



SLOVENSKI STANDARD SIST EN IEC 60300-1:2024

01-september-2024

Vodenje zagotovitljivosti - 1. del: Upravljanje zagotovitljivosti (IEC 60300-1:2024)

Dependability management - Part 1: Managing dependability (IEC 60300-1:2024)

Zuverlässigkeitsmanagement - Teil 1: Management von Zuverlässigkeit (IEC 60300-1:2024)

Gestion de la sûreté de fonctionnement - Partie 1: Gestion de la sûreté de fonctionnement (IEC 60300-1:2024)

Ta slovenski standard je istoveten z: EN IEC 60300-1:2024

[SIST EN IEC 60300-1:2024](https://standards.iteh.ai/catalog/standards/sist/3500355d-1ac9-41b5-af2f-8766e645c6b7/sist-en-iec-60300-1-2024)

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ICS:

03.120.01	Kakovost na splošno	Quality in general
21.020	Značilnosti in načrtovanje strojev, aparatov, opreme	Characteristics and design of machines, apparatus, equipment

SIST EN IEC 60300-1:2024

en

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 60300-1

August 2024

ICS 03.120.01; 03.100.40; 21.020

Supersedes EN 60300-1:2014

English Version

Dependability management - Part 1: Managing dependability (IEC 60300-1:2024)

Gestion de la sûreté de fonctionnement - Partie 1: Gérer la
sûreté de fonctionnement
(IEC 60300-1:2024)

Zuverlässigkeitsmanagement - Teil 1: Management von
Zuverlässigkeit
(IEC 60300-1:2024)

This European Standard was approved by CENELEC on 2024-07-16. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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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

EN IEC 60300-1:2024 (E)**European foreword**

The text of document 56/2031/FDIS, future edition 4 of IEC 60300-1, prepared by IEC/TC 56 "Dependability" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60300-1:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-04-16 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-07-16 document have to be withdrawn

This document supersedes EN 60300-1:2014 and all of its amendments and corrigenda (if any).

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.

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Endorsement notice

The text of the International Standard IEC 60300-1:2024 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 31010	NOTE Approved as EN IEC 31010
IEC 60300-3-1	NOTE Approved as EN 60300-3-1
IEC 60300-3-2	NOTE Approved as EN 60300-3-2
IEC 60300-3-3	NOTE Approved as EN 60300-3-3
IEC 60300-3-4	NOTE Approved as EN IEC 60300-3-4
IEC 60300-3-11	NOTE Approved as EN 60300-3-11
IEC 60300-3-12	NOTE Approved as EN 60300-3-12
IEC 60300-3-14	NOTE Approved as EN 60300-3-14
IEC 60300-3-16	NOTE Approved as EN 60300-3-16
IEC 60706-2	NOTE Approved as EN 60706-2
IEC 60706-3	NOTE Approved as EN 60706-3
IEC 60706-5	NOTE Approved as EN 60706-5
IEC 60812	NOTE Approved as EN IEC 60812
IEC 61014	NOTE Approved as EN 61014

IEC 61025	NOTE Approved as EN 61025
IEC 61078	NOTE Approved as EN 61078
IEC 61123	NOTE Approved as EN IEC 61123
IEC 61124	NOTE Approved as EN IEC 61124
IEC 61163-1	NOTE Approved as EN 61163-1
IEC 61163-2	NOTE Approved as EN IEC 61163-2
IEC 61165	NOTE Approved as EN 61165
IEC 61649	NOTE Approved as EN 61649
IEC 61703	NOTE Approved as EN 61703
IEC 61709	NOTE Approved as EN 61709
IEC 61710	NOTE Approved as EN 61710
IEC 61709	NOTE Approved as EN 61709
IEC 61710	NOTE Approved as EN 61710
IEC 61882	NOTE Approved as EN 61882
IEC 61907	NOTE Approved as EN 61907
IEC 62198	NOTE Approved as EN 62198
IEC 62308	NOTE Approved as EN 62308
IEC 62309	NOTE Approved as EN 62309
IEC 62402	NOTE Approved as EN IEC 62402
IEC 62502	NOTE Approved as EN 62502
IEC 62506	NOTE Approved as EN IEC 62506
IEC 62508	NOTE Approved as EN 62508
IEC 62550	NOTE Approved as EN 62550
IEC 62551	NOTE Approved as EN 62551
IEC 62628	NOTE Approved as EN 62628
IEC 62673	NOTE Approved as EN 62673
IEC 62740	NOTE Approved as EN 62740
IEC 62741:2015	NOTE Approved as EN 62741:2015 (not modified)
IEC 62853	NOTE Approved as EN IEC 62853
IEC 62960	NOTE Approved as EN IEC 62960
IEC 80001-1	NOTE Approved as EN IEC 80001-1
ISO 9001	NOTE Approved as EN ISO 9001
ISO 9241-210:2019	NOTE Approved as EN ISO 9241-210:2019 (not modified)
ISO 20815	NOTE Approved as EN ISO 20815

