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BSI Standards Publication

Electronic railway equipment — On-board multimedia and telematic subsystems for railways

Part 2: Video surveillance/CCTV services

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National foreword

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRONIC RAILWAY EQUIPMENT – ON-BOARD MULTIMEDIA AND TELEMATIC SUBSYSTEMS FOR RAILWAYS –

Part 2: Video surveillance/CCTV services

FOREWORD

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Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62580-2, which is a Technical Specification, has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

The text of this specification is based on the following documents:

Enquiry draft	Report on voting
9/2112/DTS	9/2151A/RVC

Full information on the voting for the approval of this Technical Specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62580 series, published under the general title *Electronic railway equipment – On-board multimedia and telematic subsystems for railways*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

The IEC 62580 series defines on-board multimedia and telematic sub-systems (OMTS) for railways, so as to achieve interoperability between subsystems in the same vehicle and between subsystems in different vehicles of the same train.

The on-board video surveillance/CCTV system is a subsystem of OMTS, providing services for on-board surveillance and the security issue of the train and passengers. It serves as the crucial source of information for train operator, security organizations and first responders. The basic system functionality contains video/audio capture, recording, retrieval, replay, display, etc.

This Technical Specification will be useful to those responsible for establishing operational requirements, writing specifications, selecting devices, installing, commissioning, using and maintaining the on-board video surveillance/CCTV system. This specification is divided into the following sections:

a) system breakdown: divides the on-board video surveillance/CCTV system into four components based on their functionality, including video capture component, video storage component, video display component and video analysis component;

b) function breakdown: gives the function list that system may offer from the user's point of view, and presents the function blocks of system according to the functional breakdown, which includes video environment, system management and system security. Within video environment, it contains the basic functions that system should provide, such as to capture video, to record video, to retrieve video, to export video, to replay video, to display video, to analyse video and manage interconnection;

c) requirements: describes the requirements of video environment, system management and security as well as video transmission in which transmission performance, protocol and IP interoperability implementation based on Web service have been introduced;

Some use cases of the on-board video surveillance/CCTV system are given in Annex A.

ELECTRONIC RAILWAY EQUIPMENT – ON-BOARD MULTIMEDIA AND TELEMATIC SUBSYSTEMS FOR RAILWAYS –

Part 2: Video surveillance/CCTV services

1 Scope

This part of IEC 62580, which is a Technical Specification, specifies the on-board video surveillance/CCTV system functionality and requirement for the purpose of interoperability between components of on-board video surveillance/CCTV systems in the same vehicle and subsystems in different vehicles of the same train, which means two levels of interoperability are considered, one is interoperability between components and another is between subsystems.

This specification gives guidelines for:

- system breakdown structure of the on-board video surveillance/CCTV system;
- function breakdown structure of the on-board video surveillance/CCTV system, and
- requirement of the on-board video surveillance/CCTV system.

This specification is applicable to any type of train, for example open trains, multiple unit trains and closed trains.

As illustrated in Figure 1, this part of IEC 62580 provides video surveillance/CCTV services of monitoring, recording and retrieval of data, etc. This specification follows the general OMTS requirement defined in IEC 62580-1. The communication network of on-board video surveillance/CCTV system is based on the network defined by the IEC 61375 series, in which IEC 61375-2-5 and IEC 61375-3-4 define communication between and within consists, respectively, IEC 61375-2-3 lays out the communication profile for the backbone which is used for the train coupling, and IEC 61375-2-6[1] provides the support for the communication between on-board system and ground wayside infrastructures. The general system requirement of on-board video surveillance/CCTV system is developed based on IEC 62676 series with supplementing the special requirement for railway application. For interoperability implementation between components of system and subsystems, this specification makes reference to IEC 62676-2-3, which specifies a compliant IP video protocol and interface based on Web services. Special requirements for railway, such as device discovery between consists and within a consist, as well as network compliant to the IEC 61375 series are also defined here. In addition, IEC 62676-4 gives recommendations and requirements for the selection, planning, installation, commissioning, maintaining and testing for use in security applications. Finally, the requirement of exported data of on-board video surveillance/CCTV system is compliant with ISO 22311 if system is for security purpose.

[1] Under consideration.