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Road vehicles — Standardized access to automotive repair and maintenance information (RMI) —

Part 2: Technical requirements

Véhicules routiers — Normalisation de l'accès aux informations relatives à la réparation et à la maintenance pour l'automobile (RMI) —

Partie 2: Exigences techniques

ICS 43.040.15; 43.180

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This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

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Foreword

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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.

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ISO 18541-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, and by Technical Committee CEN/CENELEC/TC 301, *Road vehicles* in collaboration.

ISO 18541 consists of the following parts, under the general title *Road vehicles — Standardized access to automotive repair and maintenance information (RMI)*:

— *Part 1: General information and use case definition*

— *Part 2: Technical requirements*

— *Part 3: Functional user interface requirements*

— *Part 4: Conformance test*

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Introduction

This set of standards includes the requirements to be fulfilled by Repair and Maintenance Information (RMI) systems as applied by the

EUROPEAN COMMISSION - ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL, Consumer goods - Automotive industry EC mandate M/421 [1]

"MANDATE TO THE EUROPEAN STANDARDIZATION ORGANISATIONS FOR STANDARDIZATION IN THE FIELD OF VEHICLE OBD, REPAIR AND MAINTENANCE INFORMATION"

dated Brussels, 21 January 2008.

This mandate relates to the EC type-approval system for vehicles falling into the scopes of Directives 70/156/EEC [2], 2002/24/EC [3] and 2003/37/EC [4] and, in particular, to requirements for access to vehicle repair and maintenance information by independent operators.

This standard only covers the access to automotive repair and maintenance information[1)] based on Directive 70/156/EEC [2]. The Directive 70/156/EEC [2] is replaced by 2007/46/EC [5].

The purpose of the EC Mandate M/421 [1] is to develop a standard or set of standards which specify the requirements to provide "standardized access to automotive repair and maintenance information (RMI)" for independent operators.

The information included in this part of the standard derives from the legislative requirements on European level in the field of repair and maintenance information and related security requirements.

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1) REGULATION (EC) No 715/2007 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information [6] and COMMISSION REGULATION (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information [7] and amending COMMISSION REGULATION (EU) No 566/2011 of 8 June 2011 amending Regulation (EC) No 715/2007 of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as regards access to vehicle repair and maintenance information.

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Road vehicles — Standardized access to automotive repair and maintenance information (RMI) — Part 2: Technical requirements

1 Scope

This part of the standard includes "technical requirements" which are related to automotive repair and maintenance information (RMI) systems in order to standardize the access to RMI for independent operators.

This part of the standard specifies the minimum set of technical requirements related to a vehicle manufacturer's RMI system. These requirements will reflect the deriving needs from the use cases as specified in ISO 18541-1.

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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 18541-1, *Road vehicles — Standardized access to automotive RMI — Part 1: General information and use case definition*

ISO 18541-3, *Road vehicles — Standardized access to automotive RMI — Part 3: Functional user interface requirements*

ISO 18541-4, *Road vehicles — Standardized access to automotive RMI — Part 4: Conformance test*

ISO 18542 (all parts), *Road vehicles — Standardized RMI terminology*

ISO°20828, *Road vehicles — Security certificate management*

ISO 22900-2, *Road vehicles — Modular vehicle communication interface (MVCI) — Part 2: D-PDU API*

SAE°J2534-1, *Recommended Practice for Pass-Thru Vehicle Programming*

SAE°J2534-2, *Optional Pass-Thru Features*

EC Forum for Access to Vehicle RMI, Report on Access to security-related RMI, Version 1.1,

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3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions of ISO 18541-1 apply.

3.1.1
SERMI
the de-facto association founded by IO and VM organisations to act as the owner for the process and scheme defined in the *EC Forum for Access to Vehicle RMI, Report on Access to security-related RMI, version 1.1*.

3.1.2
accessories
supplementary features and components selected by a vehicle owner to enhance safety, performance, comfort, etc. and whose fitting doesn´t require a change of the vehicle type approval or authorisation.

3.2 Abbreviated terms

API	application programming interface
DLC	data link cable
DLL	dynamic link library
D-PDU	diagnostic – protocol data unit
DVD	optical disc storage media format
FAQ	frequently asked questions
GB	giga-byte
GHz	giga-hertz
IO	independent operator
LAN	local area network
MVCI	modular vehicle communication interface
NAT	network address translation
OBD	on-board diagnostics
PC	personal computer
RS232	recommended standard 232
SERMI	security-related repair and maintenance information
TREQ-	technical requirement
TC	trust centre
USB	universal serial bus
VAT No.	value added tax number

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VM vehicle manufacturer

WWH-OBD world-wide harmonized on-board diagnostics

4 Conventions

prEN ISO 18541-2:2012 is based on the conventions discussed in the OSI Service Conventions (ISO/IEC 10731:1994).

5 Requirements overview and principles

5.1 Basic principles for requirements definition

Basic principles have been established as a guideline to define the requirements.

— The requirements stated in this part of the standard shall not specify any implementation details.

— Requirements shall be expressed in terms of performance rather than design or descriptive characteristics. This approach leaves maximum freedom to technical development.

— The entire content of the definition/description of a requirement identified by a TREQ-xx, where 'xx' is the requirement number, which consists of a "Main title", Requirement definition", "Brief description" and "Classification", shall be interpreted as part of the requirement except for descriptions which do not use the term "shall" or "e.g.".

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5.2 Requirements clustering

Figure 1 illustrates the technical requirements clusters. The figure shall provide an overview about all technical requirements clusters and the specific technical requirements. Each technical requirement is identified by the mnemonic "TREQ-" and an alpha-numeric number. The name of the technical requirement is descriptive for the area.

