



SLOVENSKI STANDARD
oSIST prEN ISO 9241-129:2009
01-junij-2009

9f[cbca]Ua YXgYVc'by[Uj d`jj U `cj Y_!g]ghYa '!%& "XY.'Ga Yfb]W'nU
]bX]j]Xi U]nUW'c'fIGC#B =G' &(%!%& .&\$ \$- Ł

Ergonomics of human-system interaction - Part 129: Guidance on individualization
(ISO/DIS 9241-129:2009)

Ergonomie der Mensch-System-Interaktion - Teil 129: Leitlinien für die Individualisierung
(ISO/DIS 9241-129:2009)

Ergonomie de l'interaction homme-système - Partie 129: Lignes directrices relatives à
l'individualisation (ISO/DIS 9241-129:2009)

Ta slovenski standard je istoveten z: prEN ISO 9241-129

ICS:

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

oSIST prEN ISO 9241-129:2009 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN ISO 9241-129

March 2009

ICS 13.180; 35.080

English Version

Ergonomics of human-system interaction - Part 129: Guidance on individualization (ISO/DIS 9241-129:2009)

Ergonomie de l'interaction homme-système - Partie 129:
Lignes directrices relatives à l'individualisation (ISO/DIS
9241-129:2009)

Ergonomie der Mensch-System-Interaktion - Teil 129:
Leitlinien für die Individualisierung (ISO/DIS 9241-
129:2009)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 122.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
Foreword.....	3

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 9241-129:2011

<https://standards.iteh.ai/catalog/standards/sist/5a383d1d-7a80-4506-b81a-08645c99427b/sist-en-iso-9241-129-2011>

Foreword

This document (prEN ISO 9241-129:2009) 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 document is currently submitted to the parallel Enquiry.

Endorsement notice

The text of ISO/DIS 9241-129:2009 has been approved by CEN as a prEN ISO 9241-129:2009 without any modification.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 9241-129:2011](https://standards.iteh.ai/catalog/standards/sist/5a383d1d-7a80-4506-b81a-08645c99427b/sist-en-iso-9241-129-2011)

<https://standards.iteh.ai/catalog/standards/sist/5a383d1d-7a80-4506-b81a-08645c99427b/sist-en-iso-9241-129-2011>



DRAFT INTERNATIONAL STANDARD ISO/DIS 9241-129

ISO/TC 159/SC 4

Secretariat: BSI

Voting begins on:
2009-03-26

Voting terminates on:
2009-08-26

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Ergonomics of human-system interaction —

Part 129: Guidance on individualization

Ergonomie de l'interaction homme-système —

Partie 129: Lignes directrices relatives à l'individualisation

ICS 13.180; 35.180

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

ISO/DIS 9241-129

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW

(standards.iteh.ai)

[SIST EN ISO 9241-129:2011](https://standards.iteh.ai/catalog/standards/sist/5a383d1d-7a80-4506-b81a-08645c99427b/sist-en-iso-9241-129-2011)

<https://standards.iteh.ai/catalog/standards/sist/5a383d1d-7a80-4506-b81a-08645c99427b/sist-en-iso-9241-129-2011>

Copyright notice

This ISO document is a Draft International Standard and is copyright-protected by ISO. Except as permitted under the applicable laws of the user's country, neither this ISO draft nor any extract from it may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission being secured.

Requests for permission to reproduce should be addressed to either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Reproduction may be subject to royalty payments or a licensing agreement.

Violators may be prosecuted.

