



# SLOVENSKI STANDARD

## oSIST prEN 16986:2023

01-maj-2023

---

### Elektronsko pobiranje pristojbin - Interoperabilni profili aplikacije za informativno izmenjavo med ponudnikom storitve in operaterjem cestninjenja

Electronic fee collection - Interoperable application profiles for information exchange between Service Provision and Toll Charging

Elektronische Gebührenerhebung - Interoperable Anwendungsprofile für den Informationsaustausch zwischen den Dienste-Versorgern und Mauterhebern

Perception de télépéage - Profils d'application d'interopérabilité pour échange d'informations entre la prestation de service et la perception du péage

Ta slovenski standard je istoveten z: **prEN 16986**

---

#### ICS:

35.240.60	Uporabniške rešitve IT v prometu	IT applications in transport
-----------	----------------------------------	------------------------------

**oSIST prEN 16986:2023**

**en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 16986**

March 2023

ICS 35.240.60

Will supersede CEN/TS 16986:2016

English Version

## Electronic fee collection - Interoperable application profiles for information exchange between Service Provision and Toll Charging

Perception de télépéage - Profil d'application interopérabilité pour échange d'informations entre la prestation de service et la perception du péage

Elektronische Gebührenerhebung - Interoperable Anwendungsprofile für den Informationsaustausch zwischen den Dienste-Versorgern und Mauterhebern

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 278.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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

<b>Contents</b>	<b>Page</b>
<b>EUROPEAN FOREWORD</b> .....	<b>5</b>
<b>INTRODUCTION</b> .....	<b>6</b>
<b>1 SCOPE</b> .....	<b>7</b>
<b>2 NORMATIVE REFERENCES</b> .....	<b>7</b>
<b>3 TERMS AND DEFINITIONS</b> .....	<b>8</b>
<b>4 ABBREVIATED TERMS</b> .....	<b>12</b>
<b>5 CONFORMANCE</b> .....	<b>13</b>
5.1 GENERAL.....	13
5.2 BASE STANDARD.....	13
5.3 MAIN CONTENTS OF THE IAPS IN THIS DOCUMENT.....	14
5.3.1 <i>General requirements</i> .....	14
5.3.2 <i>Profiles</i> .....	14
5.3.3 <i>Interaction protocol</i> .....	17
5.4 CONFORMANCE REQUIREMENTS.....	24
5.4.1 <i>Relations between this document and the base standard</i> .....	24
5.4.2 <i>Conformance to profiles</i> .....	25
5.5 CONFORMANCE STATEMENT .....	26
5.6 INTEROPERABILITY.....	26
<b>6 GENERAL RESTRICTIONS</b> .....	<b>26</b>
6.1 GENERAL.....	26
6.2 CODED VALUES AND RANGES.....	26
6.3 EXTENDED DATA TYPES.....	29
6.3.1 <i>General</i> .....	29
6.3.2 <i>NominalVehicleParameters</i> .....	29
6.3.3 <i>UserParameterResponseDetails</i> .....	31
6.4 INFOEXCHANGE APDU.....	33
6.4.1 <i>Information sender and information originator</i> .....	33
6.4.2 <i>Restrictions in InfoExchangeContent data elements</i> .....	33
6.4.3 <i>InfoExchangeAuthenticator</i> .....	34
6.5 ACKADU.....	35
6.5.1 <i>General</i> .....	35
6.5.2 <i>Transaction protocol</i> .....	35
6.5.3 <i>Syntax and semantics</i> .....	35
6.6 APDU TRANSFER MECHANISMS.....	36
6.6.1 <i>ASN.1 encoding</i> .....	36
6.6.2 <i>Generic transfer mechanisms</i> .....	36
6.6.3 <i>Alternative transfer mechanisms for transaction type TRUSTOBJECTS</i> .....	36
<b>7 COMMON TRANSACTIONS</b> .....	<b>36</b>
7.1 USERDETAILS - RETRIEVE AND PROVIDE USER DETAILS .....	36
7.1.1 <i>Transaction sequence, triggers and timings</i> .....	36
7.1.2 <i>Syntax and semantics</i> .....	38
7.2 LISTOFUSERS – PROVIDE A LIST OF USERS.....	40
7.2.1 <i>Transaction sequence, triggers and timings</i> .....	40
7.2.2 <i>Syntax and semantics</i> .....	41
7.3 EXCEPTIONLIST - MANAGING EXCEPTION LISTS .....	42
7.3.1 <i>Transaction sequence, triggers and timings</i> .....	42
7.3.2 <i>Syntax and semantics</i> .....	44
7.4 TRUSTOBJECTS - EXCHANGE TRUST OBJECTS.....	51

