



BSI Standards Publication

**Intelligent transport systems — Pre-emption of  
ITS communication networks for disaster and  
emergency communication — Use case scenarios**

---

## National foreword

This Published Document is the UK implementation of ISO/TR 18317:2017.

The UK participation in its preparation was entrusted to Technical Committee EPL/278, Intelligent transport systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2017  
Published by BSI Standards Limited 2017

ISBN 978 0 580 87678 3

ICS 43.040.15; 35.240.60

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 September 2017.

### Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

---

---

---

**Intelligent transport systems —  
Pre-emption of ITS communication  
networks for disaster and emergency  
communication — Use case scenarios**

*Systèmes intelligents de transport — Préemption des réseaux de  
communication ITS pour les secours en cas de catastrophe et les  
communications d'urgence — Scénarios de cas d'utilisation*





## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, 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  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
[copyright@iso.org](mailto:copyright@iso.org)  
[www.iso.org](http://www.iso.org)

# Contents

Page

<b>Foreword</b>	<b>v</b>
<b>Introduction</b>	<b>vi</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 Use cases</b>	<b>2</b>
4.1 Disaster information dissemination	2
4.2 Alive information ("I am alive" message)	2
4.3 Rescue information	2
4.4 Person finder	2
4.5 Information dissemination in a refugee	2
4.6 Doctor and refugee information exchange	2
4.7 Public authorities information exchange	2
<b>5 Assumed requirements</b>	<b>2</b>
5.1 Disaster information dissemination	2
5.1.1 Communications requirements: functional	2
5.1.2 Communications requirements: performance	3
5.1.3 Communications requirements: security and security threats and risk	3
5.1.4 Information urgency level and lifetime	3
5.1.5 Information sender and information destination	3
5.2 Alive information ("I am alive" message)	3
5.2.1 Communications requirements: functional	3
5.2.2 Communications requirements: performance	3
5.2.3 Communications requirements: security and security threats and risk	3
5.2.4 Information urgency level and lifetime	3
5.2.5 Information sender and information destination	3
5.3 Rescue information	4
5.3.1 Communications requirements: functional	4
5.3.2 Communications requirements: performance	4
5.3.3 Communications requirements: security and security threats and risk	4
5.3.4 Information urgency level and lifetime	4
5.3.5 Information sender and information destination	4
5.4 Finding of persons	4
5.4.1 Communications requirements: functional	4
5.4.2 Communications requirements: performance	4
5.4.3 Communications requirements: security and security threats and risk	4
5.4.4 Information urgency level and lifetime	4
5.4.5 Information sender and information destination	4
5.5 Information dissemination in refugees	5
5.5.1 Communications requirements: functional	5
5.5.2 Communications requirements: performance	5
5.5.3 Communications requirements: security and security threats and risk	5
5.5.4 Information urgency level and lifetime	5
5.5.5 Information sender and information destination	5
5.6 Doctor and refugee information exchange	5
5.6.1 Communications requirements: functional	5
5.6.2 Communications requirements: performance	5
5.6.3 Communications requirements: security and security threats and risk	5
5.6.4 Information urgency level and lifetime	5
5.6.5 Information sender and information destination	5
5.7 Information exchange between public authorities	6
5.7.1 Communications requirements: functional	6

5.7.2	Communications requirements: performance.....	6
5.7.3	Communications requirements: security and security threats and risk.....	6
5.7.4	Information urgency level and lifetime.....	6
5.7.5	Information sender and information destination.....	6

## 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 on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

## **Introduction**

This document presents use case scenarios in support of future development of standards for ad-hoc wireless network communication under disaster and emergency cases.

Under certain natural disaster situations such as earthquake, tsunami, hurricane, and snowstorms, the existing commercial telecommunication infrastructure, either wireless or wired networks, can be destroyed. In order to provide communication means for the disaster areas, some ad-hoc networks may need to be established.



# Intelligent transport systems — Pre-emption of ITS communication networks for disaster and emergency communication — Use case scenarios

## 1 Scope

This document provides the outcome of discussions on use case scenarios and assumed requirements for using ad-hoc wireless networks under disaster and emergency conditions including related priority, security and urgency aspects of communication requirements.

## 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 15662, *Intelligent transport systems — Wide area communication — Protocol management information*

ISO 21210, *Intelligent transport systems — Communications access for land mobiles (CALM) — IPv6 Networking*

ISO 21217, *Intelligent transport systems — Communications access for land mobiles (CALM) — Architecture*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15662, ISO 21210 and ISO 21217, and the following apply.

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

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

### 3.1

#### **information sender**

person(s) or organization(s) that send a message for disaster use cases

Note 1 to entry: Messages may include the information for a disaster, damage area, damage level, vital and safety information, refugee camp and rescue supply.

### 3.2

#### **information destination**

person(s) or organization(s) to which an *information sender* (3.1) wants to provide information

### 3.3

#### **information urgency level**

level of allowable time to deliver the information from an *information sender* (3.1) to an information destination

### 3.4

#### **information lifetime**

time period during which information is effective