key and attribute certificate frameworks*

[15] ISO/IEC 9646-1, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts*

[16] ISO/IEC 9797-1, *Information technology — Security techniques — Message Authentication Codes (MACs) — Part 1: Mechanisms using a block cipher*

[17] ISO/IEC/TR 10000-1, *Information technology — Framework and taxonomy of International Standardized Profiles — Part 1: General principles and documentation framework*

[18] ISO/IEC 10181-1, *Information technology — Open Systems Interconnection — Security frameworks for open systems: Overview*

[19] ISO/IEC 11179-3, *Information technology — Metadata registries (MDR) — Part 3: Metamodel for registry common facilities*

[20] ISO/IEC 14776-262, *Information technology — Small computer system interface (SCSI) — Part 262: SAS protocol layer - 2 (SPL-2)*

[21] ISO/IEC 15408-1, *Information technology — Security techniques — Evaluation criteria for IT security — Part 1: Introduction and general model*

[22] ISO/IEC 15628, *Intelligent transport systems — Dedicated short range communication (DSRC) — DSRC application layer*

[23] ISO/IEC 17000:2020, *Conformity assessment — Vocabulary and general principles*

© ISO 2025 – All rights reserved

[24] ISO/IEC 18013-4, *Personal identification — ISO-compliant driving licence — Part 4: Test methods*

[25] ISO/IEC 27000, *Information technology — Security techniques — Information security management systems — Overview and vocabulary*

[26] ISO/IEC 27032, *Cybersecurity — Guidelines for Internet security*

[27] EN 301-175, *V1.1.1:1998, Cordless Terminal Mobility (CTM); Phase 1; Service description*

[28] Web page with an overview of EFC-standards: https://www.itsstandards.eu/its-application-areas/electronic-fee-collection/

[29] Web page with the definition of e-money, consulted on 21 October 2024, European Central Bank: https://www.ecb.europa.eu/home/glossary/html/glosse.en.html.

[30] "*ITS Terminology Terms & Definitions*", June 2018. Finnish Transport Agency, Norwegian Public Roads Administration, Swedish Transport Administration: http://www.its-terminology.com/

© ISO 2025 – All rights reserved