
Trajnostno ravnanje z odpadno električno in elektronsko opremo (e-odpadki)

Sustainable management of waste electrical and electronic equipment (e-waste)

Nachhaltige Bewirtschaftung von Elektro- und Elektronikaltgeräten (E-Schrott)

Gestion durable des déchets d'équipements électriques et électroniques (e-déchets)

Ta slovenski standard je istoveten z: EN IEC 63395:2026

ICS:

13.020.20	Okoljska ekonomija. Trajnostnost	Environmental economics. Sustainability
13.030.30	Posebni odpadki	Special wastes

SIST EN IEC 63395:2026**en**

Sample Document

get full document from standards.iteh.ai

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 63395

July 2026

ICS 13.020.01; 29.100.01

English Version

**Sustainable management of waste electrical and electronic
equipment (e-waste)
(IEC 63395:2026)**

Gestion durable des déchets d'équipements électriques et
électroniques (e-déchets)
(IEC 63395:2026)

Nachhaltige Bewirtschaftung von Elektro- und
Elektronikaltgeräten (E-Schrott)
(IEC 63395:2026)

This European Standard was approved by CENELEC on 2026-07-16. 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.

This European Standard exists 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.



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 63395:2026 (E)**European foreword**

The text of document 111/864/FDIS, future edition 1 of IEC 63395, prepared by TC 111 "Environmental standardization for electrical and electronic products and systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63395:2026.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2027-07-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2029-07-31 document have to be withdrawn

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 63395:2026 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:

ISO 14044:2006	NOTE	Approved as EN ISO 14044:2006 (not modified)
ISO 14050:2020	NOTE	Approved as EN ISO 14050:2020 (not modified)
ISO 16000-32:2014	NOTE	Approved as EN ISO 16000-32:2014 (not modified)



IEC 63395

Edition 1.0 2026-06

INTERNATIONAL STANDARD

HORIZONTAL PUBLICATION

Sustainable management of waste electrical and electronic equipment (e-waste)

Sample Document

get full document from standards.iteh.ai

CONTENTS

FOREWORD	4
INTRODUCTION	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Principles for sustainable e-waste management	12
4.1 Best environmental outcome	12
4.2 Pollution prevention	12
4.3 Systems approach	12
4.4 Precautionary principle	12
4.5 Lifecycle perspective	12
4.6 Collaboration and innovation	13
4.7 Continual improvement	13
5 Overview e-waste management process flow	13
6 Requirements supporting the e-waste management system for quality, environmental, health and safety (QEHS) management	14
6.1 General	14
6.2 Support	14
6.2.1 General	14
6.2.2 Competencies	15
6.3 Operational planning and control	15
6.3.1 Traceability	15
6.3.2 Monitoring and evaluation of the e-waste flow, recovery rate and recovery quality	16
6.3.3 Resource use management	20
6.3.4 Outsourcing	20
6.3.5 Site closure plan	21
6.4 Engagement of subsistence workers	21
7 Collection and logistics	21
7.1 Collection system design	21
7.2 Handling	21
7.3 Storage	22
7.4 Transport	22
8 Identification, classification and deciding the recovery pathway	23
8.1 Identification	23
8.2 Classification	23
8.3 Deciding the recovery pathway	23
8.3.1 General	23
8.3.2 Visual inspection	24
8.3.3 Checking	24
8.3.4 Initial functionality tests	25
9 Sorting	25
10 Product and component recovery	25
10.1 General	25
10.1.1 Inspection of incoming e-waste	25
10.1.2 Packaging, labelling and point of sale information	26