7.4.1	<i>APDU transfer mechanisms</i> .....	51
7.4.2	<i>Transaction sequence, triggers and timings</i> .....	51
7.4.3	<i>Syntax and semantics</i> .....	54
7.5	CONTRACTISSUERLIST – TRANSFER OBE CONTRACTUAL INFORMATION .....	55
7.5.1	<i>Transaction sequence, triggers and timings</i> .....	55
7.5.2	<i>Syntax and semantics</i> .....	56
7.6	EFCCONTEXTDATA – TRANSFER TOLL CONTEXT DATA INFORMATION .....	57
7.6.1	<i>Transaction sequence, triggers and timings</i> .....	57
7.6.2	<i>Syntax and semantics</i> .....	58
7.7	BILLINGDETAILS_TC – TRANSFER BILLING DETAILS FROM TC .....	58
7.7.1	<i>Transaction sequence, triggers and timings</i> .....	58
7.7.2	<i>Syntax and semantics</i> .....	60
7.8	BILLINGDETAILS_TSP .....	61
7.8.1	<i>Transaction sequence, triggers and timings</i> .....	61
7.8.2	<i>Syntax and semantics</i> .....	63
7.9	PAYMENTCLAIM – ISSUE A PAYMENT CLAIM .....	64
7.9.1	<i>Transaction sequence, triggers and timings</i> .....	64
7.9.2	<i>Syntax and semantics</i> .....	66
7.10	REPORTABNORMALOBE – REPORT DETECTION OF OBE MISBEHAVIOUR .....	67
7.10.1	<i>Transaction sequence, triggers and timings</i> .....	67
7.10.2	<i>Syntax and semantics</i> .....	68
7.11	USERCOMPLAINT – REPORT A USER COMPLAINT .....	69
7.11.1	<i>Transaction sequence, triggers and timings</i> .....	69
7.11.2	<i>Syntax and semantics</i> .....	71
7.12	QAINFO – EXCHANGE OF QUALITY RELATED INFORMATION .....	72
7.12.1	<i>Transaction sequence, triggers and timings</i> .....	72
7.12.2	<i>Syntax and semantics</i> .....	74
<b>8</b>	<b>SECTIONDISCRETE PROFILE</b> .....	<b>75</b>
8.1	DESCRIPTION .....	75
8.2	COMMON TRANSACTIONS USED BY THE PROFILE .....	75
8.3	ADDITIONAL PROFILE RESTRICTIONS .....	76
8.3.1	<i>Apci restrictions</i> .....	76
8.3.2	<i>EXCEPTIONLIST restrictions</i> .....	76
8.3.3	<i>TRUSTOBJECTS restrictions</i> .....	76
8.3.4	<i>EFCCONTEXTDATA restrictions</i> .....	77
8.3.5	<i>BILLINGDETAILS_TC restrictions</i> .....	84
8.3.6	<i>PAYMENTCLAIM restrictions</i> .....	86
8.4	SPECIFIC PROFILE TRANSACTIONS .....	87
<b>9</b>	<b>SECTIONAUTONOMOUS PROFILE</b> .....	<b>87</b>
9.1	DESCRIPTION .....	87
9.2	COMMON TRANSACTIONS USED BY THE PROFILE .....	87
9.3	FURTHER PROFILE RESTRICTIONS ON USED TRANSACTIONS .....	88
9.3.1	<i>EXCEPTIONLIST restrictions</i> .....	88
9.3.2	<i>BILLINGDETAILS transactions restrictions</i> .....	88
9.3.3	<i>EFCCONTEXTDATA restrictions</i> .....	89
9.4	SPECIFIC PROFILE TRANSACTIONS .....	89
9.4.1	<i>TOLLDECLARATIONS_SECT</i> .....	90
9.4.2	<i>PAYMENTANNOUNCEMENT transaction</i> .....	94
<b>10</b>	<b>MESHEDDISCRETE PROFILE</b> .....	<b>97</b>
10.1	DESCRIPTION .....	97
10.2	COMMON TRANSACTIONS USED BY THE PROFILE .....	97
10.3	FURTHER PROFILE RESTRICTIONS ON USED TRANSACTIONS .....	98
10.3.1	<i>EXCEPTIONLIST restrictions</i> .....	98
10.3.2	<i>TRUSTOBJECTS restrictions</i> .....	98

