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KOMMUNIKATSIOONIVÕRK. OSA 2-6: PARDA JA MAA
VAHELINE KOMMUNIKATSIOON

Electronic railway equipment - Train communication
network (TCN) - Part 2-6: On-board to ground
communication

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61375-2-6:2018 sisaldab Euroopa standardi EN IEC 61375-2-6:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61375-2-6:2018 consists of the English text of the European standard EN IEC 61375-2-6:2018.
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English Version

**Electronic railway equipment - Train communication network
(TCN) - Part 2-6: On-board to ground communication
(IEC 61375-2-6:2018)**

Matériel électronique ferroviaire - Réseau embarqué de
train (TCN) - Partie 2-6: Communication train-sol
(IEC 61375-2-6:2018)

Elektronische Betriebsmittel für Bahnen - Zug-
Kommunikations-Netzwerk (TCN) - Teil 2-6: Kommunikation
vom Zug zur Landseite
(IEC 61375-2-6:2018)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

European foreword

The text of document 9/2374/FDIS, future edition 1 of IEC 61375-2-6, prepared by IEC/TC 9 "Electrical equipment and systems for railways" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61375-2-6:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-05-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-11-16

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This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 61375-2-6:2018 was approved by CENELEC as a European Standard without any modification.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61375-1	2012	Electronic railway equipment - Train communication network (TCN) - Part 1: General architecture	EN 61375-1	2012
IEC 61375-2-3	2015	Electronic railway equipment - Train communication network (TCN) - Part 2-3: TCN communication profile	EN 61375-2-3	2015
-	-		+ A11	2017
IEC 61375-3-4	-	Electronic railway equipment - Train communication network (TCN) - Part 3-4: Ethernet Consist Network (ECN)	EN 61375-3-4	2014
			+A11	2017
IEC 62280	2014*	Railway applications - Communication, signalling and processing systems - Safety related communication in transmission systems	-	-
IEC 62443	series	Industrial communication networks - Network and system security - Part 2-1: Establishing an industrial automation and control system security program	EN 62443	series
IEC 62443-3-3	2013*	Industrial communication networks - Network and system security - Part 3-3: System security requirements and security levels	-	-
IEC 62580-1	-	Electronic railway equipment - On-board multimedia and telematic subsystems for railways - Part 1: General architecture	EN 62580-1	2016
			+A11	2017

* Dated as no equivalent European Standard exists

ISO/IEC 20922	2016	Information technology - Message Queuing Telemetry Transport (MQTT) v3.1.1	-	-
IEEE 802.3	2015*	IEEE Standard for Information technology - Specific requirements - Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications	-	-
IEEE 802.11	2016	IEEE Standard for Information technology - Telecommunications and information exchange between systems Local and metropolitan area networks - Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications	-	-
IEEE 802.1X	2010	IEEE Standard for Local and metropolitan area networks - Port-Based Network Access Control	-	-
RFC 2136	1997*	Dynamic Updates in the Domain Name System (DNS UPDATE)	-	-
RFC 2616	1999*	Hypertext Transfer Protocol -- HTTP/1.1	-	-
RFC 2818	2000*	HTTP Over TLS	-	-
RFC 3986	2005*	Uniform Resource Identifier (URI): Generic Syntax	-	-
RFC 4627	2006*	The application/json Media Type for JavaScript Object Notation (JSON)	-	-
RFC 7159	2014*	The JavaScript Object Notation (JSON) Data Interchange Format	-	-

* Dated as no equivalent European Standard exists

Annex ZZ

(informative)

Relationship between this European standard and the essential requirements of EU Directive 2016/797/EU [2016 OJ L138] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Interoperability of the rail system within the European Union, M/483, to provide one voluntary means of conforming to essential requirements of Directive 2016/797/EU of the European Parliament and of the Council of 11 May 2016 on the harmonization of the laws of the Member States relating to the interoperability of the rail system within the European Union [2016 OJ L138/44].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 for "Locomotives and Passenger Rolling Stock", Table ZZ.2 for "Energy", Table ZZ.3 for "Telematics Applications for Passenger Services", confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZ.1 - Correspondence between this European Standard, the TSI "Locomotives and Passenger Rolling Stock" (REGULATION (EU) No 1302/2014 of 18 November 2014) and Directive 2016/797/EU [2016 OJ L138]

Essential Requirements of Directive 2016/797/EU	Chapter / § / points / of LOC & PAS TSI	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1.5 Technical compatibility 2. Requirements specific to each subsystem 2.4. Rolling Stock 2.4.2. Reliability and availability 2.4.3. Technical compatibility	4.2.8.2.8 On-board energy measurement system 4.2.12.2 General documentation: - description of computerised on board systems Appendix D - On-board energy measurement system	Clause 4 Clause 5 Clause 6 Annex A Annex B	The TSI does not impose any technical solution regarding physical interfaces between units. This standard offers a general multi-purpose solution for the digital communication between on-board networked applications and ground applications, so it is relevant to equipment and train interoperability. This standard closes an Open Point in the TSI

Table ZZ.2 - Correspondence between this European Standard, the TSI “Energy” (REGULATION (EU) No 1301/2014 of 18 November 2014) and Directive 2016/797/EU [2016 OJ L138]

Essential Requirements of Directive 2016/797/EU	Chapter / § / points / of ENE TSI	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1.5 Technical compatibility	4.2.17. On-ground energy data collecting system	Clause 4 Clause 5 Clause 7 Annex A Annex B	This standard closes an Open Point in the TSI

Table ZZ.3 - Correspondence between this European Standard, the TSI “Telematics Applications for Passenger Services” (published in the Official Journal L 123 on 12 May 2011, p. 11) and Directive 2016/797/EU [2016 OJ L138]

Essential Requirements of Directive 2016/797/EU	Chapter / § / points / of ENE TSI	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1.2 Reliability and availability 2. Requirements specific to each subsystem 2.7. Telematics applications for freight and passengers 2.7.1. Technical compatibility 2.7.2. Reliability and availability	4.2.21. Networking and communication 4.2.21.1. General architecture	Clause 4 Clause 5 Clause 6 Clause 7 Annex A	The solution specified in this standard can be part of the general Information Exchange Architecture

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRONIC RAILWAY EQUIPMENT – TRAIN COMMUNICATION NETWORK (TCN) –

Part 2-6: On-board to ground communication

FOREWORD

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International Standard IEC 61375-2-6 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
9/2374/FDIS	9/2402/RVD

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

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

A list of all parts in the IEC 61375 series, published under the general title *Electronic railway equipment – Train communication network (TCN)*, can be found on the IEC website.