EN IEC 60300-1:2024 (E)**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.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-192	2015	International electrotechnical vocabulary -- Part 192: Dependability	--	-

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IEC 60300-1

Edition 4.0 2024-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Dependability management –
Part 1: Managing dependability**

**Gestion de la sûreté de fonctionnement –
Partie 1: Gérer la sûreté de fonctionnement**

[SIST EN IEC 60300-1:2024](https://standards.iteh.ai/catalog/standards/sist/3500355d-1ac9-41b5-af2f-8766e645c6b7/sist-en-iec-60300-1-2024)

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 03.100.40, 03.120.01, 21.020

ISBN 978-2-8322-8320-2

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DEPENDABILITY MANAGEMENT –**Part 1: Managing dependability****FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
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IEC 60300-1 has been prepared by IEC technical committee 56: Dependability. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) more guidance on integration of dependability activities into an existing management system;
- b) greater detail on the activities required to establish and implement a programme of dependability activities;
- c) changes to provide consistency with other dependability standards.

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

Draft	Report on voting
56/2031/FDIS	56/2044/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60300 series, published under the general title *Dependability management*, can be found on the IEC website.

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

- reconfirmed,
- withdrawn, or
- revised.

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IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Dependability is the ability to perform as and when required. A dependable item is one where there is justified confidence that it operates as desired and satisfies agreed stakeholder needs and expectations. Dependability has many attributes but is usually characterised in terms of reliability, maintainability and supportability, and the resulting availability. In some cases, attributes such as resilience, recoverability, durability, integrity, safety, security, and trustworthiness are included in, or overlap with, dependability.

The specification and verification of dependability attributes provide stakeholders with assurance that requirements will be met into the future and quality will be maintained over time. The dependability of a system, product or service influences the business strategies associated with its design, acquisition and use, and costs over its life cycle. The dependability of an organization's systems, products and services has a strong impact on the perception of the value and trustworthiness of the organization.

Dependability is managed as a key element of an organization's wider management system, particularly aspects relating to assets, quality and finance.

This document highlights the importance and benefits of managing dependability. It gives guidance on dependability activities and their integration into an existing management system and life cycle processes so that an efficient, effective and economical approach is achieved.

Dependability activities bring benefits whenever they are performed but greater benefit is achieved the sooner in the life cycle they are implemented.

This document is applicable to a broad range of industry sectors and organizations of any size. It applies to systems of systems, large unique systems, mass produced industrial and consumer products, software applications, components and services. These categories are not mutually exclusive. For example, many products and components are in themselves complex systems.

The document will be useful for: [SIST EN IEC 60300-1:2024](https://standards.iteh.ai/catalog/standards/sist/3500355d-1ae9-41b5-af2f-8766e645c6b7/sist-en-iec-60300-1-2024)

<https://standards.iteh.ai/catalog/standards/sist/3500355d-1ae9-41b5-af2f-8766e645c6b7/sist-en-iec-60300-1-2024>

- managers and technical personnel;
- those involved in deciding how their systems, products and services can be made dependable;
- organizations such as regulators who evaluate the dependability of systems, products and services;
- those (e.g. users or the public) who need justified confidence in systems, product and services that might affect them;
- developers of other dependability related standards.

This document is one of a suite of "top level" interrelated IEC dependability standards that provide managers and technical personnel with guidance on how to effectively plan and implement dependability activities. Other documents in the suite are:

- IEC 60300-3-4 which provides guidance on writing dependability requirements in specifications, and on the means of assuring the achievement of those requirements;
- IEC 60300-3-10 and IEC 60300-3-14 which provide guidance on how to identify and apply appropriate analysis and assurance techniques for maintainability (and maintenance) and supportability (and support) respectively;
- standards to cover reliability and availability, which are planned.

DEPENDABILITY MANAGEMENT –

Part 1: Managing dependability

1 Scope

This document provides guidance on:

- the meaning and significance of dependability from a business, technical and financial perspective;
- achieving dependability through suitable adaptation of organizational management systems such as those described in ISO 9001 (quality management) and ISO 55001 (asset management);
- the activities that are integrated into management systems and life cycle processes in order to achieve dependable systems, products and services;
- planning and implementing dependability activities throughout the life cycle to achieve and assure required outcomes, taking into account factors such as costs, safety, the environment, customer goodwill, brand and reputation.

This document is applicable to any type of system, both new and existing, to mass produced industrial or consumer products, to components and to services. This document addresses all elements of systems, products and services including hardware, software, data, processes, procedures, facilities, materials, and personnel required for operations and support.

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.

IEC 60050-192:2015, *International Electrotechnical Vocabulary (IEV) – Part 192: Dependability* (available at www.electropedia.org)

3 Terms, definitions, and abbreviated terms

For the purposes of this document, the terms and definitions given in IEC 60050-192 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>