**prEN 16986:2023 (E)**

10.3.3	<i>EFCCONTEXTDATA</i> restrictions.....	98
10.3.4	<i>BILLINGDETAILS_TC</i> restrictions.....	102
10.3.5	<i>BILLINGDETAILS_TSP</i> restrictions.....	103
10.4	SPECIFIC PROFILE TRANSACTIONS.....	104
<b>11</b>	<b>AREADISTANCEAUTONOMOUS PROFILE.....</b>	<b>104</b>
11.1	DESCRIPTION.....	104
11.2	COMMON TRANSACTIONS USED BY THE PROFILE.....	104
11.3	FURTHER PROFILE RESTRICTIONS ON USED TRANSACTIONS.....	104
11.3.1	<i>EXCEPTIONLIST</i> restrictions.....	104
11.3.2	<i>EFCCONTEXTDATA</i> restrictions.....	104
11.3.3	<i>BILLINGDETAILS_TSP</i> restrictions.....	105
11.3.4	<i>REPORTABNORMALLOBE</i> restrictions.....	106
11.4	SPECIFIC PROFILE TRANSACTIONS.....	106
11.4.1	<i>TOLLDECLARATIONS_AREA</i> .....	106
	<b>ANNEX A (NORMATIVE) FORMAL RESTRICTIONS ON DATA TYPES.....</b>	<b>112</b>
	<b>ANNEX B (NORMATIVE) ICS PROFORMA.....</b>	<b>114</b>
	<b>ANNEX C (NORMATIVE) INTEROPERABILITY STATEMENT PROFORMA.....</b>	<b>193</b>
	<b>ANNEX D (NORMATIVE) WEB SERVICE DEFINITION (WSDL).....</b>	<b>201</b>
	<b>ANNEX E (NORMATIVE) USE OF THIS DOCUMENT FOR THE EETS.....</b>	<b>202</b>
	<b>BIBLIOGRAPHY.....</b>	<b>204</b>

# iTeh STANDARD PREVIEW

## (standards.iteh.ai)

[oSIST prEN 16986:2023](https://standards.iteh.ai/catalog/standards/sist/d48a0c56-668c-4deb-b770-895fb3b8411d/osist-pren-16986-2023)

<https://standards.iteh.ai/catalog/standards/sist/d48a0c56-668c-4deb-b770-895fb3b8411d/osist-pren-16986-2023>

## European foreword

This document (prEN 16986:2023) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

This document is currently submitted to the CEN Enquiry.

This document will supersede CEN/TS 16986:2016.