Contents

	Page
Foreword	vii
Introduction.....	ix
1 Scope	1
2 Terms and Definitions.....	1
3 Normative references.....	2
4 Introduction to individualization.....	2
4.1 The role of individualization	2
4.2 When to provide the capability for individualization	2
4.3 Limitations on the provision of Individualization	3
4.4 Initiation of individualization	3
5 Conformance to ISO 9241-129	4
6 General guidance on individualization.....	4
6.1 Accessibility.....	4
6.2 Controllability	4
6.2.1 Providing the user with control	4
6.2.2 Control of individualization	4
6.2.3 Control of use of individualization features	4
6.2.4 Reversibility	4
6.2.5 Privacy.....	4
6.2.6 Safety and security.....	5
6.3 Visibility of actions.....	5
6.3.1 Making users aware of individualization capabilities.....	5
6.3.2 Providing additional information about individualization options.....	5
6.3.3 Making settings available	5
6.3.4 Making user profiles available	5
6.3.5 Making individualization evident	5
6.3.6 Explaining changes resulting from individualization	6
6.4 Maintaining consistency.....	6
6.5 Usability of individualization results and features	6
6.5.1 Usability of system-initiated individualization results	6
6.5.2 Usability of individualization features.....	6
7 Stages of individualization	6
7.1 Initiation of individualization.....	6
7.1.1 Human-initiation	6
7.1.2 System-initiation.....	6
7.2 Identification of alternative individualization actions.....	7
7.3 Deciding on individualization actions.....	7
7.3.1 Selecting between alternatives	7
7.3.2 Approving system-initiated decisions	7
7.3.3 Evaluating human-initiated decisions.....	7
7.4 Changing the system and the context	8
8 Configuration, settings and defaults.....	8
8.1 Configuration and reconfiguration	8
8.1.1 Storing and using configuration settings.....	8
8.1.2 Supporting configuration	8
8.1.3 Persons performing configuration	8
8.1.4 Supporting reconfiguration.....	8
8.1.5 Persons performing reconfiguration.....	8

ISO/DIS 9241-129

8.1.6	Accessing configuration settings	8
8.2	Usability of configuration and reconfiguration	8
8.2.1	Combining pre-configuration and reconfiguration	8
8.2.2	Providing guided configuration	8
8.2.3	Minimizing the need of configuration	8
8.2.4	Minimizing the effort to perform configuration	9
8.2.5	Making configuration actions reversible	9
8.2.6	Confirming configurations and reconfigurations	9
8.2.7	Protecting access to basic services	9
8.2.8	Providing fail-safe completions	9
8.2.9	Restarting configurations	9
8.2.10	Saving and restoring configuration settings	9
8.2.11	Transferring configuration settings	9
8.2.12	Avoiding the need to restart the system	9
8.2.13	Providing user control over system restarts	10
8.3	Guided configuration and reconfiguration	10
8.3.1	Preparing for configuration or reconfiguration	10
8.3.2	Minimizing information required to configure or reconfigure	10
8.3.3	Usability of guided configuration	10
8.3.4	Understandability of guided configuration	10
8.3.5	Structure of guided configuration	10
8.3.6	Configuring individual settings	10
8.3.7	Temporary and permanent configuration setting changes	11
8.3.8	Reverting to default configuration settings	11
8.3.9	Reversing unwanted language changes	11
8.3.10	Anticipating access problems for other applications	11
8.3.11	Configuration information and feedback	11
8.3.12	Ongoing monitoring	11
8.4	Default settings	12
8.4.1	Providing defaults	12
8.4.2	Overriding default values	12
8.4.3	Resetting to initial system-provided settings	12
8.4.4	Distinction between settings and defaults	12
8.4.5	User control of default settings	12
9	Supporting individual users	12
9.1	User profiles	12
9.1.1	User profiles to support individualization	12
9.1.2	Saving commonly used information	13
9.1.3	Avoiding inconsistencies in profiles	13
9.1.4	Identifying and resolving inconsistencies in profiles	13
9.1.5	Storing user profiles	13
9.1.6	Using stereotype-based user profiles	13
9.2	User management of profiles	13
9.2.1	Activating user profiles	13
9.2.2	Selecting a default profile	14
9.2.3	Identifying the current user profile	14
9.2.4	Changing between profiles	14
9.2.5	Deactivating user profiles	14
9.2.6	Allowing users to manage user-specified profiles	14
9.2.7	Implementing changes to profiles	14
9.2.8	Organization of multiple profiles	14
9.2.9	Recovering profiles	14
9.3	Automatic profile acquisition	15
9.3.1	Using automatic profile acquisition	15
9.3.2	Providing user control of automatic profile acquisition	15
9.4	Portability of profiles	15
9.4.1	Providing capability to use profiles across compatible applications/systems	15
9.4.2	Synchronizing profiles	15
9.4.3	Providing capability to share profile information	16

