



SLOVENSKI STANDARD SIST EN ISO 9241-115:2024

01-november-2024

Ergonomija medsebojnega vplivanja človek-sistem - 115. del: Navodila za konceptualno zasnovo, zasnovo interakcije med uporabnikom in sistemom, zasnovo uporabniškega vmesnika in zasnovo navigacije (ISO 9241-115:2024)

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)

Ergonomie der Mensch-System-Interaktion - Teil 115: Empfehlungen für die Gestaltung von konzeptuelles Design, Benutzer-System-Interaktion, Benutzungsschnittstelle und Navigation (ISO 9241-115:2024)

Ergonomie de l'interaction homme-système - Partie 115: Lignes directrices sur la conception conceptuelle, la conception de l'interaction utilisateur-système, la conception de l'interface utilisateur et la conception de la navigation (ISO 9241-115:2024)

Ta slovenski standard je istoveten z: EN ISO 9241-115:2024

ICS:

| | | |
|--------|---------------------------------|---|
| 13.180 | Ergonomija | Ergonomics |
| 35.080 | Programska oprema | Software |
| 35.200 | Vmesniška in povezovalna oprema | Interface and interconnection equipment |

SIST EN ISO 9241-115:2024

en,fr,de

EUROPEAN STANDARD

EN ISO 9241-115

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2024

ICS 13.180; 35.080

Supersedes EN ISO 14915-2:2003

English Version

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)

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 (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)

This European Standard was approved by CEN on 22 March 2024.

CEN 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 CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 9241-115:2024 (E)

| Contents | Page |
|-------------------------------|-------------|
| European foreword..... | 3 |

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[SIST EN ISO 9241-115:2024](https://standards.itih.ai/catalog/standards/sist/2fc094be-ce9e-4c64-bfdb-b22a9d49dbe0/sist-en-iso-9241-115-2024)

<https://standards.itih.ai/catalog/standards/sist/2fc094be-ce9e-4c64-bfdb-b22a9d49dbe0/sist-en-iso-9241-115-2024>

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.

This document supersedes EN ISO 14915-2:2003.

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.

(<https://standards.iteh.ai>)

Endorsement notice

The text of ISO 9241-115:2024 has been approved by CEN as EN ISO 9241-115:2024 without any modification.

[SIST EN ISO 9241-115:2024](https://standards.iteh.ai/catalog/standards/sist/2fc094be-ce9e-4c64-bfdb-b22a9d49dbe0/sist-en-iso-9241-115-2024)

<https://standards.iteh.ai/catalog/standards/sist/2fc094be-ce9e-4c64-bfdb-b22a9d49dbe0/sist-en-iso-9241-115-2024>



**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*

**First edition
2024-03**

ISO 9241-115:2024(en)

iTeh Standards (<https://standards.iteh.ai>) Document Preview

[SIST EN ISO 9241-115:2024](https://standards.iteh.ai/catalog/standards/sist/2fc094be-ce9e-4c64-bfdb-b22a9d49dbe0/sist-en-iso-9241-115-2024)

<https://standards.iteh.ai/catalog/standards/sist/2fc094be-ce9e-4c64-bfdb-b22a9d49dbe0/sist-en-iso-9241-115-2024>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

© ISO 2024 – All rights reserved

ISO 9241-115:2024(en)

