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# Road vehicles — Vehicle interface for electronic Periodic Technical Inspection (ePTI) —

## Part 3: Data definitions

*Véhicules routiers — Interface de véhicule pour le contrôle technique périodique électronique (ePTI) —*

*Partie 3: Définition des données*

Reference number
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# Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

A list of all parts in the ISO 20730 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.


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# Introduction

Roadworthiness testing is a part of a wider regime designed to ensure that vehicles are kept in a safe and environmentally acceptable condition during their use. This regime covers periodic roadworthiness testing of vehicles and technical roadside inspections of vehicles used for commercial road transport activities and provides a vehicle registration procedure allowing for the suspension of a vehicle's authorization to be used in road traffic where the vehicle constitutes an immediate risk to road safety. Periodic testing is the main tool to ensure roadworthiness. Technical roadside inspections of commercial vehicles are merely complementary to periodic testing.

An ePTI system list, which is defined in this document, summarizes ePTI-relevant systems and specifies a defined name (system), a unique identifier (ePTI system identifier) and a description for each ePTI system. All the definitions in this document refer to this ePTI system list.

The ISO 20730 series is based on the Open Systems Interconnection (OSI) basic reference model specified in ISO/IEC 7498-1[1] and ISO/IEC 10731,[3] which structures communication systems into seven layers. When mapped on this model, the application protocol and data link framework requirements specified/referenced in the ISO 20730 series are structured according to Figure 1.

Figure 1 illustrates a standard-based documentation concept, which consists of the following main clusters:

— vehicle diagnostic communication framework: covers all relevant basic vehicle diagnostic communication specifications of OSI layers 7, 6, and 5;

— vehicle diagnostic communication use case framework: covers the master specification, which specifies use cases und requirements of subject matter of OSI layer 7;

— presentation layer framework: covers all data relevant specifications of OSI layer 6;

— conformance test plan: covers the conformance test plan requirements of the use cases and communication requirements of OSI layers 7, 6, and 5;

— lower OSI layer framework: covers all vehicle diagnostic protocol standards of OSI layers 4, 3, 2, and 1, which are relevant and referenced by the use case specific standard.

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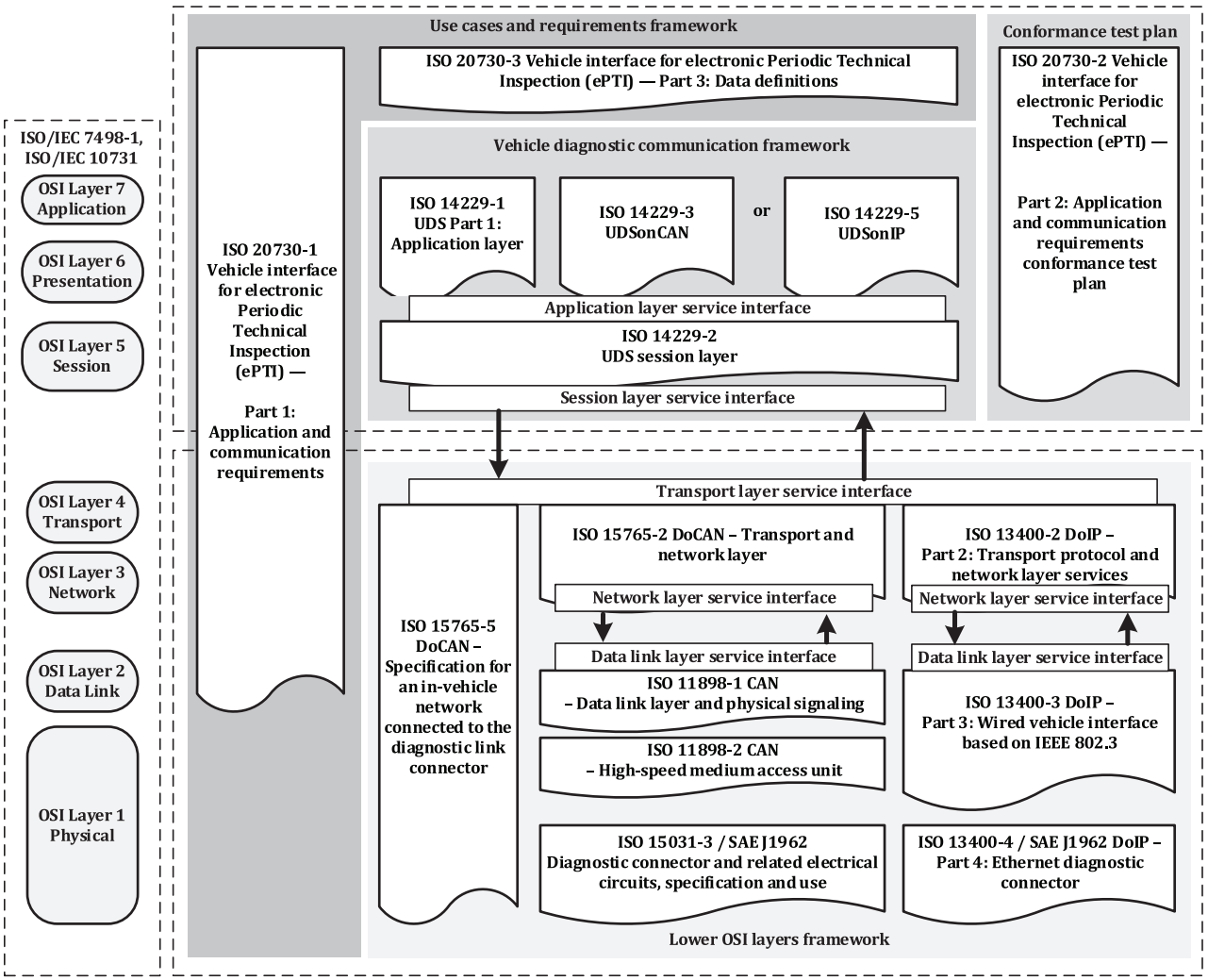