IEC 63395:2026 © IEC 2026

10.1.3	Warranty	26
10.2	Product recovery through refurbishment.....	26
10.2.1	Functional testing	26
10.2.2	Safety testing	26
10.2.3	Cleaning	27
10.2.4	Final tests	27
10.3	Product recovery through repair	28
10.3.1	Safety testing before starting the repair process.....	28
10.3.2	Identifying faults	28
10.3.3	Disassembly, fault repair, reassembly	29
10.3.4	Cleaning	29
10.3.5	Final tests (re-testing)	30
10.4	Product and component recovery through remanufacturing	30
10.4.1	Grading.....	30
10.4.2	Disassembly, reworking and reassembly	30
10.4.3	Final tests (re-testing)	30
10.5	Component recovery	31
10.6	Data security	31
10.6.1	General.....	31
10.6.2	Data destruction	31
11	Material recovery	31
11.1	Infrastructure, technology and practices	31
11.2	Dismantling and disassembly	32
11.3	De-pollution	32
11.4	Handling of batteries in e-waste	33
11.5	Monitoring and evaluation of depollution effectiveness	33
11.5.1	Depollution monitoring and evaluation procedure	33
11.5.2	Sampling, target values and limit values.....	33
11.5.3	Types and frequency of checks	34
11.6	Material recovery processing	35
12	Energy recovery	35
13	Disposal	35
Annex A (normative) E-Waste management system requirements for Quality, Environmental, Health and Safety (QEHS)		37
A.1	General	37
A.2	Context of the organization	37
A.2.1	Understanding the organization and its context	37
A.2.2	Understanding the needs and expectations of interested parties	37
A.2.3	Determining the scope of the QEHS management system	38
A.2.4	QEHS management system	39
A.3	Leadership.....	39
A.3.1	Leadership and commitment	39
A.3.2	QEHS policy	39
A.3.3	Roles, responsibilities and authorities	40
A.4	Planning	40
A.4.1	Actions to address risks and opportunities	40
A.4.2	QEHS objectives and planning to achieve them.....	40
A.4.3	Planning of changes.....	41

IEC 63395:2026 © IEC 2026

A.5	Support	41
A.5.1	Resources	41
A.5.2	Competence	41
A.5.3	Awareness	41
A.5.4	Communication	41
A.5.5	Documented information	42
A.6	Operation	43
A.6.1	Operational planning and control	43
A.6.2	Emergency preparedness and response	43
A.7	Performance evaluation	43
A.7.1	Monitoring, measurement, analysis, and evaluation	43
A.7.2	Monitoring and measuring equipment	44
A.7.3	Internal audit	44
A.7.4	Management review	45
A.8	Improvement	45
A.8.1	Continual improvement	45
A.8.2	Nonconformity and corrective action	46
Annex B (normative)	Methodology for deciding the recovery pathway	47
B.1	Using the methodology	47
B.2	Methodological steps and decision diagrams	48
B.2.1	Step 1 – Assessing the product recovery potential	48
B.2.2	Step 2 – Assessing the component recovery potential	49
B.2.3	Step 3 – Assessing the material recovery potential	50
Bibliography		51
Figure 1	– E-waste management process flow chart	13
Figure B.1	– Step 1 – Assessing the product recovery potential	48
Figure B.2	– Step 2 – Assessing the component recovery potential	49
Figure B.3	– Step 3 – Assessing the material recovery potential	50
Table 1	– Organizations and operators	14

INTERNATIONAL ELECTROTECHNICAL COMMISSION

Sustainable management of waste electrical and electronic equipment (e-waste)

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 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.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 63395 has been prepared by IEC technical committee 111: Environmental standardization for electrical and electronic products and systems. It is an International Standard.

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

Draft	Report on voting
111/864/FDIS	111/894/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.

IEC 63395:2026 © IEC 2026

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.

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.

Sample Document

get full document from standards.iteh.ai

INTRODUCTION

Electrical and electronic equipment has become a defining and ubiquitous feature of modern life, which has raised living standards in most of the countries worldwide.

Globally, the slow adoption of sustainable practices for the management of waste electrical and electronic equipment (e-waste) means that environmental impacts due to, for example, resource consumption, greenhouse gas emissions, and hazardous substance releases continue unabated.

As a result, many countries face challenges related to considerable environmental and human health risks caused by inadequately managed e-waste.

