SLOVENSKI STANDARD
kSIST-TP FprCEN ISO/TR 9241-100:2023

01-januar-2023

Ergonomija medsebojnega vpliva človek-sistem - 100. del: Pregled standardov za ergonomijo, povezano s programsko opremo (ISO/DTR 9241-100:2022)

Ergonomics of human-system interaction - Part 100: Overview of ISO 9241 software ergonomic standards (ISO/DTR 9241-100:2022)

Ergonomie der Mensch-System-Interaktion - Teil 100: Überblick über Normen zur Software-Ergonomie (ISO/DTR 9241-100:2022)

Ergonomie de l'interaction homme-système - Partie 100: Introduction aux normes relatives à l'ergonomie des logiciels (ISO/DTR 9241-100:2022)

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13.180	Ergonomija	Ergonomics
35.180	Terminalska in druga periferna oprema IT	IT Terminal and other peripheral equipment

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Ergonomics of human-system interaction —

Part 100: Overview of ISO 9241 software ergonomic standards

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Foreword

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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 documents 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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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).

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This second edition cancels and replaces the first edition (ISO/TR 9241-100:2010), which has been technically revised.

The main changes are as follows:

— overview of the ISO 9241 series updated;

— text edited and added to;

— new Figure 1 added.

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.

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Introduction

The purpose of this document is to provide concise descriptions of the parts of the ISO 9241 series that provide requirements and recommendations for the ergonomic design of software-based interactive systems. It includes descriptions of all the current parts in the ISO 9241-1XX family of documents, which are specifically directed at software, together with descriptions of ISO 9242-11, ISO 9241-210 and ISO 9241-220, which address the concept of usability, human-centred design and human-centred design processes, respectively.

It also informs the reader about upcoming documents that are currently under development.

The adoption of a human-centred approach to the development of products and systems and the application of the requirements and recommendations contained in the ISO 9241-1XX family of documents helps prevent users from experiencing usability problems, such as:

— additional unnecessary steps not required as part of the task;

— misleading information;

— insufficient and poor information on the user interface;

— navigational limitations during use;

— inefficient error recovery.

The documents contain guidance at the levels of:

— principles, e.g. “conformity with user expectations” (ISO 9241- 110, 5.3);

— general recommendations, e.g. “The interactive system should use cultural and linguistic conventions for presentation, input and control that the users are familiar with” (ISO 9241-110, 5.3.3.1);

— guidance specific to a thematic subject, e.g. “If sounds need to be used in different countries or cultures, or will be presented to individuals speaking different languages, then the sounds should be culturally appropriate” (ISO 9241-126, 6.1.11).

NOTE Currently, when people phone someone whose line is in use, they hear a different signal in different countries.

The documents do not specify “standardized solutions” in terms of conventions, for example, “the title bar of a window in focus is coloured blue” or “the push button 'OK' is always placed to the left of the push button 'Cancel'.” Such “industry conventions” or even “industry regulations” are published by industry sources and can be found in literature. However, the guidance relating to presented information in ISO documents is intended to be applied when establishing or assessing industry conventions for user interfaces of interactive systems.

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Ergonomics of human-system interaction —

Part 100: Overview of ISO 9241 software ergonomic standards

1 Scope

This document provides an overview of ISO 9241 software ergonomic standards in the form of executive summaries of these standards, in particular the parts in the ISO 9241-1XX family of documents. In addition, it provides executive summaries for ISO 9242-11, ISO 9241-210 and ISO 9241-220, which have specific relevance to the design of software-based interactive systems.