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

In comparison to the previous edition, the following main technical changes have been made:

- updated interoperability application profiles tailored according to electronic fee collection (EFC) charging policies and primary used technologies;
- updated data definitions to reflect changes made to the underlying base standard, i.e., EN ISO 12855:2022;
- addition of a second level of the version identifier (i.e. minor version) of the abstract syntax notation one (ASN.1) module to provide enhanced support to standards that import data types from this document;
- introduction of use of imported ASN.1 types with successors (i.e. including all future minor versions);
- updated terms and definitions, including reference to ISO/TS 17573-2 as the primary source;
- inserted a normative formal specification of profiles’ restrictions on data, both as ASN.1 data types, and as XSD specifications as Annex A and renumbered other annexes consequently;
- updated informative Annex E on the “Use of this document for the European electronic toll service” (EETS), so as to reflect the recast of the EETS legislation (i.e. Directive (EU) 2019/520<sup>[16]</sup> and the corresponding Commission Implementing Regulation<sup>[18]</sup>).

## Introduction

The CEN ISO Standard on *Electronic fee collection - Information exchange between service provision and toll charging* (i.e. EN ISO 12855) is a so-called toolbox standard. That means that it provides a large number of options that can be used to support various needs of toll chargers (TCs) and toll service providers (TSPs). As such, it provides useful but not sufficient support to ensure technical interoperability.

The aim of this document is to produce a profile specification that provides technical interoperability to support the EFC information exchange between TSPs and TCs according to the following tolling policies:

- based on traversing sections of roads;
- based on travelling within areas of territory;
- based on traversing meshed networks of roads.

This document covers the definition of interoperable application profiles (IAP) applicable for the use of EN ISO 12855:2022. These profiles define a specific coherent set of transactions, triggers, conditions, data elements, transfer mechanisms and supporting functions for an interoperable exchange of data between the back end systems of TCs and TSPs (in Europe).

This document defines profiles using the concept of “International Standardized Profiles (ISP)”, as defined in ISO/IEC TR 10000-1. The ISP concept is specifically suited for defining interoperability specifications where a set of base standards can be used in different ways. This is exactly the case for EN ISO 12855:2022, where the base standard allows for different choices that are not interoperable.

The principles of the ISP-concept can be summarized as follows:

- an ISP will make references only to base standards or other ISPs;
- the profile will restrict the choice of base standard options to the extent necessary to maximize the probability of interoperability (e.g. chosen classes, conforming subsets, options and parameter values of base standards);
- the ISP will not copy content of the base standards (in order to avoid consistency problems with the base standards);
- the profile will not specify any requirements that would contradict or cause non-conformance to the base standards;
- the profile may contain conformance requirements that are more specific and limited in scope than those of the base standards;
- conformance to a profile implies by definition conformance to a set of base standards, whereas conformance to that set of base standards does not necessarily imply conformance to the profile.

The present document is intended to provide support for the technical specification of the recast of the EETS legislation as laid down in the European Directive (EU) 2019/520 and in its Commission Delegated Regulation (EU) 2020/203 and Commission Implementing Regulation (EU) 2020/204. See Annex E on the “Use of this document for the EETS legislation.

This document will be complemented by standard EN 17154 that will specify how to evaluate implementations of EN 16986 (this document).



## 1 Scope

This document specifies interoperable application profiles for information exchanges between toll chargers (TCs) and toll service providers (TSPs), by selecting suitable options from the base standard EN ISO 12855:2022.

This document covers:

- exchange of information between back end systems of TCs and TSPs, e.g.:
  - charging related data (toll declarations, billing details, payment claims, payment announcements);
  - administrative data (trust objects, EFC context data, contact details for enforcement, etc.);
  - user related data (exception lists, user details, abnormal OBE information, CCC event data, user complaints);
  - confirmation data.
- transfer mechanisms and supporting functions;
- semantics of data elements;
- formal definitions (Annex A) of restrictions on data types w.r.t. the ASN.1 definitions in the base standard EN ISO 12855:2022 by introducing an XML Schema Definition (XSD) for each specified profile;
- implementation conformance statement proforma (Annex B), as a basis for evaluation of implementation for conformity to this document;
- an interoperability statement proforma (Annex C), as a basis for assessment of transactional interoperability of two technical implementations;
- a web service definition (Annex D) for the use of web services as communication technology.

