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

**Part 3:
Functional user interface
requirements**

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

ISO 18541-3:2021

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Partie 3: Exigences fonctionnelles relatives à l'interface utilisateur



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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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 301, *Road vehicles*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18541-3:2014), which has been technically revised.

The main changes compared to the previous edition are as follows:

- document adopted to use cases updates taken in ISO 18541-1;
- editorial corrections.

A list of all parts in the ISO 18541 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

The ISO 18541 series 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 [9], 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 (replaced by 2007/46/EC [12]), 2002/24/EC [replaced by (EU) 168/2013] and 2003/37/EC [replaced by (EU) 167/2013] and, in particular, to requirements for access to vehicle repair and maintenance information by independent operators.

The purpose of the EC Mandate M/421 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 ISO 18541 series only covers access to automotive repair and maintenance information for light passenger and commercial vehicles [see (EC) No 715/2007 [18], (EC) No 692/2008 [17] and (EU) No 566/2011 [14]] and heavy-duty vehicles [see (EC) No 595/2009 [16], (EU) No 582/2011 [15] and (EU) No 64/2012 [13]] based on Directive 2007/46/EC [12] and for two- or three-wheel vehicles and quadricycles based on regulation (EU) 168/2013.

The information included in the ISO 18541 series derives from the legislative requirements on European level in the field of RMI and related security requirements and can be referenced by legislation in other countries.

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

Part 3: Functional user interface requirements

1 Scope

This document includes functional user interface requirements related to automotive repair and maintenance information (RMI) systems in order to standardize access to RMI for independent operators.

This document specifies all functional user interface 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.

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 18541-1:2021, *Road vehicles — Standardized access to automotive repair and maintenance information (RMI) — Part 1: General information and use case definition*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

artefact

one of many kinds of tangible by-products produced during the development of software

4 Abbreviated terms

AR	authorized repairer
FREQ-	functional user interface requirement
IO	independent operator

RMI	repair and maintenance information
VCI	vehicle communication interface
VM	vehicle manufacturer

5 Conventions

This document is based on the conventions discussed in the OSI service conventions (ISO/IEC 10731).

6 Requirements overview and principles

6.1 Basic principles for requirements definition

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

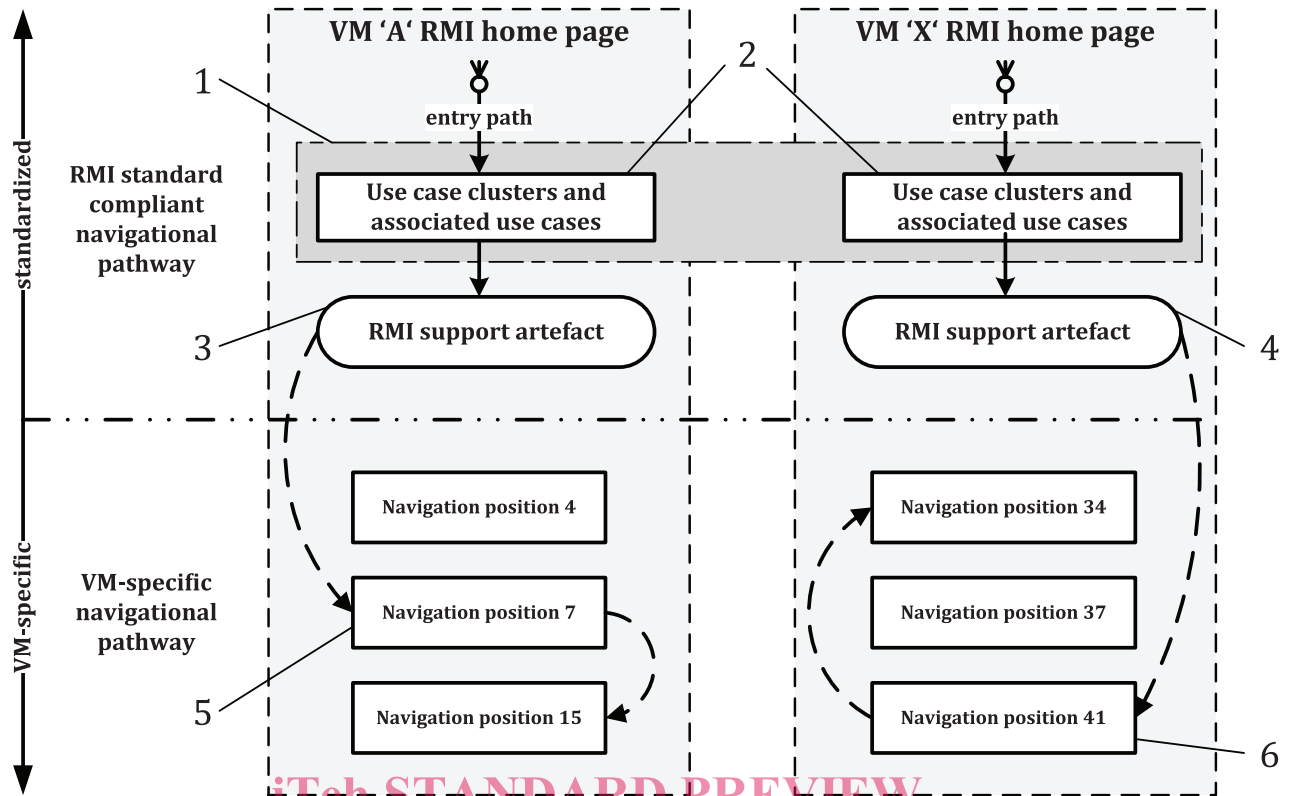
- BP1: the requirements stated in this document shall not specify any implementation details.
- BP2: requirements shall be expressed in terms of performance rather than design or descriptive characteristics. This approach leaves maximum freedom to technical development.
- BP3: the requirements shall allow for flexible navigational pathways for practical and state-of-the-art access to RMI in the VM websites.
- BP4: the requirements shall allow for concepts to be able to implement navigational principles to minimize the impact to the existing VM RMI systems.

