



SLOVENSKI STANDARD
SIST EN 50126-2:2018/oprA1:2023
01-april-2023

Železniške naprave - Specifikacija in prikaz zanesljivosti, razpoložljivosti, vzdrževalnosti in varnosti (RAMS) - 2. del: Sistemski pristop k varnosti - Dopnilo A1

Railway Applications - The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) - Part 2: Systems Approach to Safety

Bahnanwendungen - Spezifikation und Nachweis von Zuverlässigkeit, Verfügbarkeit, Instandhaltbarkeit und Sicherheit (RAMS) - Teil 2: Systembezogene Sicherheitsmethodik

Applications ferroviaires - Spécification et démonstration de la fiabilité, de la disponibilité, de la maintenabilité et de la sécurité (FDMS) - Partie 2: Approche systématique pour la sécurité

Ta slovenski standard je istoveten z: EN 50126-2:2017/prA1

ICS:

03.120.01	Kakovost na splošno	Quality in general
45.020	Železniška tehnika na splošno	Railway engineering in general

SIST EN 50126-2:2018/oprA1:2023 en

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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EN 50126-2:2017

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English Version

Railway Applications - The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) - Part 2: Systems Approach to Safety

Applications ferroviaires - Spécification et démonstration de la fiabilité, de la disponibilité, de la maintenabilité et de la sécurité (FDMS) - Partie 2: Approche systématique pour la sécurité

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This draft amendment prA1, if approved, will modify the European Standard EN 50126-2:2017; it is submitted to CENELEC members for enquiry.

Deadline for CENELEC: 2023-04-28.

It has been drawn up by CLC/TC 9X.

If this draft becomes an amendment, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

This draft amendment was established by CENELEC in three official versions (English, French, German).

A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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<https://standards.iteh.ai/catalog/standards/sist/e1b057d8-f4cf-4e5c-b76e-39fa16874792/sist-en-50126-2-2018-opra1-2023>

European foreword

This document (EN 50126-2:2017/prA1:2023) has been prepared by Technical Committee CLC/TC 9X “Electrical and electronic applications for railways”, the secretariat of which is held by France.

This document is currently submitted to the Enquiry.

The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

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

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

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EN 50126-2:2017/prA1:2023 (E)

1 Modification to references

Throughout the text replace EN 50126-1 with EN 50126-1:2017,¹ and EN 50126-1:2017 with EN 50126-1:2017,¹.

2 Modification to Clause 2, "Normative References"

Replace the following reference:

EN 50126-1:2017, *Railway Applications — The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) — Part 1: Generic RAMS Process*

with the following new reference:

EN 50126-1:2017,¹ *Railway Applications — The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) — Part 1: Generic RAMS Process*

3 Modification to Clause 10, "Apportionment of functional Safety Integrity requirements"

Replace the following text:

"In case the derived TFFR is less demanding (higher) than 10^{-5} [h⁻¹], the function shall be given the attribute of "basic integrity", with related requirements defined in 10.2.11."

with the following text:

"In case the derived TFFR is equal to 10^{-5} [h⁻¹] or higher (less demanding), the function shall be given the attribute of "basic integrity", with related requirements defined in 10.2.11."

4 Modification to Annex ZZ

Replace the entire Annex ZZ with the following:

¹ As amended by EN 50126-1:2017/prA1:2023.

Annex ZZ (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive (EU) 2016/797 aimed to be covered

This European Standard has been prepared under a Commission's standardisation request "M/483 Mandate to CEN and CENELEC for Standardisation in the field of interoperability of the rail system" to provide one voluntary means of conforming to (parts of) Essential Requirements of Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on interoperability of the rail system (recast) as specified in the relevant technical specifications for interoperability (TSI).

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 control-command and signalling, Table ZZ.2 for locomotive and passenger RST and Table ZZ.3 for freight wagons RST confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive as specified in the technical specifications for interoperability (TSI), and associated EFTA regulations.

Table ZZ.1 — Correspondence between this European Standard, Commission Regulation (EU) 2016/919 on the technical specification for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union* and Directive (EU) 2016/797

Essential Requirements of Directive (EU) 2016/797	Clauses of the Annex to the Technical Specification for Interoperability (TSI)	Clause/ subclauses of this European Standard	Comments
Section 3 of the Annex to the TSI indicates the correspondence between the TSI clauses and the Essential Requirements of Directive (EU) 2016/797	§3.2.1 Safety	5, 6, 7, 8, 9, 10, 11	If applicable, the independent safety assessment activities shall be carried out by an Assessment Body accredited or recognized according to the requirements in Annex II of Regulation (EU) No 402/2013 in the fields of 'Control-command and signalling' and 'System safe integration'
	§4.2.1 Control-Command and Signalling reliability, availability and safety characteristics relevant to interoperability	5, 6, 7, 8, 9, 10, 11	Applicable for the essential requirements "Safety"
	§4.5.1 Responsibility of the manufacturer of equipment	5, 6, 7, 8, 9, 10, 11	Applicable for the essential requirements "Safety"
	§6.2.3 – Table 6.1 Conformity assessment requirements of an interoperability constituent or a group of interoperability constituents No. 3, 4, 5, 6	5, 6, 7, 8, 9, 10, 11	Applicable for the essential requirements "Safety"