The implementation of the underlying back end systems and their business processes is not covered. Therefore, the following aspects are outside the scope of this document:

- details about how back end systems use the authenticator data elements of the base standard to implement security;
- how to operate compliance checking and the enforcement process;
- commercial aspects;
- definition of non-functional features such as performance indicators, acceptable fault levels, availability of interfaces of TC and TSP, and reporting requirements.

This document further explains the correspondence between the European electronic toll service (EETS) legislation and this document (Annex E).

## 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.

EN ISO 12855:2022, *Electronic fee collection — Information exchange between service provision and toll charging*

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

IETF RC 959, *File Transfer Protocol [Oct 1985]*

IETF RFC 4217, *Securing FTP with TLS [Oct 2015]*

WSDL 1.1, *Web Services Description Language (WSDL) 1.1*<sup>1)</sup>

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **attribute**

addressable package of data consisting of a single *data element* (3.13) or structured sequences of data elements

[SOURCE: ISO/TS 17575-2:2020, 3.2]

### 3.2

#### **authentication**

security mechanism allowing verification of the provided identity

[SOURCE: ISO/TS 17573-2:2020, 3.15]

### 3.3

#### **authenticator**

data, possibly encrypted, that is used for *authentication* (3.2)

[SOURCE: ISO/TS 17573-2:2020, 3.16]

### 3.4

#### **availability**

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

[SOURCE: CEN ISO/TS 19299:2015, 3.6]

### 3.5

#### **base standard**

approved international standard, technical specification or ITU-T Recommendation

[SOURCE: ISO/IEC TR 10000-1:1998, 3.1.1, modified]

---

1) <http://www.w3.org/TR/2001/NOTE-wsdl-20010315> [15.03.2001]

**3.6****billing detail**

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

[SOURCE: EN ISO 12855:2015, 3.1]

**3.7****channel**

information transfer path

[SOURCE: ISO 7498-2:1989, 3.3.13]

**3.8****charge object**

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

[SOURCE: EN ISO 17575-1:2016, 3.5]

**3.9****charge report**

information containing road usage and related information originated at the Front End

[SOURCE: EN ISO 17575-1:2016, 3.6]

**3.10****charging data**

relevant data on the usage of a certain service

[SOURCE: EN ISO 12855:2015, 3.4] [oSIST prEN 16986:2023](https://standards.iteh.ai/catalog/standards/sist/d48a0c56-668c-4deb-b770-895fb3b8411d/osist-pren-16986-2023)

**3.11****conformance testing**

assessment to determine whether an implementation complies with the requirements

**3.12****context data**

information defined by the responsible toll charger necessary to establish the toll due for using a vehicle on a particular toll context and to conclude the toll transaction

**3.13****data element**

coded information, which might itself consist of lower level information structures

[SOURCE: EN ISO 17575-1:2016, 3.9]

**3.14****electronic fee collection**

fee collection by electronic means

[SOURCE: EN ISO 12855:2015, 3.6]

**prEN 16986:2023 (E)****3.15****enforcement**

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

[SOURCE: CEN ISO/TS 19299:2015, 3.15]

**3.16****evaluation**

systematic process of determining how individuals, procedures, systems or programs have met formally agreed objectives and requirements

[SOURCE: ISO 10795:2011, 1.90]

**3.17****front end**

part of a tolling system consisting of OBE and possibly a proxy where tolling information and usage data are collected and processed for delivery to the back end

[SOURCE: CEN ISO/TS 19299:2015, 3.20]

**3.18****implementation conformance statement**

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

[SOURCE: CEN ISO/TS 14907-2:2016, 3.6]

**3.19****implementation under test**

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

**3.20****international standardized profile**

internationally agreed-to, harmonised document which describes one or more profiles

[SOURCE: ISO/IEC TR 10000-1:1998, 3.1.2]

**3.21****interoperability**

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

[SOURCE: ISO/IEC TR 10000-1:1998, 3.2.1 modified]

**3.22****issuer**

entity responsible for issuing the payment means to the user

[SOURCE: ISO/TS 16785:2014, 3.9]

**3.23****on-board equipment**

all required equipment on-board a vehicle for performing required EFC functions and communication services