This is all the more critical as collection and recovery activities are failing to keep up with total e-waste generation. According to the Global E-waste Monitor 2024, less than a quarter of e-waste generated was officially documented as collected and recycled. Electronic waste generation is rising five times faster than documented e-waste recycling.

This document sets out requirements for the sustainable management of e-waste, thereby contributing to the following objectives:

- protecting human health and safety and the environment;
- maximizing resource circularity through the recovery of e-waste products, components and materials;
- optimizing the quality of recovered products, components and materials;
- minimizing the quantity of e-waste being disposed of;
- preventing unsustainable and unsafe e-waste recovery and disposal practices;
- preventing or minimizing, or both, pollution and emissions;
- providing a framework for assuring the environmental sustainability of output of product, component and material recovery operations;
- preventing shipments of e-waste to operators whose activities do not conform with this document or a comparable set of requirements.

1 Scope

This document specifies requirements and provides guidance for the sustainable management of waste electrical and electronic equipment (e-waste) for all process steps, from collection to returning recovered products, components, materials or energy to the value chain. It includes traceability, monitoring and evaluation of the e-waste flow, recovery rate and recovery quality.

This document is intended for use by an organization involved in e-waste management seeking to manage its responsibilities in a systematic manner.

The requirements set by this document will help an organization to achieve sustainability outcomes within the context of e-waste management, including:

- enhancement of organizations' performance in relation to quality, environment and occupational health and safety;
- fulfilment of compliance obligations.

This document is applicable to any organization, regardless of its size, type and nature.

This document applies to the environmental, health and safety, and quality aspects of e-waste management activities that the organization determines it can either control or influence, from a lifecycle perspective.

NOTE 1 Social aspects – e.g. employment creation, conflict minerals, employment conditions – are not addressed directly but indirectly through the benefits of sustainable management of e-waste.

NOTE 2 Additional local requirements or regulations can apply.

This document is a basic environment horizontal publication focusing on essential requirements and is primarily intended for use by committees in the preparation of publications within the area of environment in accordance with the principles laid down in IEC Guide 123. Wherever applicable, it is the responsibility of committees to make use of environment basic publications in the preparation of their environment group and product publications. Committees can apply this document directly to products when they do not develop a product publication in the area of environment.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

3.1**e-waste****WEEE****waste electrical or electronic equipment**

electrical or electronic equipment that the holder discards or is required to discard

Note 1 to entry: All components, sub-assemblies and consumables which are part of the equipment at the time the equipment is discarded, even if not attached to the product when discarded, are also considered as e-waste.

[SOURCE: IEC FDIS 60050-193:2026, 193-04-02, modified – Note 1 to entry has been added.]

3.2**hazardous material**

material containing one or more hazardous substances

3.3**hazardous substance**

substance which can adversely affect human health or the environment with immediate or retarded effect, either by itself or through interaction with other factors

Note 1 to entry: Hazardous substances are typically identified by international or national regulations.

3.4**organization**

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives

Note 1 to entry: The concept of organization includes, but is not limited to sole trader, company, corporation, firm, enterprise, authority, partnership, charity, or institution, or part or combination thereof, whether incorporated or not, public or private.

[SOURCE ISO 9000:2015, 3.2.1, modified – In Note 1 to entry, the term "association" has been deleted; Note 2 to entry has been deleted.]

3.5**compliance obligation**

legal requirement that an organization must comply with and other requirements that an organization must or chooses to comply with

Note 1 to entry: Compliance obligations can arise from mandatory requirements, such as applicable laws and regulations, or voluntary commitments, such as organizational and industry standards, contractual relationships, codes of practice and agreements with community groups or non-governmental organizations.

[SOURCE: ISO 14001:2015, 3.2.9, modified – The plural form of the term has been changed to its singular form, the admitted term has been deleted, verbal form "has to" has been changed to "must", Note 1 to entry has been deleted.]

