

Electronic fee collection - System architecture for
vehicle-related tolling - Part 3: Data dictionary (ISO
17573-3:2023)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 17573-3:2023 sisaldab Euroopa standardi EN ISO 17573-3:2023 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.08.2023.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 17573-3:2023 consists of the English text of the European standard EN ISO 17573-3:2023.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 09.08.2023.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
---	---

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 03.220.20, 35.240.60

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele. Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation: Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

**Electronic fee collection - System architecture for vehicle-
related tolling - Part 3: Data dictionary (ISO 17573-
3:2023)**

Perception du télépéage - Architecture de systèmes
pour le péage lié aux véhicules - Partie 3: Dictionnaire
de données (ISO 17573-3:2023)

Elektronische Gebührenerhebung - Systemarchitektur
für fahrzeugbezogene Maut - Teil 3: Datendefinition
(ISO 17573-3:2023)

This European Standard was approved by CEN on 24 July 2023.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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

European foreword

This document (EN ISO 17573-3:2023) 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 February 2024, and conflicting national standards shall be withdrawn at the latest by February 2024.

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 17573-3:2021.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 17573-3:2023 has been approved by CEN as EN ISO 17573-3:2023 without any modification.

Contents

Page

Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Abbreviated terms	4
5 EFC common data object definitions	5
5.1 General	5
5.2 Subtypes of simple data types	6
5.2.1 AccountStatus	6
5.2.2 ActualNumberOfPassengers	6
5.2.3 Altitude	6
5.2.4 Axles	7
5.2.5 CabType	7
5.2.6 ChassisType	7
5.2.7 Co2EmissionClass	8
5.2.8 Co2EmissionValue	9
5.2.9 Co2EmissionValueLoad	9
5.2.10 Co2Scheme	9
5.2.11 ContractAuthenticator	9
5.2.12 ContractSerialNumber	9
5.2.13 CopValue	10
5.2.14 CountryCode	10
5.2.15 DetectionMode	10
5.2.16 EmissionUnit	11
5.2.17 EngineCharacteristics	11
5.2.18 EquipmentIccId	13
5.2.19 EquipmentObuid	13
5.2.20 EquipmentStatus	14
5.2.21 EuroValue	14
5.2.22 DistanceUnit	14
5.2.23 IssuerIdentifier	15
5.2.24 Latitude	15
5.2.25 LocalVehicleClassId	15
5.2.26 LocationClassId	15
5.2.27 Longitude	16
5.2.28 PaymentSecurityData	16
5.2.29 PayUnit	16
5.2.30 PersonalAccountNumber	17
5.2.31 RearWheelsSteeringType	17
5.2.32 ReceiptAuthenticator	18
5.2.33 ReceiptDistance	18
5.2.34 ResultFin	18
5.2.35 ReceiptIccId	19
5.2.36 ReceiptObuid	19
5.2.37 ResultOp	19
5.2.38 ReceiptServiceSerialNumber	21
5.2.39 ReceiptText	21
5.2.40 StationType	21
5.2.41 SuspensionType	21
5.2.42 TariffClassId	22
5.2.43 Time	22

5.2.44	TimeClassId	22
5.2.45	TimeUnit	22
5.2.46	TrailerType	23
5.2.47	TyreConfiguration	23
5.2.48	UserClassId	23
5.2.49	VehicleAuthenticator	24
5.2.50	VehicleClass	24
5.2.51	VehicleCurrentMaxTrainWeight	24
5.2.52	VehicleTechnicalPermissibleMaxLadenMass	24
5.2.53	VehicleTotalDistance	25
5.2.54	VehicleUsageCategoryType	25
5.2.55	VehicleWeightLaden	26
5.2.56	WeekDay	26
5.3	Single level data types	26
5.3.1	AbsolutePosition2d	26
5.3.2	AbsolutePosition3d	27
5.3.3	AxleWeightLimit	27
5.3.4	AxleWeightLimits	27
5.3.5	DateCompact	28
5.3.6	DieselEmissionValues	28
5.3.7	DriverCharacteristics	28
5.3.8	Distance	28
5.3.9	Duration	29
5.3.10	EngineDetails	29
5.3.11	EuVehicleGroup	29
5.3.12	ExhaustEmissionValues	29
5.3.13	FutureCharacteristics	30
5.3.14	NumberOfAxles	30
5.3.15	Obeld	31
5.3.16	Particulate	31
5.3.17	PassengerCapacity	31
5.3.18	PaymentFee	31
5.3.19	Period	32
5.3.20	Provider	32
5.3.21	RelativePosition3d	32
5.3.22	SessionClass	32
5.3.23	SessionLocation	33
5.3.24	SignedValue	33
5.3.25	SoundLevel	33
5.3.26	TariffClassDescription	33
5.3.27	TimeCompact	34
5.3.28	TrailerDetails	34
5.3.29	WheelsConfiguration	34
5.4	Two-level data types	35
5.4.1	AxlesWeightLimits	35
5.4.2	ChargeObjectId	35
5.4.3	ContractValidity	35
5.4.4	DateAndTime	36
5.4.5	EnvironmentalCharacteristics	36
5.4.6	InitialVehicleRegistrationDate	36
5.4.7	Lpn	36
5.4.8	PaymentMeans	37
5.4.9	PaymentMeansBalance	38
5.4.10	Point	38
5.4.11	PurseBalance	38
5.4.12	TrailerCharacteristics	38
5.4.13	ValidityOfContract	39
5.4.14	VehicleAxlesNumber	39

