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Intelligent transport systems — Information for emergency service support via personal ITS station —

Part 1: General requirements and technical definition

Systèmes de transport intelligents — Informations pour le support des services d'urgence par l'intermédiaire d'une station ITS personnelle —

Partie 1: Exigences générales et définition technique

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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).

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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 204, *Intelligent transport*.

A list of all parts in the ISO 20530 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

The existing standard on emergency call services (EN 16072) excludes the accident detecting process and focuses on the automotive manufacturer's perspective. In order for emergency call services to be widespread in the automotive industry, a unified system requirement and methodology for accident data gathering and data processing are necessary.

In terms of an accident detection system, the existing emergency call services assess an accident by checking solely impact data. However, impact occurrence from a non-accident incident, such as crossing a speed hump and/or pothole, can be determined as an accident, which can generate a false report. This false report can cause waste of labour, time and expense for eCall service centres (e.g. PSAP [Public Safety Answering Point]). Therefore, it is necessary to define an accident detection process to identify an accident while filtering a false report.

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Intelligent transport systems — Information for emergency service support via personal ITS station —

Part 1: General requirements and technical definition

1 Scope

This document defines the use cases and general requirements for supporting emergency services via P-ITS-S. Any automotive-related service providers can refer to this document for developing eCall service systems into eCall non-supportive vehicles.

The P-ITS-S acts as a monitoring and data transmitting device which gathers a vehicle's speed, impact and airbag deployment signal to assess the accident occurrence and type of accident. Once gathered data has been determined as an accident, accident related information is sent to an emergency service centre.

Only notable events, such as an airbag-deployed event, rollover and stationary accident, are concerned by this document. In addition, the vehicle data gathering device requirement and implementation methodology for the emergency service are not applicable to this document.

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 13185-2, *Intelligent transport systems — Vehicle interface for provisioning and support of ITS services — Part 2: Unified gateway protocol (UGP) requirements and specification for vehicle ITS station gateway (V-ITS-SG) interface*

ISO 13185-3, *Intelligent transport systems — Vehicle interface for provisioning and support of ITS Services — Part 3: Unified vehicle interface protocol (UVIP) server and client API specification*

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 13185-2, ISO 13185-3, ISO 21217 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
accident determination
judgement of whether an event is a real accident or not, following an analysis based on gathered data

3.2
G-sensor
<accelerometer> sensor module that detects impact by measuring acceleration change

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3.3
gyro sensor
<yaw-rate sensor> angular rate sensor in roll and pitch axis

3.4
ITS station
ITS-S
entity in a communication network, comprised of application, facilities, networking and access layer components specified in ISO 21217 that operate within a bounded secure management domain

[SOURCE: ISO 13184-2:2016, 3.5]

3.5
personal/vehicle ITS station
P/V-ITS-S
ITS station implemented in a vehicle or mobile device

[SOURCE: ISO 17438-4:2019, 3.1.4]

3.6
stationary vehicle accident
accident where a stopped vehicle is struck by a moving vehicle

3.7
accident detection system
system which runs a process for determining accident occurrence based on the data gathered from a P-ITS-S

3.8
accident data
data relevant to an accident

Note 1 to entry: An example is impact and rollover magnitude gathered during an accident (i.e. vehicle speed, impact magnitude, *airbag deployment signal* [3.9], angular rate). These data are evaluated for an *accident determination* (3.1) process.

3.9
airbag deployment signal
ECU signal for airbag deployment during an accident which is gathered from the *UVIP server* (3.10)

3.10
UVIP server
server implementing the UVIP services

3.11
preset threshold
specified maximum value of impact magnitude which triggers the further *accident determination* (3.1) process

Note 1 to entry: Determining impact threshold value is out of scope of this document.

3.12
emergency service centre
response centre to which accident information is sent

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