

This is a preview of "ISO/TR 23786:2019". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2019-11

---

---

## Road vehicles — Solutions for remote access to vehicle — Criteria for risk assessment

*Véhicules routiers — Solutions relatives à l'accès à distance du véhicule — Critères d'évaluation des risques*



Reference number  
ISO/TR 23786:2019(E)

© ISO 2019



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO/TR 23786:2019". [Click here to purchase the full version from the ANSI store.](#)

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Abbreviated terms</b> .....	<b>2</b>
<b>5 Handling the risks</b> .....	<b>3</b>
5.1 Risk categories.....	3
5.2 Performing the risk assessment.....	3
5.3 Risk assessment in the case of an RCS-specification.....	3
<b>6 Assessment of the risks related to the safety of persons and goods during the vehicle life cycle</b> .....	<b>4</b>
6.1 List of safety risks.....	4
6.2 Remarks related to the assessment of the safety risks.....	5
6.2.1 General.....	5
6.2.2 Potential overload of the electronic system of the moving vehicle.....	5
6.2.3 Illicit or malicious remote control of the vehicle or vehicles.....	5
6.2.4 Other safety risks resulting from cybersecurity issues or problems.....	6
6.2.5 Absence of consideration of the complete vehicle life cycle.....	6
<b>7 Assessment of the cybersecurity risks related to the vehicle remote communication system</b> .....	<b>7</b>
7.1 Cybersecurity risks.....	7
7.2 Remarks related to the assessment of the cybersecurity risks.....	7
7.2.1 General considerations related to cybersecurity risks.....	7
7.2.2 General considerations related to misuse prevention measures.....	7
<b>8 Assessment of the risks associated to the fair competition among the concerned actors</b> .....	<b>8</b>
8.1 List of competition risks.....	8
8.2 Remarks related to the assessment of the competition risks.....	8
8.2.1 Involved actors.....	8
8.2.2 Risk related to the monitoring of the market.....	8
8.2.3 Possible unique knowledge of the customer's behaviour through monitoring.....	9
8.2.4 Risks related to the development of new after-sales applications.....	10
8.2.5 Competition risks among manufacturers.....	10
<b>9 Assessment of the risks related to the responsibility and liability of the concerned actors</b> .....	<b>10</b>
<b>10 Assessment of the risks related to the protection of the resources owned by the resource owner (data protection)</b> .....	<b>10</b>
<b>Annex A (informative) Template proposal for assessing a possible risk</b> .....	<b>11</b>
<b>Bibliography</b> .....	<b>12</b>

## 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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

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](http://www.iso.org/members.html).

This is a preview of "ISO/TR 23786:2019". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

The development of one of the remote communication solutions that ISO/TC22/SC31/WG6 was in charge of revealed several concerns about possible risks related to safety, security, competition, responsibility, and data protection that may originate from that solution.

To address these concerns, a list of criteria was first developed to be taken into account, independently of the considered solution. ISO/TC22/SC31/WG6 then decided to perform a risk assessment of any interface solution under its responsibility. This task was achieved based on the expertise of its expert members.

The aim of this document is to capitalize the achieved work in order to:

- Allow any ISO working group to use that list if they so want without having to redo the complete work.
- Allow stakeholders to conduct a risk analysis on remote communication solutions utilizing the basis of a comprehensive and consolidated document produced by international experts and referring, as necessary, to complementary specific documents.

The proposed list of possible risks does not pretend to be exhaustive and its users are kindly invited to refer as much as possible to the more detailed work performed in other ISO working groups (for example, regarding the risks related to cyber-security, they are invited to refer to the work performed in ISO TC22/SC32/WG11).