3.6**record**

document stating results achieved or providing evidence of activities performed

Note 1 to entry: Records can be used, for example, to formalize traceability and to provide evidence of verification, preventive action, and corrective action.

Note 2 to entry: Generally, records need not be under revision control.

[SOURCE: ISO 9000:2015, 3.8.10]

3.7**documented information**

information required to be controlled and maintained by an organization and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media, and from any source.

Note 2 to entry: Documented information can refer to:

- the environmental management system, including related processes;
- information created in order for the organization to operate (can be referred to as documentation);
- evidence of results achieved (can be referred to as records).

[SOURCE: ISO 14001:2015, 3.3.2]

3.8**traceability**

<circular economy and material efficiency> ability to trace the origin, history, application, location or certain characteristics of a product

Note 1 to entry: The term "traceability" is also defined in the context of electrical and electronic measurements (IEV 311-01-15).

Note 2 to entry: When considering a product, traceability can be related to:

- the origin of materials and parts;
- the history of the processing;
- the distribution and localization of products, including their recovery pathways and final disposal of non-recoverable fractions.

[SOURCE: IEC FDIS 60050-193:2026, 193-01-09, modified – At the end of the definition, "or material" has been deleted, Note 2 to entry has been added.]

3.9**transboundary movement**

movement of e-waste across a national border from one country to another

3.10**recovery pathway**

type and sequence of processes applied to recover products, components and materials from e-waste collected

3.11**recovery potential**

potential of e-waste to be recovered as products, components or materials

Note 1 to entry: Criteria used to determine the recovery potential include environmental, social and economic benefit; functionality, usability and repairability of the e-waste; legal compliance; available recovery technologies; available downstream recovery organizations or end markets.

3.12**product or component recovery**

controlled process whereby functioning products or components are recovered from end-of-life products or waste and are brought back to use for the same or different purpose

Note 1 to entry: Processes for product recovery can include refurbishment, remanufacture and repurposing.

Note 2 to entry: Processes for component recovery can include disassembly, cleaning, and testing.

Note 3 to entry: Recovery of components for subsequent recovery of the materials contained in the components is considered as material recovery.

Note 4 to entry: Recovery is considered completed when the "criteria for completed recovery" in 6.6.2.2 are fulfilled.

[SOURCE: IEC FDIS 60050:193:2025, 193-04-05, modified – "parts" replaced with "components", Note 3 to entry and Note 4 to entry has been added]

3.13**material recovery**

controlled processing of end-of-life products or waste to produce useful material

Note 1 to entry: Processes for material recovery can include dismantling, depollution, grinding, shredding, milling, concentration, homogenization, refining, etc. as well as chemical processes excluding chemical recycling of polymeric waste.

Note 2 to entry: The result of the material recovery is either alternate material or material that will be further processed in material recycling.

Note 3 to entry: Material recovery results in circular material, i.e. material that can be recovered again.

Note 4 to entry: Recovery of components for subsequent recovery of the materials contained in the components is considered as material recovery

[SOURCE: IEC 60050-193:2026, 193-04-07, modified – The Figure has been deleted, Note 1 to entry "as well as chemical processes excluding chemical recycling of polymeric waste" has been added, Note 4 to entry has been replaced with new Note 4 to entry]

3.14**energy recovery**

production of useful energy through direct and controlled combustion or other processing of waste

EXAMPLE Producing hot water, steam and/or electricity are common means for energy recovery.

[SOURCE: IEC 60050-904:2014, 904-04-03, modified – Note 1 to entry was transformed into an example and "Waste incinerators" has been deleted]

3.15**input**

product, material or energy flow that enters a process

Note 1 to entry: Products and materials include raw materials, intermediate products and co-products.

[SOURCE: ISO 14044:2006, 3.21, modified – In the definition, term "unit" has been deleted]

3.16**output**

product, material or energy flow that leaves a process

Note 1 to entry: Products and materials include raw materials, intermediate products, co-products, and releases.

[SOURCE: ISO 14044:2006, 3.25, modified – In the definition, term "unit" has been deleted]