Ergonomics of human-system interaction - Part 112: Principles for the presentation of information (ISO 9241-112:2025)

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ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA	NATIONAL FOREWORD
See Eesti standard EVS-EN ISO 9241-112:2025 sisaldab Euroopa standardi EN ISO 9241-112:2025 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 9241-112:2025 consists of the English text of the European standard EN ISO 9241-112:2025.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 11.06.2025.	Date of Availability of the European standard is 11.06.2025.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

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Ergonomie de l'interaction homme-système - Partie 112: Principes relatifs à la présentation de l'information (ISO 9241-112:2025)

Ergonomie der Mensch-System-Interaktion - Teil 112: Grundsätze der Informationsdarstellung (ISO 9241-112:2025)

This European Standard was approved by CEN on 7 June 2025.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 9241-112:2025) has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with Technical Committee CEN/TC 122 "Ergonomics" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2025, and conflicting national standards shall be withdrawn at the latest by December 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 9241-112:2017.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 9241-112:2025 has been approved by CEN as EN ISO 9241-112:2025 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 122, *Ergonomics,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 9241-112:2017), which has been technically revised.

The main changes are as follows:

— the terms and definitions have been updated;

— the guidance has been updated.

A list of all parts in the ISO 9241 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document presents principles for the presentation of information that apply to the design and evaluation of user interfaces in addition to the interaction principles contained in ISO 9241-110.

The application and use of the principles and general recommendations presented in this document results in a variety of benefits to users of interactive user interfaces, including improvements in speed, accuracy, mental effort and user experience. They also help prevent users from experiencing usability problems with presented information. Examples of such problems include the following:

— users do not detect information, although the information is present;

— users are distracted from information they are focusing on by other information;

— users cannot discriminate between pieces of information, since they appear to be identical;

— users misinterpret information since the meaning of the information is ambiguous;

— users expend unnecessary time in understanding information since the information presented is unnecessarily lengthy;

— users do not understand information due to unknown conventions used in the information presented.

The principles and general recommendations covered in this document will help to avoid misinterpretations by providing guidance on the appropriate and effective presentation of information. The guidance in this document does not deal with the identification of the specific information to be presented.

This document contains general recommendations that apply across modalities. ISO 9241-125 provides detailed recommendations relating to the design and evaluation of visual user interfaces.

This document focuses on software aspects of the presentation of information and does not include guidance on the hardware-controlled physical characteristics of information presented in different modalities (such as those identified ISO 9241-303).

The guidance in this document for presenting information is aimed at helping the user to accomplish tasks. This guidance is not aimed at the presentation of information for other reasons (e.g. corporate branding or advertising).

It is intended for the following types of users:

— user interface designers, who will apply the guidance during the development process;

— software, system, and service developers, who will apply the guidance during the design and implementation of system functionality;

— evaluators, who are responsible for ensuring that products meet the recommendations;

— designers of user interface development tools and style guides to be used by user interface designers;

— project managers, who are responsible for managing development processes;

— buyers, who will reference this document during product procurement.

Ergonomics of human-system interaction —

Part 112:
Principles for the presentation of information

1 Scope

This document establishes ergonomic design principles for interactive systems related to the software-controlled presentation of information by user interfaces. It applies to the three main modalities (visual, auditory, tactile or haptic) typically used in information and communication technology (ICT). These principles apply to the perception and understanding of presented information. These principles are applicable in the analysis, design and evaluation of interactive systems. This document also provides recommendations corresponding to the principles. The recommendations for each of the principles are not exhaustive and are not necessarily independent from one another.

While this document is applicable to all types of interactive systems, it does not cover the specifics of particular application domains which require context-specific recommendations. This document also applies to outputs from interactive systems (such as printed documents and document exports in common computer formats, e.g. pdf, text and tabular formats).

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.

ISO 9241-171, *Ergonomics of human-system interaction — Part 171: Guidance on software accessibility*

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:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
user
person who interacts with a system, product or service

Note 1 to entry: Users of a system, product or service include people who operate the system, people who make use of the output of the system and people who support the system (including people who provide maintenance and training).

[SOURCE: ISO 9241-11:2018, 3.1.7]