

TECHNICAL REPORT



Electronic railway equipment – Train communication network (TCN) – Part 2-7: Wireless Train Backbone (WLTB)



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRONIC RAILWAY EQUIPMENT –
TRAIN COMMUNICATION NETWORK (TCN) –****Part 2-7: Wireless Train Backbone (WLTB)**

FOREWORD

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IEC TR 61375-2-7, which is a technical report, has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
9/1768/DTR	9/1797A/RVC

Full information on the voting for the approval of this technical report 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 of IEC 61375 series, under the general title *Electronic railway equipment – Train Communication Network (TCN)*, 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 web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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INTRODUCTION

IEC TR 61375-2-7 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways, in the frame of the IEC 61375 series.

Considering that:

- a) inauguration is not automatic;
- b) some parameters are configured manually in the guided traction vehicle;
- c) the parameters required in the leading traction vehicle depend on the application;
- d) inauguration verification is manual and based on checking pressure in the train pipe;

IEC technical committee 9 decided to consider the result of the preparation work not suitable for being an international standard within the IEC 61375 series, nevertheless decided to publish the result of the work as a technical report which can offer to the reader the status of the technology used for the implementation of a radio based train communication network.

ELECTRONIC RAILWAY EQUIPMENT – TRAIN COMMUNICATION NETWORK (TCN) –

Part 2-7: Wireless Train Backbone (WLTB)

1 Scope

This part of IEC 61375 describes the protocols stack of a radio based Wireless Train Backbone which is used in distributed power freight trains. This part provides information on the physical layer, the data link layer, the application layer and distributed power application.

The automatic inauguration of the radio based Wireless Train Backbone is not considered in this technical report.

2 Terms, definitions and abbreviations

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

2.1 Terms and definitions

2.1.1

application layer

upper layer in the OSI model, interfacing directly to the application

2.1.2

application process

element within a real open system which performs the information processing for a particular application

2.1.3

broadcast

nearly simultaneous transmission of the same information to several destinations

2.1.4

bus

communication medium which broadcasts the same information to all attached participants at nearly the same time, allowing all devices to obtain the same sight of its state, at least for the purpose of arbitration

2.1.5

communication devices

devices connected to consist network or train backbone with the ability to source and sink data.

2.1.6

composition

number and characteristics of the vehicles forming a train

2.1.7

configuration

definition of the topology of a network, the devices connected to it, their capabilities and the traffic they produce; by extension, the operation of loading the devices with the configuration information before going to regular operation