6.2 Navigational pathway from standardized use cases to VM-specific navigation position

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[Figure 1](#) illustrates the navigational pathway from use cases to VM-specific navigation position. Each VM RMI system starts with the RMI home page. If the user selects the “standardized navigation” the RMI system navigates to the VM-specific use cases implementation (see [Figure 1](#), key 2) as defined in ISO 18541-1. [Figure 1](#), keys 3 and 4 illustrate the VM-specific RMI support artefact.

The navigational pathway will not only lead the user to a navigated position but also help the user to follow the implementation of the use case to obtain the output. The standardized use cases are logical use cases and shall not necessarily be implemented as a one-step transaction from input to output. A sequence of technical transactions may be needed to obtain the output. The complete input may not be required in the first transaction but could be a step by step transaction sequence.



Key

- 1 common part for all VM RMI systems
- 2 VM-specific implementation of use cases as defined in ISO 18541-1
- 3 VM 'A' specific implementation of RMI support artefact guiding the IO from the standardized use cases map to the VM-specific entry points
- 4 VM 'X' specific implementation of RMI support artefact guiding the IO from the standardized use cases map to the VM-specific entry points
- 5 VM 'A' specific implementation to navigation position 7
- 6 VM 'X' specific implementation to navigation position 41

Figure 1 — Navigational pathway from standardized use cases to VM-specific navigation position

6.3 VM RMI system standardized navigation

This subclause explains the key numbers in [Figure 2](#). [Figure 2](#) depicts the different entry points for RMI offered to a user in the VM RMI home page (key 1).

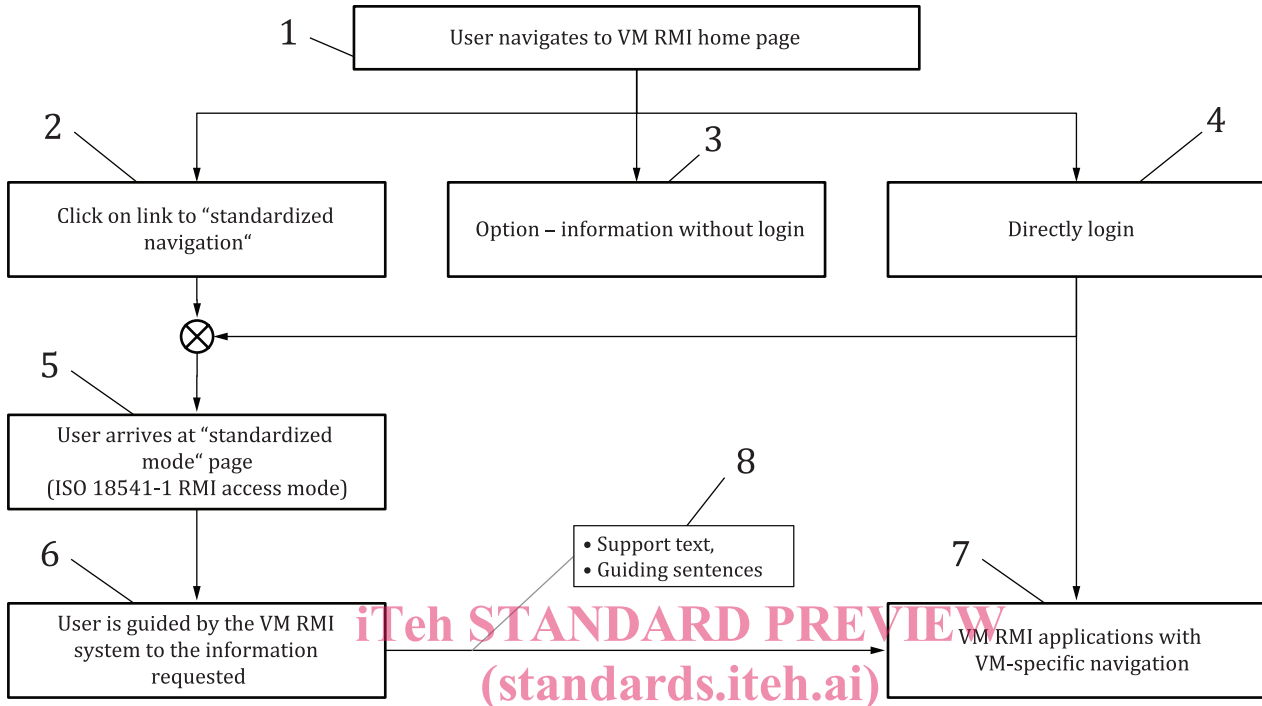
In addition to a direct login (key 4) for frequent and experienced users of the specific VM RMI website, there is an entry point (key 2) for navigation based on ISO 18541-1. Whereas the direct login leads the user directly to the applications, features and components of the specific VM RMI system and to the VM specific navigation there-in (key 7), the entry point/link for standard base navigation leads the user to a page (key 5) displaying the use cases of ISO 18541-1, the so called “use cases map” see [Clause 8](#).