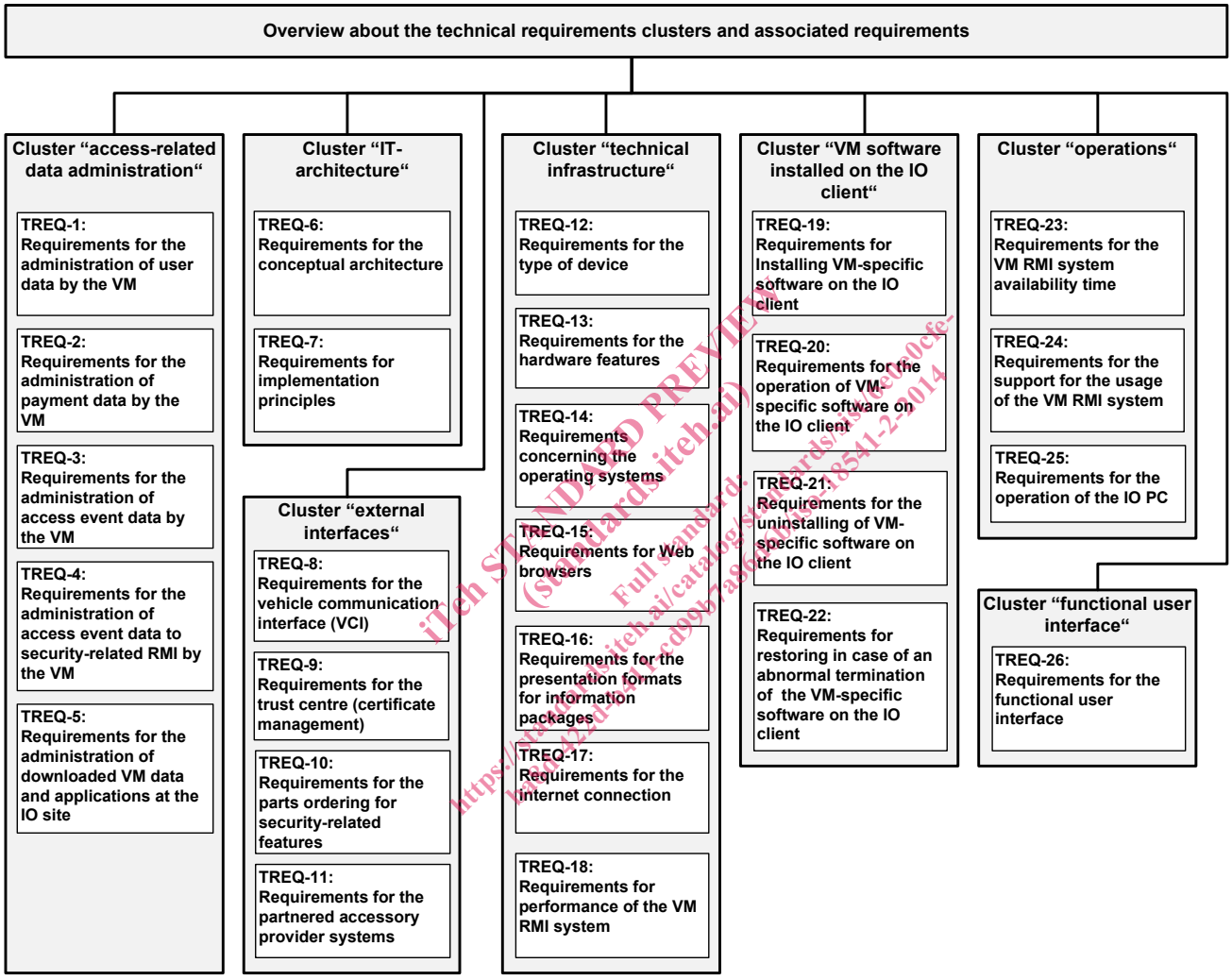

Figure 1 — Overview about the technical requirements clusters

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Table 1 provides an overview of the main categories of standardized access to automotive RMI requirements. A requirement category shall have at least one requirement.

Table 1 — Main requirements clusters

#	Main title of cluster	Brief description
1	Access-related data administration	Describes the main data types to be administered by the VM RMI System and the requirements for the appropriate management procedures in order to comply with the standardized access to RMI. RMI requirements related to cluster access-related data administration are — requirements for the type of data to be administered; — requirements for the administration of user data by the VM; — requirements for the administration of payment data by the VM; — requirements for the administration of access event data by the VM; — requirements for the administration of access event data to security-related RMI by the VM; — requirements for the administration of downloaded VM data and applications at the IO site.
2	IT architecture	Describes requirements for the main IT components and interfaces at the different IT architectural levels. RMI requirements related to cluster IT architecture are — requirements for the conceptual architecture; — requirements for the implementation principles.
3	External interfaces	Describes the requirements for communication interfaces other than the user interface. RMI requirements related to cluster external interfaces are — requirements for the vehicle communication interface (VCI); — requirements for the trust centre (certificate management); — requirements for the parts ordering for security-related features; — requirements for the partnered accessory provider systems.
4	Technical infrastructure	Compatibility conditions, minimum requirements for components and Internet connection parameters to give an acceptable performance. This cluster intends to define minimal development guiding rules that shall be followed by the VM in order to ensure compatibility between VM RMI systems. Compatibility issues that may occur shall be managed by the Forum SERMI. This requirements cluster specifies the technical infrastructure recommendations which are: — requirements related to type of device; — requirements related to hardware features; — requirements related to operating systems, runtime languages, libraries; — requirements related to Web browsers; — requirements related to presentation formats for information packages; — requirements related to VM software; — requirements related to internet connection; — requirements related to performance of the VM RMI system.

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