



# SLOVENSKI STANDARD SIST EN ISO 14814:2006

01-junij-2006

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SIST ENV 12314-1:2003

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Road transport and traffic telematics - Automatic vehicle and equipment identification -  
Reference architecture and terminology (ISO 14814:2006)

Telematik für Straßenverkehr und Transport - Automatische Identifikation von  
Fahrzeugen und Ausrüstungen - Referenzarchitektur und Benennung (ISO 14814:2006)

Télématique du transport routier et de la circulation - Identification automatique des  
véhicules et des équipements - Architecture de référence et terminologie (ISO  
14814:2006)

Ta slovenski standard je istoveten z: EN ISO 14814:2006

## ICS:

03.220.20	Cestni transport	Road transport
35.240.60	Uporabniške rešitve IT v transportu in trgovini	IT applications in transport and trade

SIST EN ISO 14814:2006 en

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

# EN ISO 14814

March 2006

ICS 35.240.60; 03.220.20

Supersedes ENV 12314-1:1996

English Version

## Road transport and traffic telematics - Automatic vehicle and equipment identification - Reference architecture and terminology (ISO 14814:2006)

Télématique du transport routier et de la circulation -  
Identification automatique des véhicules et des  
équipements - Architecture de référence et terminologie  
(ISO 14814:2006)

Telematik für Straßenverkehr und Transport - Automatische  
Identifikation von Fahrzeugen und Ausrüstungen -  
Referenzarchitektur und Benennung (ISO 14814:2006)

This European Standard was approved by CEN on 13 February 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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**EN ISO 14814:2006 (E)****Foreword**

This document (EN ISO 14814:2006) has been prepared by Technical Committee CEN/TC 278 "Road transport and traffic telematics", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 204 "Transport information and control systems".

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 September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

This document supersedes ENV 12314-1:1996.

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

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INTERNATIONAL  
STANDARD

ISO  
14814

First edition  
2006-03-01

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**Road transport and traffic telematics —  
Automatic vehicle and equipment  
identification — Reference architecture  
and terminology**

*Télématique du transport routier et de la circulation — Identification  
automatique des véhicules et des équipements — Architecture de  
référence et terminologie*

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**ISO 14814:2006(E)****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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 14814 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Road transport and traffic telematics*, in collaboration with Technical Committee ISO/TC 204, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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## Introduction

The interaction between vehicles, the driver and the road infrastructure is of major importance. Various technologies are already used to assist this interaction.

There is a significant and growing requirement to enable moving vehicles to interact with the infrastructure. This technical field is generally known by several abbreviations, including RTI (Road Traffic Informatics), TICS (Transport Information and Control Systems) and in CEN as RTTT (Road Transport and Traffic Telematics). More recently, there has been a coalescence to the abbreviation ITS (Intelligent Transport Systems) and both standardization committees are in the process of changing their titles to this name.

A principal means of interaction in the ITS environment is AVI/AEI (Automatic Vehicle Identification/Automatic Equipment Identification).

The data component in an ITS/RTTT environment provides the basis for unambiguous identification of the OBE (On-Board Equipment), and may also share a medium for a bi-directional interactive exchange of data between the host and OBE and to other equipment (such as smart cards or other equipment on board).

Within the ITS/RTTT sector, applications may range from simple vehicle and equipment identification to complex international and national systems. Typical direct applications are road charging, parking, vehicle management, information and control systems.

The Reference Architecture Model and the Data Construct Schemes described in this family of International Standards provide a platform for a wide range of media so that the currency of the International Standard shall remain good both for existing and future technologies. It recognizes that there are existing AVI/AEI applications and provides a means of supporting such data constructs within the International Standard.

This International Standard prescribes the overall parameters within which these subsidiary International Standards are constructed. The Architecture description defined in this International Standard is presented in a form consistent with the recommendations of ISO TC204/WG1, and is supported by that Working Group.

In many cases it is necessary or desirable to use one air carrier frequency and protocol, but this is not always possible nor even desirable in all situations.

However, there is a benefit in using a standard common core data structure that is capable of upwards integration and expandable from the simplest low-cost AVI/AEI system to the more complex functions. Such a structure must be flexible and enabling rather than prescriptive, thus enabling different degrees of interoperability within and between their host systems.

The use of Abstract Syntax Notation One (ASN.1) from the ISO/IEC 8824 and ISO/IEC 8825 series of International Standards as a data identifier structure is now widely accepted, and required by ISO TR 14813-6 for data definition in ITS International Standards. Its usage provides maximum interoperability and conformance to existing standards, and meets the specifically defined requirements for a generic International Standard model for ITS/RTTT in that it:

- enables and uses existing standard coding,
- is adaptable and expandable,
- does not include unnecessary information for a specific application, and
- has a minimum of overhead in storage and transmission.

This document is part of a series of International Standards defining AVI/AEI in the ITS/RTTT environment. Other documents in the series include ISO 14815, ISO 14816, ISO/TS 17261, ISO/TS 17262, ISO/TS 17263 and ISO/TS 17264.

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# Road transport and traffic telematics — Automatic vehicle and equipment identification — Reference architecture and terminology

## 1 Scope

This International Standard establishes a common framework to achieve unambiguous identification in ITS/RTTT: AVI/AEI applications.

This scheme and Reference Architecture Model is designed to be an “enabling” structure to allow interoperability between different commercial systems, and not prescriptive in determining any one system. It is not frequency- nor air interface protocol-specific, provides maximum interoperability, has a high population capability, and provides the possibility of upwards migration to more capable systems.

This International Standard provides a reference structure which enables an unambiguous identification and also identifies the data construct as an ITS/RTTT message. This is particularly important within an EDI environment. The construct also identifies which ITS/RTTT data structure is contained in the message.

A wide variety of applications can be supported by the structure determined in this International Standard, such as simple AVI/AEI, complex unambiguous ITS/RTTT messages (in either user-identified or anonymous formats), or new and as yet undefined message structures.

The principles of data element structure determined in ISO/IEC 8824 have been adopted to provide an interoperable architecture within a standard framework. The use of Abstract Syntax Notation One (ASN.1) from ISO/IEC 8824 and ISO/IEC 8825 as a data identifier is widely used.

A key feature of the structure is to provide interoperability of data constructs. This AVI/AEI scheme may also be used as part of a data construct for purposes such as automatic fee collection and enables interoperability with existing standards.

This International Standard does not include the air interface nor any implementation aspect, solely the Reference Architectures. Subsequent International Standards will define data structures for general AVI/AEI and for specific sectors of application.

The Numbering and Data Structure will be capable of operation both by read/write devices, and by read-only devices where there is no requirement (or if there is no possibility) to write to the OBE.

## 2 Normative references

The following referenced documents are indispensable for the application 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/IEC 8824 (all parts), *Information technology — Abstract Syntax Notation One (ASN.1)*

ISO/IEC 8825 (all rules), *Information technology — ASN.1 encoding rules*

ISO 9897, *Freight containers — Container equipment data exchange (CEDEX) — General communication codes*