This document is intended for the following types of users:

— managers, who are involved in planning and managing product, system and/or service development projects, who are to be informed on the human-centred design approach and on guidance on software ergonomics;

— developers, who will apply the guidance in these documents during the development process (either directly, based on training, or by using tools and style guides which incorporate the guidance);

— user interface design roles (including interaction designers, information architects, user interface designers, visual designers and content creators), who will apply the guidance in these documents during the creation and design process (either directly, based on training, or by using tools and style guides which incorporate the guidance);

— user researchers, who are responsible for identifying user needs and inform context of use of a product, system or service;

— evaluators, who are responsible for ensuring that products, systems or services meet the recommendations contained in these documents;

— buyers, who will reference these documents in contracts during product procurement;

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

While the documents are applicable to all types of interactive systems, they do not cover the specifics of every context of use, such as safety critical systems and collaborative work.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

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/

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4 Overview of ISO 9241 software ergonomic standards

The ISO 9241 series provides requirements and recommendations that address the ergonomics issues that arise in the design and development of interactive systems. By applying and observing the theory, principles, data and methods of ergonomics presented in the series, people's wellbeing is increased and the overall system performance is optimized. Table 1 shows the structure of the ISO 9241 series and the way in which the numbering system is used to group the documents according the aspects of the interactive system that are being addressed. This document focuses on the description of the standards which address software ergonomics issues. The majority of the documents form part of the ISO 9241-1XX family of documents and are listed in Figure 1. Executive summaries for all the current 100 series parts are included in this document.

There are three further documents which are particularly relevant to the design of the software aspects of interactive systems, while also applying to the overall design. ISO 9241-11 provides the conceptual framework for addressing usability, while ISO 9241-210 and ISO 9241-220 provide guidance on the design activities within an organization that form the basis of a human-centred approach to designing interactive systems. Executive summaries for these parts are also included in this document. Information on additional guidance beyond the ISO 9241-1XX family of documents is given in Annex A, addressing topics such as accessibility, visual interfaces, audio interfaces and tactile interfaces.

Table 1 — Overview of ISO 9241 software ergonomic standards

Part of ISO 9241	Title	Revised	Pages	Core	Ref
100	Ergonomics of human-system interaction — Part 100: Overview of ISO 9241 software ergonomic standards	2022	19	13	–
Hardware and software usability					
11	Ergonomics of human-system interaction — Part 11: Usability: Definitions and concepts	2018	29	8	5.1
13	Ergonomic requirements for office work with visual display terminals (VDTs) — Part 13: User guidance	1998	32	13	5.2
14	Ergonomic requirements for office work with visual display terminals (VDTs) — Part 14: Menu dialogues	1997	57	20	5.3
General guidance on software ergonomics					
110	Ergonomics of human-system interaction — Part 110: Interaction principles	2020	43	20	5.4
112	Ergonomics of human-system interaction — Part 112: Principles for the presentation of information	2017	20	12	5.5
Input, output and interaction					
125	Ergonomics of human-system interaction — Part 125: Guidance on visual presentation of information	2017	42	34	5.6
126	Ergonomics of human-system interaction — Part 126: Guidance on the presentation of auditory information	2019	33	19	5.7
129	Ergonomics of human-system interaction — Part 129: Guidance on software individualization	2010	58	19	5.8
Performance support (currently no standards)					
Interaction techniques					
143	Ergonomics of human-system interaction — Part 143: Forms	2012	95	46	5.9
Topic specific guidance					
Key pages number of pages in main body of standard core number of pages that comprise the core of the standard ref. subclause where more detailed information is provided in this document					

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Table 1 *(continued)*

Part of ISO 9241	Title	Revised	Pages	Core	Ref
154	Ergonomics of human-system interaction — Part 154: Interactive voice response (IVR) applications	2013	35	22	5.10
Interface control components					
161	Ergonomics of human-system interaction — Part 161: Guidance on visual user-interface elements	2016	63	54	5.11
Cross-topic guidance on accessibility					
171	Ergonomics of human-system interaction — Part 171: Guidance on software accessibility	2008	90	39	5.12
Process related guidance for human-centred design					
210	Ergonomics of human-system interaction — Part 210: Human-centred design for interactive systems	2019	33	15	5.13
220	Ergonomics of human-system interaction — Part 220: Processes for enabling, executing and assessing human-centred design within organizations	2019	104	42	5.14