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	§6.3.3 – Table 6.2 Conformity assessment requirements for an On-board Subsystem No. 6	5, 6, 7, 8, 9, 10, 11	Applicable for the essential requirements “Safety”
	§6.3.3 – Table 6.3 Conformity assessment requirements for a Trackside Subsystem No. 8	5, 6, 7, 8, 9, 10, 11	Applicable for the essential requirements “Safety”
	§7.2.1.a.2 Conditions for a change in the On-board ETCS functionality that does not impact the basic design characteristics	5, 6, 7, 8, 9, 10, 11	If applicable, the independent safety assessment activities shall be carried out by an Assessment Body accredited or recognized according to the requirements in Annex II of Regulation (EU) No 402/2013 in the fields of ‘Control-command and signalling’ and ‘System safe integration’
	§7.2.1.b.2 Conditions for a change in the Trackside ETCS functionality that, if not fulfilled, requires new authorisation for placing in service	5, 6, 7, 8, 9, 10, 11	If applicable, the independent safety assessment activities shall be carried out by an Assessment Body accredited or recognized according to the requirements in Annex II of Regulation (EU) No 402/2013 in the fields of ‘Control-command and signalling’ and ‘System safe integration’
<p>* As amended by Commission Implementing Regulation (EU) 2019/776, Commission Implementing Regulation (EU) 2020/387 and Commission Implementing Regulation (EU) 2020/420.</p>			
<p>NOTE The Technical Specification for Interoperability (TSI) can refer to other clauses of this standard making the application of those clauses mandatory. Possible references to such clauses are found in the Tables A.3 and A.4 of Annex A to the TSI.</p>			

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 products falling within the scope of this standard.

Table ZZ.2 — Correspondence between this European Standard, Commission Regulation (EU) No 1302/2014 concerning a technical specification for interoperability relating to the ‘rolling stock — locomotives and passenger rolling stock’ subsystem of the rail system in the European Union* and Directive (EU) 2016/797

Essential Requirements of Directive (EU) 2016/797	Clauses of the Annex to the Technical Specification for Interoperability (TSI)	Clause/ subclauses of this European Standard	Comments
Section 3 of the Annex to the TSI indicates the correspondence between the TSI clauses and the Essential Requirements of Directive (EU) 2016/797	§4.2.1.3. Safety aspects	5, 6, 7, 8, 9, 10, 11	If applicable, the independent safety assessment activities shall be carried out by an Assessment Body accredited or recognized according to the requirements in Annex II of Regulation (EU) No 402/2013
	§4.2.12. Documentation for operation and maintenance	5, 6, 7, 8, 9, 10, 11	Applicable for the essential requirements “Safety”
	§6.2.3.5. Conformity assessment for safety requirements	5, 6, 7, 8, 9, 10, 11	If applicable, the independent safety assessment activities shall be carried out by an Assessment Body accredited or recognized according to the requirements in Annex II of Regulation (EU) No 402/2013
<p>* As amended by Commission Regulation (EU) 2016/919, Commission Implementing Regulation (EU) 2018/868, Commission Implementing Regulation (EU) 2019/776 and Commission Implementing Regulation (EU) 2020/387.</p> <p>NOTE The Technical Specification for Interoperability (TSI) can refer to other clauses of this standard making the application of those clauses mandatory. Possible references to such clauses are found in the Appendix J to the TSI.</p>			

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WARNING 2 — Other Union legislation may be applicable to the products falling within the scope of this standard.

Table ZZ.3 — Correspondence between this European Standard, Commission Regulation (EU) No 321/2013 concerning the technical specification for interoperability relating to the subsystem ‘rolling stock — freight wagons’ of the rail system in the European Union and repealing Decision 2006/861/EC* and Directive (EU) 2016/797

Essential Requirements of Directive (EU) 2016/797	Clauses of the Annex to the Technical Specification for Interoperability (TSI)	Clause/ subclauses of this European Standard	Comments
Section 3 of the Annex to the TSI indicates the correspondence between the TSI clauses and the Essential Requirements of Directive (EU) 2016/797	§4.2.4.2. Safety aspects	5, 6, 7, 8, 9, 10, 11	If applicable, the independent safety assessment activities shall be carried out by an Assessment Body accredited or recognized according to the requirements in Annex II of Regulation (EU) No 402/2013
	§ 7.2.2.4. Rules for the extension of the area of use for existing units having an authorisation in accordance with Directive 2008/57/EC or in operation before 19 July 2010	5, 6, 7, 8, 9, 10, 11	If applicable, the independent safety assessment activities shall be carried out by an Assessment Body accredited or recognized according to the requirements in Annex II of Regulation (EU) No 402/2013
<p>* As amended by Commission Regulation (EU) No 1236/2013, Commission Regulation (EU) 2015/924, Commission Implementing Regulation (EU) 2019/776 and Commission Implementing Regulation (EU) 2020/387.</p> <p>NOTE The Technical Specification for Interoperability (TSI) can refer to other clauses of this standard making the application of those clauses mandatory. Possible references to such clauses are found in the Appendix D to the TSI.</p>			

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 products falling within the scope of this standard.

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