5.4.15	VehicleDimensions	39
5.4.16	VehicleIdentificationNumber	39
5.4.17	VehicleWeightLimits	40
5.5	Three-level data types	40
5.5.1	EfcContextMark	40
5.5.2	ReceiptContract	40
5.5.3	ReceiptData	41
5.5.4	ReceiptFinancialPart	42
5.5.5	ReceiptServicePart	42
5.5.6	UserId	43
5.5.7	VehicleAxles	43
5.5.8	VehicleSpecificCharacteristics	43
5.6	Complex data types	44
5.6.1	AggregatedSingleTariffClassSession	44
5.6.2	DetectedChargeObject	45
5.6.3	VehicleDescription	46
Annex A (normative) EFC common data type definitions		47
Bibliography		48

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).

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 cancels and replaces the first edition (ISO/TS 17573-3:2021), which has been technically revised.

The main changes are as follows:

- CO₂ emission class data types have been added to underpin the revised Directive 1999/62/EC^[15] (i.e. Eurovignette directive regarding the charging of vehicles for the use of certain infrastructure), updated by Directive (EU) 2022/362;^[21]
- a second level of version identifier (i.e. minor version) of the abstract syntax notation one (ASN.1) module has been added to provide enhanced support to standards that import data types from this document.

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.

Introduction

This document is a part of the ISO 17573 series which defines the system architecture for vehicle-related tolling. ISO 17573-1 gives a reference model for the system architecture. ISO/TS 17573-2 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 (ISO 17573-3) provides a data dictionary that contains the definitions of ASN.1 (data) types and the associated semantics.

The document is intended to be used as a reference by editors of ISO and CEN documents in EFC and in related areas of standardization (such as Intelligent transport systems, ITS).

It is foreseen that the library of ASN.1 (data) types contained in this document will be augmented with additional definitions as these become available.

Electronic fee collection — System architecture for vehicle-related tolling —

Part 3: Data dictionary

1 Scope

This document specifies the syntax and semantics of data objects in the field of electronic fee collection (EFC). The definitions of data types and assignment of semantics are provided in accordance with the abstract syntax notation one (ASN.1) technique, as specified in ISO/IEC 8824-1. This document defines:

- ASN.1 (data) types within the fields of EFC;
- ASN.1 (data) types of a more general use that are used more specifically in standards related to EFC.

This document does not seek to define ASN.1 (data) types that are primarily related to other fields that operate in conjunction with EFC, such as cooperative intelligent transport systems (C-ITS), the financial sector, etc.

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

ISO 612, *Road vehicles — Dimensions of motor vehicles and towed vehicles — Terms and definitions*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

ISO 1176, *Road vehicles — Masses — Vocabulary and codes*

ISO 4217, *Codes for the representation of currencies*

ISO/IEC 7812-1, *Identification cards — Identification of issuers — Part 1: Numbering system*

ISO/IEC 7812-2, *Identification cards — Identification of issuers — Part 2: Application and registration procedures*

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1) — Part 1: Specification of basic notation*

ISO/IEC 8859-1, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

ISO/IEC 8859-2, *Information technology — 8-bit single-byte coded graphic character sets — Part 2: Latin alphabet No. 2*

ISO/IEC 8859-3, *Information technology — 8-bit single-byte coded graphic character sets — Part 3: Latin alphabet No. 3*

ISO/IEC 8859-4, *Information technology — 8-bit single-byte coded graphic character sets — Part 4: Latin alphabet No. 4*

ISO/IEC 8859-5, *Information technology — 8-bit single-byte coded graphic character sets — Part 5: Latin/Cyrillic alphabet*

ISO/IEC 8859-6, *Information technology — 8-bit single-byte coded graphic character sets — Part 6: Latin/Arabic alphabet*

ISO/IEC 8859-7, *Information technology — 8-bit single-byte coded graphic character sets — Part 7: Latin/Greek alphabet*

ISO/IEC 8859-8, *Information technology — 8-bit single-byte coded graphic character sets — Part 8: Latin/Hebrew alphabet*

ISO/IEC 8859-9, *Information technology — 8-bit single-byte coded graphic character sets — Part 9: Latin alphabet No. 5*

ISO/IEC 8859-10, *Information technology — 8-bit single-byte coded graphic character sets — Part 10: Latin alphabet No. 6*

3 Terms and definitions

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

3.1

BITSTRING

<type> *simple type* (3.14) whose distinguished values are an ordered sequence of zero, one or more bits

[SOURCE: ISO/IEC 8824-1:2021, 3.8.7, modified — Term modified from "BITSTRING type" to "BITSTRING" and domain "<type>" added.]

3.2

CHOICE

<type> type defined by referencing a list of distinct types; each value of the choice type is derived from the value of one of the *component types* (3.4)

Note 1 to entry: Each value of the choice type is derived from the value of one of the component types.

[SOURCE: ISO/IEC 8824-1:2021, 3.8.14, modified — Term modified from "CHOICE type" to "CHOICE" and domain "<type>" added. Note 1 to entry also added.]

3.3

complex data type

one type that has more than *three levels* (3.17)

3.4

component type

one of the types referenced when defining a *CHOICE* (3.2), *SET* (3.12), *SEQUENCE* (3.10), *SET OF* (3.13), or *SEQUENCE OF* (3.11)

[SOURCE: ISO/IEC 8824-1:2021, 3.8.15]