PD CEN/TS 17363:2019

BSI Standards Publication

Intelligent transport systems — ECall optional additional data — Linked mobile phone number data concept

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National foreword

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Intelligente Verkehrssysteme - Optionale zusätzliche eCall-Daten - Datenkonzept für verbundene Mobilfunknummer

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (CEN/TS 17363:2019) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

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Introduction

This document complements EN 15722:2015, *Intelligent transport systems — ESafety — ECall minimum set of data* and provides an "Optional Additional Data" concept to be transmitted as part of the MSD transmission in accordance with EN 15722:2015.

In the event that a vehicle triggers a 112 eCall, the MSD is sent to a "public safety answering point" (PSAP).

The PSAP operator decodes the MSD data (usually, but not necessarily, automatically placed on the operator's screen). The operator is put in wireless communication (via a mobile phone connection) with the occupants of the vehicle.

However, sometimes, the operator does not receive any response from the vehicle. This may be due to one of three reasons:

a) The equipment has failed/has a fault;

b) The occupants are dead, unconscious or otherwise unable to speak;

c) The occupants have left the vehicle and moved to a place of safety (for example behind a crash barrier or well away from the road [this would often be the advice given by a PSAP in any event]).

NOTE 1 The communications media and means of transferring the eCall MSD are not defined in this document. See the list of referenced Standards.

As, by this stage, the Minimum Set of Data (MSD) has already been successfully sent; it is usually relatively easy to detect an in-vehicle system problem (the line has gone totally silent, indicating a dropped call, or there is some interference noise etc.).

If the line appears to be operational, the responding PSAP has a dilemma. He/she has no way to determine whether the cause is (b), where it is essential to quickly get emergency response to the scene, or (c), in which case it may not even be necessary to send an emergency response to the scene.

Based on experience with pre-eCall emergency call systems using cellular telephone links, experience is that more than 90 % of the time, the reason is (c), but without further information, the PSAP cannot take that risk and is to send emergency response to the site.

However, current generation vehicles generally now provide the possibility for a 'Bluetooth' link between the mobile phone of the occupants and the car. Thus, when the registered phone user enters, or is in close proximity, to the vehicle (usually, but not always, activated when the ignition is turned on) his/her mobile phone connects via Bluetooth to the vehicle's audio system No information about the user itself, or her/his phone number is exchanged, as this information is neither known to the mobile phone nor is it part of any Bluetooth exchange mechanism. That said, the vehicle does know, at any time, which registered user phones are in or near the vehicle and linked to it at the time of the incident.

If, by means of prior consent, the user who registers his/her phone with the vehicle system enters his/her phone number, it is possible to provide the PSAP with that phone number as an "Optional Additional Data" (OAD) concept as part of the MSD.

In the event of a 'silent' call, the PSAP is therefore able to telephone the mobile phone number that was linked to the vehicle at the time of the incident. It is expected that this will significantly reduce the number of 'silent' calls.

This addition does not enable the vehicle to be tracked or logged in any way other than any other linked mobile telephone, and, of course, in 112 eCall, the eCall phone connection to the network does not occur at all until after the event (triggering of eCall).

NOTE 2 This specification provides an optional additional concept as part of the MSD sent to the PSAP, it does not involve making any direct connection with the telephone number provided, but simply makes that number available to the PSAP to call if available and required.

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This document defines the OAD concept, requirements to ensure the user's consent to the provision of the linked phone number, any provisions to be made regarding privacy and advice to PSAPs on the use of the extra information.

1 Scope

This document defines an eCall “Optional Additional Data" concept for the “Minimum Set of Data” (MSD) to be transferred from a vehicle to a 'Public Safety Answering Point' (PSAP) in the event of a crash or emergency via an 'eCall' communication transaction.

This document defines:

a) Protocol requirements to ensure phone user consent to the provision of the linked 'phone number to the PSAP in the event of an eCall triggering incident;

b) Definition of the OAD concept “Linked mobile Telephone Number” (LTN);

c) Privacy provisions;

d) Advice to PSAPs on the use of the eCall OAD LTN;

e) Example of an in-vehicle sequence generating the LTN OAD and forwarding it as part of the MSD.

For clarity, the communications media protocols and methods for the transmission of the eCall message are not specified in 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.

EN 15722:2015, *Intelligent transport systems — eSafety — eCall Minimum set of Data*

EN 16102, *Intelligent transport systems — eCall — Operating requirements for third party support*

EN ISO 24978, *Intelligent transport systems — ITS safety and emergency messages using any available wireless media — Data registry procedures*

ISO/IEC 8825 (all parts), *Information technology — ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)*

ITU E.123, *Notation for national and international telephone numbers, e-mail addresses and web addresses*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
ASN.1/Abstract Syntax Notation 1
notation that describes rules and structures for representing, encoding, transmitting, and decoding data enabling representation of objects that are independent of machine-specific encoding techniques

Note 1 to Entry See EN 15722:2015, Annex B.

3.2
eCall
emergency call generated either automatically via activation of in-vehicle sensors or manually by the vehicle occupants; when activated it provides notification and relevant location information to the most

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appropriate 'Public Safety Answering Point', by means of mobile wireless communications networks, carries a defined standardized 'Minimum Set of Data' notifying that there has been an incident that requires response from the emergency services, and establishes an audio channel between the occupants of the vehicle and the most appropriate 'Public Safety Answering Point'

3.3
minimum set of data
direct, timely data content of an eCall message to the PSAP operator receiving the emergency call containing information about the location of the incident, providing detail characterising the vehicle, and potentially sometimes also providing additional data that is deemed relevant

3.4
public safety answering point
'first level' responder to whom an emergency call/eCall is directed

3.5
(Bluetooth) registered phone
phone that has been registered (via Bluetooth)

3.6
(Bluetooth) linked phone
previously registered phone that is in the near presence of the Bluetooth car kit and linked to it, enabling bi directional access between the car and the phone

4 Conformance

In order to claim conformance with this document, communication is to be established using accepted wireless communication standards, and it is to be able to demonstrate that the MSD transferred together with any standardized optional data elements defined herein comply with the specifications of this document to the extent that such data are available from the vehicle.

5 Symbols and abbreviated terms

ASN.1	abstract syntax notation one (ISO 8824 (all parts)/ ISO 8825 (series))
EC	European Commission
EU	European Union
IVS	in-vehicle system
LTN	Linked mobile Telephone Number
MSD	minimum set of data
OAD	Optional Additional Data
PER	packed encoding rules (ASN.1)
PSAP	public safety answering point
UPER	unaligned packet encoding rules (ASN.1)

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