

# Ergonómia Interakcia človek-systém Časť 115: Usmernenie na konceptuálny návrh, návrh interakcie používateľa so systémom, návrh používateľského rozhrania a návrh navigácie (ISO 9241-115: 2024)

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Ergonomics of human-system interaction - Part 115: Guidance on conceptual design, user-system interaction design, user interface design, and navigation design (ISO 9241-115:2024)

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Ergonomie de l'interaction homme-système - Partie 115: Recommandations relatives à la conception conceptuelle, la conception de l'interaction utilisateursystème, la conception de l'interface utilisateur et la conception de la navigation (ISO 9241-115:2024) Ergonomie der Mensch-System-Interaktion - Teil 115: Empfehlungen für die Gestaltung von konzeptuellem Design, Benutzer-System-Interaktion, Benutzungsschnittstellen und Navigation (ISO 9241-115:2024)

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EN ISO 9241-115:2024 (E)

# **European foreword**

This document (EN ISO 9241-115:2024) 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of an identical text or by endorsement, at the latest by October 2024, and conflicting national standards shall be withdrawn at the latest by October 2024.

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.

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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.

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#### **Endorsement notice**

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# International Standard

ISO 9241-115

# Ergonomics of human-system interaction —

# Part 115:

Guidance on conceptual design, user-system interaction design, user interface design and navigation design

Ergonomie de l'interaction homme-système —

Partie 115: Recommandations relatives à la conception conceptuelle, la conception de l'interaction utilisateur-système, la conception de l'interface utilisateur et la conception de la navigation

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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 <a href="https://www.iso.org/directives">www.iso.org/directives</a>).

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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 first edition of ISO 9241-115 cancels and replaces the first edition of ISO 14915-2:2003, which has been technically revised.

The main changes are as follows:

- much of the content of ISO 14915-2:2003 has been removed or simplified. The content which has been retained is included in Clause 8;
- the Scope has been expanded significantly from just navigation design to "conceptual design, usersystem interaction design, user interface design and navigation design". New material has been added accordingly.

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 <a href="https://www.iso.org/members.html">www.iso.org/members.html</a>.

# Introduction

Every interactive system has a user interface, regardless of whether or not its design was planned, organized and documented. Risks related to the use of interactive systems can increase due a lack of a planning, organization and documentation in their design.

Within this context, there are two main categories of design for interactive systems, each with their own sub-categories.

- 1) Human-centred design: this deals with the design of interactive aspects of the system and its uses.
  - Human-centred design focuses on satisfying user needs and meeting user requirements.
  - Human-centred design includes conceptual design, user-system interaction design, user interface design and navigation design.
- 2) Technical design: this enables the required interactions between humans and the interactive system from an internal design perspective.
  - Technical design is beyond the scope of this document (see ISO/IEC/IEEE 12207 for further information relating to the technical design of software systems).

ISO 9241-210:2019, 7.1 provides high-level guidance on the human-centred design of interactive systems and recognizes that "human-centred design activities can be incorporated in design approaches as diverse as object-oriented, waterfall, HFI (human factors integration), agile, and rapid development, etc." As stated in the introduction of ISO 9241-210:2019, "Human-centred design is an approach to interactive systems development that aims to make systems usable and useful by focusing on the users, their needs and requirements, and by applying human factors/ergonomics, and usability knowledge and techniques. This approach enhances effectiveness and efficiency, improves human well-being, user satisfaction, accessibility and sustainability; and counteracts possible adverse effects of use on human health, safety and performance."

ISO 9241-220 elaborates on ISO 9241-210 to identify processes, typical activities and process outcomes for enabling, executing and assessing human-centred design within organizations. Many of the process outcomes focus on attributes of the design of interactive systems.

While both ISO 9241-210 and ISO 9241-220 focus on design activities, there is a need for guidance on the outcomes of those design activities.

This document therefore focuses particularly on guidance concerning the outcomes of conceptual design, user-system design, user interface design and navigation design.

# Ergonomics of human-system interaction —

# Part 115:

# Guidance on conceptual design, user-system interaction design, user interface design and navigation design

# 1 Scope

This document provides guidance on aspects of the design of human-system interaction, including conceptual design, user-system interaction design, user interface design and navigation design for interactive systems.

This document applies to all design and development approaches and methodologies, including human-centred design, object-oriented, waterfall, human factors integration (HFI), agile and rapid development.

It is intended for the following types of users:

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

#### 2 Normative references

There are no normative references in this document.

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