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Railway applications - Communication, signalling and processing systems - European Rail Traffic Management System - Part 2: Ergonomic arrangements of GSM-R information

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Bahnanwendungen - Telekommunikationstechnik, Signaltechnik und Datenverarbeitungssysteme - Europäisches Leitsystem für den Schienenverkehr - Teil 2: Ergonomische Anordnung der GSM-R Informationen

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CLC/TS 50459-2:2021 (E)

European foreword

This document (CLC/TS 50459-2:2021) has been prepared by CLC/SC 9XA “Communication, signalling and processing systems”, of Technical Committee CLC/TC 9X “Electrical and electronic applications for railways”.

This document supersedes CLC/TS 50459-2:2015.

CLC/TS 50459-2:2021 includes the following significant technical changes with respect to CLC/TS 50459-2:2015:

— updated general principles for the presentation of ERTMS/ETCS/GSM-R information correlated with ERA document ERA_ERTMS_015560;

— updated ergonomic arrangements in line with EN 16186 series.

CLC/TS 50459 series consists of the following parts under the general title *Railway applications — Communication, signalling and processing systems — European Rail Traffic Management System — Driver-Machine Interface:*

— *Part 1: General principles for the presentation of ERTMS/ETCS/GSM-R information*;

— *Part 2: Ergonomic arrangements of GSM-R information* [the present document];

— *Part 3: Ergonomic arrangements of non ETCS information*.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

Introduction

This document should be read in conjunction with ERA_ERTMS_015560, *ETCS Driver Machine Interface*, and the EN 16186 series, *Railway applications — Driver's cab*.

The CLC/TS 50459 series contains the ergonomic arrangements of information on the ERTMS/DMI Display (Control Command Display (CCD) and Train Radio Display (TRD). Most items are illustrated with an example.

The reasons for defining the ergonomics of the DMI are as follows:

— achieving harmonized and coherent presentation for ERTMS/ETCS and NTC information;

— defining Driver-Machine Interface ergonomics that is compatible with agreed interoperable ERTMS specifications;

— to reduce the risk of incorrect operation by a driver;

— facilitating train operation with a unified ergonomics, hence reducing the cost of driver training;

— better understanding of the tasks to be performed;

— increasing speed and accuracy of driver actions.

1 Scope

This document describes from an ergonomic point of view how GSM-R information will be arranged and displayed. More specifically it covers information that is out of the scope of ERA document ERA_ERTMS_015560. This document describes more ergonomic details than currently provided by the GSM-R specifications.

This document defines the ergonomics for the Driver-Machine Interface (DMI) for the stand alone ERTMS/GSM-R Voice Radio Systems.

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 16186-2, *Railway applications - Driver's cab - Part 2: Integration of displays, controls and indicators*

EN 16186-3:2016+A1:2018, *Railway applications - Driver's cab - Part 3: Design of displays*

CLC/TS 50459-1:2021, *Railway applications — Communication, signalling and processing systems — European Rail Traffic Management System — Driver-Machine Interface - Part 1: General principles for the presentation of ERTMS/ETCS/GSM-R information*

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