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Dependability management - Part 1: Managing dependability

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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ICS 03.100.40, 03.120.01, 21.020

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EUROPEAN STANDARD

EN IEC 60300-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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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)

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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:

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IEC 60300-3-1	NOTE Approved as EN 60300-3-1
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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

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IEC 61123	NOTE Approved as EN IEC 61123
IEC 61124	NOTE Approved as EN IEC 61124
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IEC 61709	NOTE Approved as EN 61709
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IEC 61710	NOTE Approved as EN 61710
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IEC 62550	NOTE Approved as EN 62550
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IEC 62673	NOTE Approved as EN 62673
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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

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

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



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INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

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

INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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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.

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- reconfirmed,
- withdrawn, or
- revised.

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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:

- 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.

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