Usually the user will be requested to login, before the “use cases map” is displayed. The VM may alternatively not require a login for displaying the use cases map but require the login once a use case in the map is selected. The VM may optionally offer some information parts without login (key 3).

The selection of a use case in the “use cases map” activates the RMI support artefact (key 6) for this specific RMI website, which provides guiding information (key 8) – support text and guiding

instructions – to the applications, features and components of the specific VM RMI system and to the VM specific navigation there-in (key 7).

NOTE 1 Regardless of the entry point chosen by the user, the finally accessed RMI content and applications set is always the same.



Key

1-8 see explanations in 6.3 <https://standards.iteh.ai/catalog/standards/sist/1d6478c6-300d-4235-8a11-f4d5bb357805/iso-18541-3-2021>

Figure 2 — VM RMI home page system entry point navigation

Figure 3 illustrates the entry points the VM system shall offer in the VM RMI home page, a select box for login and a select box, link or button for the entry into the standard based navigation.

NOTE 2 Figure 3 is an illustration of the required content. Look-and-feel, position and other design attributes will follow the style guides of the specific VM RMI website.

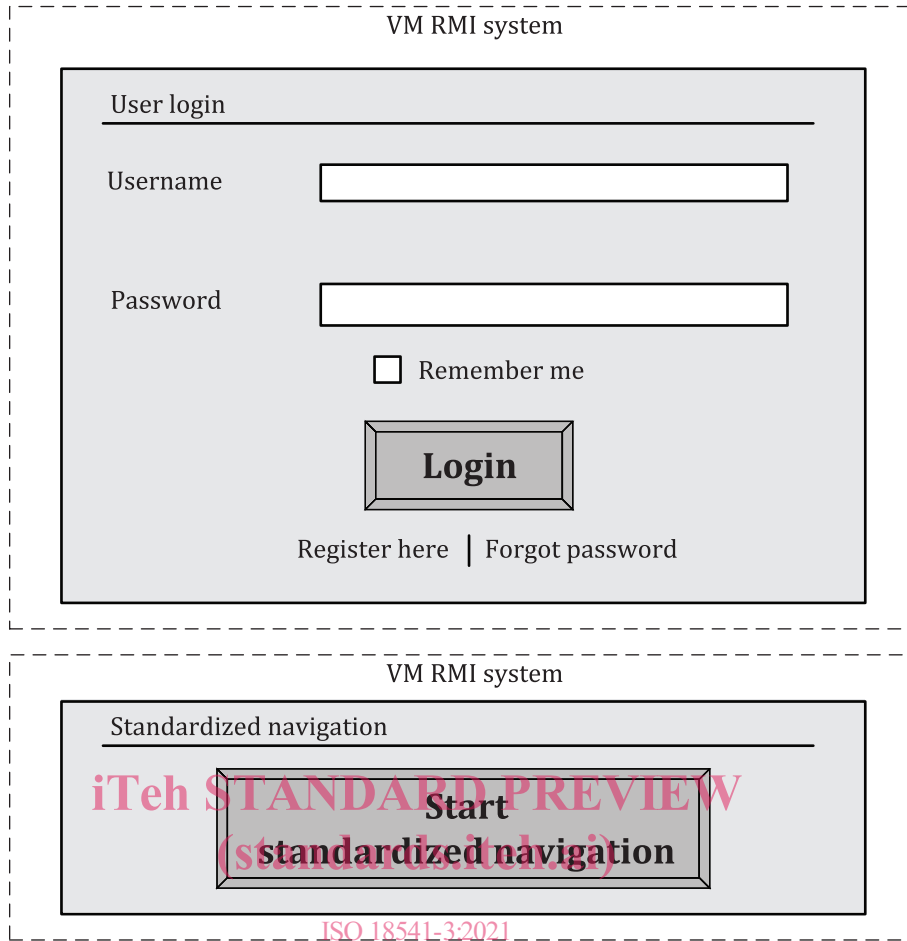


Figure 3 — VM RMI system with login and standardized navigation

6.4 Requirements clusters

Figure 4 illustrates the functional user interface requirements clusters. The figure shall provide an overview about all functional user interface requirements clusters and the specific functional user interface requirements. Each functional user interface requirement is identified by the mnemonic “FREQ-” and an alpha-numeric number. The name of the functional user interface requirement is descriptive for the area the requirement is related to.