Contents

| | Page |
|---|-----------|
| Foreword | v |
| Introduction | vi |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 3.1 Major subjects of designs..... | 1 |
| 3.2 Modelling..... | 2 |
| 3.3 Context of use, user needs and user requirements..... | 3 |
| 3.4 Outcomes of use..... | 4 |
| 3.5 Interactions and content..... | 5 |
| 3.6 Navigation techniques..... | 7 |
| 3.7 Links..... | 7 |
| 4 Human-centred design in the context of this document | 9 |
| 4.1 Human-centred design activities..... | 9 |
| 4.2 General guidance..... | 9 |
| 4.2.1 Mental model of the user..... | 9 |
| 4.2.2 Support of appropriate user interface technology..... | 9 |
| 4.2.3 Constraints on design..... | 9 |
| 4.2.4 Overall consistency..... | 10 |
| 4.2.5 Aesthetics..... | 10 |
| 4.2.6 Accessibility..... | 10 |
| 5 Conceptual design | 10 |
| 5.1 General..... | 10 |
| 5.2 Contents of a conceptual design..... | 11 |
| 6 User-system interaction design | 11 |
| 6.1 General..... | 11 |
| 6.2 Types of interactions..... | 12 |
| 6.3 The design of interaction scenarios..... | 12 |
| 6.4 Compatibility of interaction scenarios..... | 12 |
| 6.5 The design of user actions to be supported by the system..... | 12 |
| 6.6 Interactions from the user's perspective..... | 12 |
| 7 User interface design | 13 |
| 7.1 General..... | 13 |
| 7.2 Contents of a user interface design..... | 13 |
| 7.2.1 Structure..... | 13 |
| 7.2.2 User interface instances..... | 13 |
| 7.2.3 User interface elements..... | 14 |
| 7.3 Information architecture..... | 14 |
| 7.3.1 Purpose of an information architecture..... | 14 |
| 7.3.2 Contents of an information architecture..... | 14 |
| 7.4 Information design..... | 15 |
| 7.5 Design recommendations..... | 15 |
| 7.5.1 User interface..... | 15 |
| 7.5.2 User interface instances..... | 15 |
| 7.5.3 User interface elements..... | 16 |
| 7.5.4 Supporting different target devices..... | 16 |
| 7.5.5 Accessibility..... | 17 |
| 7.5.6 Innovative solutions..... | 17 |
| 8 Navigation design | 17 |
| 8.1 General..... | 17 |
| 8.2 Contents of navigation sequence design..... | 18 |
| 8.3 Navigation with additional user interface elements..... | 18 |

ISO 9241-115:2024(en)

| | | |
|--------------------------|--|-----------|
| 8.4 | Use of navigation structures..... | 18 |
| 8.4.1 | Use of linear structures..... | 18 |
| 8.4.2 | Navigation in linear structures..... | 18 |
| 8.4.3 | Use of tree structures..... | 18 |
| 8.4.4 | Navigation in tree structures..... | 18 |
| 8.4.5 | Use of network structures..... | 19 |
| 8.4.6 | Navigation in network structures..... | 19 |
| 8.4.7 | Navigation in hybrid structures..... | 19 |
| 8.4.8 | Navigation in dynamic structures..... | 19 |
| 8.4.9 | Determining navigation techniques..... | 19 |
| 8.5 | Guidance on the design of navigation to meet user needs..... | 20 |
| 8.5.1 | Minimizing user effort..... | 20 |
| 8.5.2 | Providing alternative navigation paths..... | 20 |
| 8.5.3 | Returning to an interrupted task..... | 20 |
| 8.5.4 | Supporting exploration..... | 20 |
| 8.6 | Guidance related to the use of links for navigation..... | 20 |
| 8.6.1 | Use of links..... | 20 |
| 8.6.2 | Use of system-activated links..... | 20 |
| 8.6.3 | Use of user-activated links..... | 21 |
| 8.6.4 | Use of permanent links..... | 21 |
| 8.6.5 | Use of temporal links..... | 21 |
| 8.6.6 | Duration of temporal links..... | 21 |
| 8.6.7 | Avoiding temporal link errors..... | 21 |
| 8.6.8 | Use of computed links..... | 21 |
| 8.6.9 | Recognizing computed links..... | 22 |
| 8.6.10 | Use of user-defined links..... | 22 |
| 8.6.11 | Supporting multiple sets of user-defined links..... | 22 |
| 8.6.12 | Discriminability of links..... | 22 |
| 8.7 | Guidance related to the use of general navigation functions..... | 23 |
| 8.7.1 | Providing users with navigation information..... | 23 |
| 8.7.2 | Providing search capabilities..... | 23 |
| 8.8 | Navigating across sessions..... | 23 |
| 8.8.1 | Saving the current state..... | 23 |
| 8.8.2 | Returning to a saved state..... | 23 |
| 8.8.3 | Restarting at a previous state..... | 23 |
| 8.8.4 | Exiting..... | 24 |
| Bibliography..... | | 25 |

ISO 9241-115:2024(en)

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO 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, ISO 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 www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 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, user-system 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 www.iso.org/members.html.