Key

pages number of pages in main body of standard

core number of pages that comprise the core of the standard

ref. subclause where more detailed information is provided in this document

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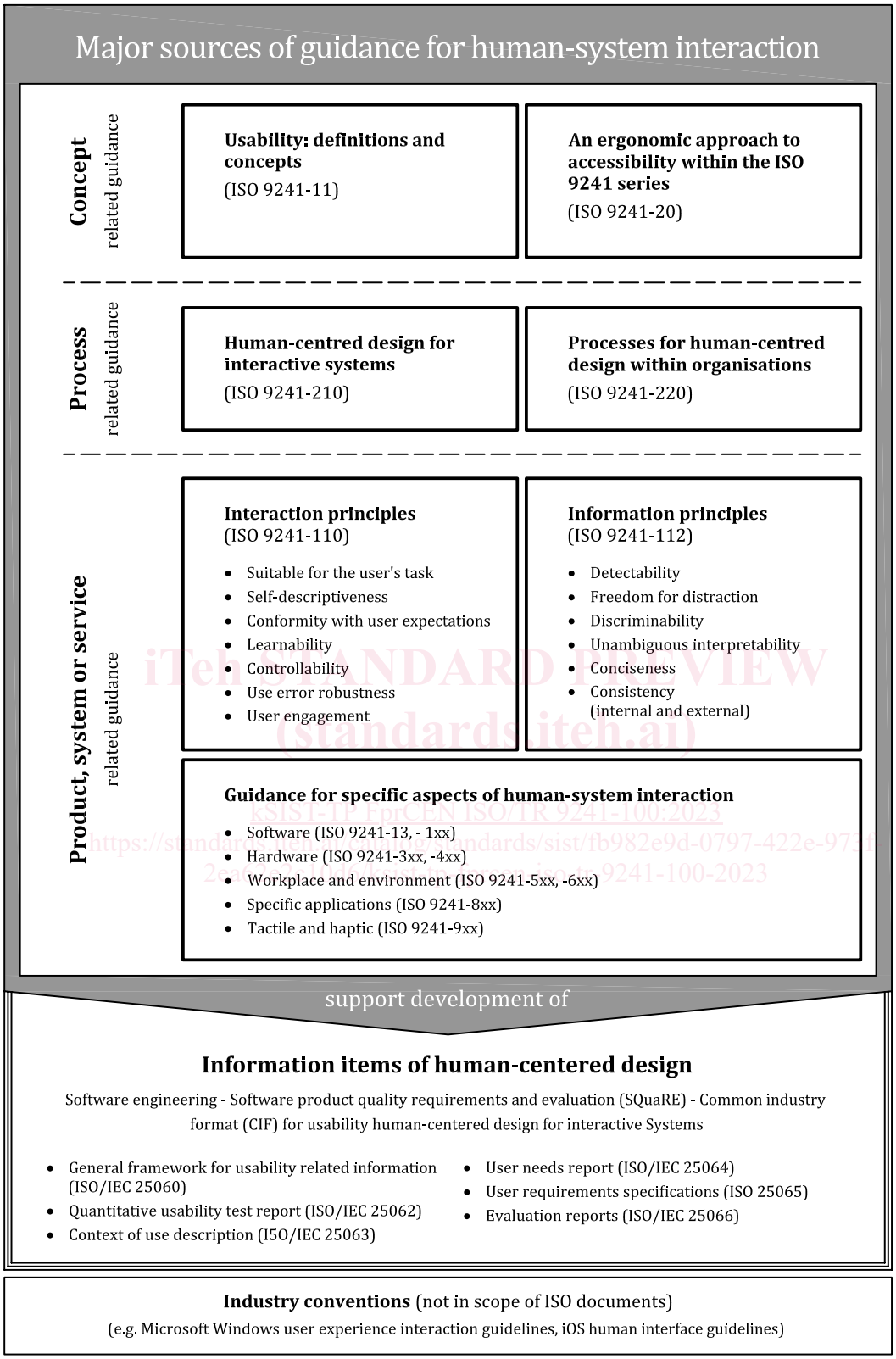

Figure 1 — The relationship between major sources of guidance for human-system interaction

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