**3.24****payment claim**

recurring statement referring to concluded billing details made available to the payer by the payee indicating and justifying the amount due

[SOURCE: EN ISO 12855:2015, 3.10]

**3.25****profile**

set of requirements and selected options from base standards or international standardized profiles used to provide a specific functionality

[SOURCE: ISO/IEC TR 10000-1:1998, 3.1.4 modified]

**3.26****role**

set of responsibilities

[SOURCE: ISO 17573:2010, 3.13]

**3.27****system under test**

real system in which the implementation under test resides

[SOURCE: ISO/IEC 9646-1:1996, 3.3.103 modified]

**3.28****test**

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

[SOURCE: CEN ISO/TS 14907-1:2020; 3.20]

**3.29****toll**

charge, tax or duty levied in connection to using a vehicle in a toll domain

[SOURCE: CEN ISO/TS 19299:2015, 3.42 modified]

**3.30****toll charger**

entity which levies toll for the use of vehicles in a toll domain

[SOURCE: ISO 17573-2:2020, 3.194]

**3.31****toll context**

logical view as defined by attributes and functions of the basic elements of a toll scheme consisting of a single basic tolling principle, a spatial distribution of the charge objects and a single behaviour of the related Front End

[SOURCE: EN ISO 17575-1:2016, 3.17]

**prEN 16986:2023 (E)****3.32****toll declaration**

statement to declare the usage of a given toll service to a toll charger

[SOURCE: ISO 17573:2010, 3.17 modified]

**3.33****toll domain**

area or a part of a road network where a certain toll regime is applied

[SOURCE: ISO 17573:2010, 3.18 modified]

**3.34****toll regime**

set of rules, including enforcement rules, governing the collection of toll in a toll domain

[SOURCE: ISO 17573:2010, 3.20]

**3.35****toll scheme**

organizational view of a toll regime, including the actors and their relationships

[SOURCE: EN ISO 17575-3:2016, 3.22]

**3.36****toll service provider**

entity providing toll services in one or more toll domains

[SOURCE: ISO 17573:2010, 3.23 modified]

**3.37****transaction**

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

[SOURCE: EN ISO 17575-1:2016, 3.21]

**3.38****transaction type**

identifier of a set of transactions that adhere to the same rules for the exchanged application protocol data units in terms of triggers, timings, content and sequence

**3.39****trigger**

event that allows a transaction to start.

**3.40****trust object**

information object that is exchanged between entities to ensure mutual trust

[SOURCE: ISO 17573:2010, 3.28]

**3.41****XML schema definition**

Formal definition of the interrelationship between the attributes and elements of an XML object.

[SOURCE: W3C Recommendation 28 October 2004, XML Schema Part 0: Primer Second Edition]

## 4 Abbreviated terms

For the purposes of this document, the following abbreviations apply throughout the document unless otherwise specified.

ADU	Application Data Unit
ANPR	Automatic Number Plate Recognition
APCI	Application Protocol Control Information
APDU	Application Protocol Data Unit
CCC	Compliance Check Communication
CN	Cellular Network
CRL	Certificate Revocation List
DSRC	Dedicated Short-Range Communication
EETS	European Electronic Toll Service
EFC	Electronic Fee Collection
FE	Front End
FTP	File Transfer Protocol
GNSS	Global Navigation Satellite System
IAP	Interoperability Application Profile
IP	Internet Protocol
IUT	Implementation Under Test
MAC	Message Authentication Code
LAC	Localisation Augmentation Communication
LPN	Licence Plate Number
OBE	On-Board Equipment
OSI	Open Systems Interconnection
PAN	Personal Account Number
PICS	Protocol Implementation Conformance Statement
RSE	Roadside Equipment
SOAP	Simple Object Access Protocol
SU	Service User
SUT	System Under Test
TC	Toll Charger
TCP	Transmission Control Protocol
TSP	Toll Service Provider
UML	Unified Modelling Language
VPN	Virtual Private Network
XER	XML Encoding Rules