**Figure 1 — ePTI document reference according to OSI model**


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# Road vehicles — Vehicle interface for electronic Periodic Technical Inspection (ePTI) —

# Part 3:
# Data definitions

## 1 Scope

This document specifies ePTI-relevant system identifiers, data identifiers, routine identifiers, input/output control identifiers, data types, CompuMethods (computations), and units.

This document describes ePTI systems' data definitions and associated technical requirements. The technical requirements of data definitions of emissions-related systems are specified in other standards, e.g. the ISO 15031 series[4], the ISO 27145 series[5], and SAE J1979DA.

The ePTI system list defined in this document summarizes ePTI-relevant systems and specifies a defined name (system), a unique identifier (ePTI system identifier) and a description for each ePTI-relevant system.

This document does not specify any type of test method or pass/fail criteria of the ePTI-relevant system during a PTI.

## 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 3779, *Road vehicles — Vehicle identification number (VIN) — Content and structure*

ISO 14229-1, *Road vehicles — Unified diagnostic services (UDS) — Part 1: Application layer*

ISO 20730-1, *Road vehicles — Vehicle interface for electronic Periodic Technical Inspection (ePTI) — Part 1: Application and communication requirements*

SAE J1979DA, *Digital Annex of E/E Diagnostic Test Modes*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14229-1, ISO 20730-1 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**
**error**
indicates an erroneous status

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**3.2**
**currently not available**
information cannot be reported at time of request

**3.3**
**not installed**
information cannot be reported because the source is physically not available

# 4 Symbols and abbreviated terms

## 4.1 Symbols

--- empty table cell or feature undefined

## 4.2 Abbreviated terms

Cvt convention

DID data identifier

IOID input output identifier

IOCT input output control

LSB least significant byte

M mandatory

MI malfunction indicator

MSB most significant byte

O optional

RCTP routineControlType

RCOR routineControlOptionRecord

RID routine identifier

SPN suspect parameter number

TP tyre pressure

U user optional

# 5 Informative guidance for considering ePTI relevance

ePTI-relevant systems are all vehicle systems and components, that when not operating to their design criteria, affect the safety of the vehicle. These are vehicle systems that perform at least one of the following functions:

a) deceleration of the vehicle;

b) longitudinal, lateral and yaw stabilization of vehicle movements;

c) hold the vehicle stationary;

d) change of angle >3° on any steered wheel, while vehicle speed is ≥15 km/h;


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