9.4.4	Providing security of transmitted profiles	16
9.5	Providing training and help on use individualization	16
10	Individualizing interface components	16
10.1	General guidance on individualizing interface components	16
10.1.1	Using user interface styles/themes/skins	16
10.1.2	Individualizing the user interface elements present	16
10.1.3	Supporting user creation of tools	16
10.1.4	Adjusting presentation attributes of user interface elements	16
10.1.5	Individualizing media choices for input/output	17
10.1.6	Switching of input/output alternatives	17
10.2	Individualizing visual media	17
10.2.1	Adjusting size of displayed elements	17
10.2.2	Adjusting contrast and colours of displayed elements	17
10.2.3	Adjusting the layout of displayed elements	18
10.3	Individualizing auditory media	18
10.3.1	Providing audio volume controls	18
10.3.2	Adjusting other audio characteristics	18
10.3.3	Providing independent controls for different audio channels	18
10.3.4	Muting audio channels	18
10.4	Individualizing tactile media	18
10.4.1	Individualizing tactile parameters	18
10.4.2	Adjusting force feedback	19
10.5	Individualizing temporal aspects of media	19
10.5.1	Adjusting speed of interaction	19
10.5.2	Adjusting time-outs	19
11	Individualizing interaction activities	19
11.1	Supporting user creation and use of stored interaction sequences	19
11.2	Providing user control of security options	19
11.3	User guidance general	20
11.3.1	Context-sensitive user guidance	20
11.3.2	User-sensitive user guidance	20
11.4	On-line help	20
11.4.1	Consistency with the user guidance standard	20
11.4.2	Selecting the characteristics of on-line help	20
11.4.3	By-passing system-initiated help	20
11.4.4	Providing user control of triggering of non-critical notifications	20
11.4.5	Providing user control of timing of non-critical notifications	20
12	Individualizing content	21
12.1	Individualizing content – general	21
12.1.1	Providing methods for individualizing organization and presentation of content	21
12.1.2	Maintaining integrity of content	21
12.1.3	Providing user control of the individualization of content	21
12.1.4	Taking account of the users' tasks and information needs	21
12.1.5	Creating user-defined links	22
12.1.6	Sharing user-defined links	22
12.2	Cultural and linguistic variations	22
12.2.1	Differentiating between system and data language	22
12.2.2	Personalizing vocabularies	22
Annex A	(informative) Overview of the ISO 9241 series	23
Annex B	(informative) Factors to consider when designing individualizations	24
B.1	Individualization basics	24
B.1.1	Individualization involves change	24
B.1.2	Factors to consider in designing individualizations	24
B.1.3	Individualization effects both systems and users	24
B.1.4	Common characteristics of individualizations	25
B.2	Context	25
B.2.1	Limits to the context of individualization	25

ISO/DIS 9241-129

B.2.2	Changing contexts.....	25
B.2.3	Factors of context of use relevant to individualization	25
B.2.4	Complexity of contexts	27
B.2.5	Stored information about context	27
B.3	Human-initiated individualization	27
B.3.1	Characteristics of human-initiated individualization	27
B.3.2	Operation of human-initiated individualization	28
B.3.3	Concerns with human-initiated individualization.....	28
B.3.4	Managing the use of human-initiated individualization (need to move elsewhere)	28
B.4	System-initiated individualization.....	28
B.4.1	Characteristics of system-initiated individualization.....	28
B.4.2	Operation of system-initiated individualization.....	29
B.4.3	Concerns with system-initiated individualization	29
B.4.4	Strategies for system-initiated individualization.....	29
B.4.5	Levels of system-initiated individualization	29
B.5	Shared control of individualization.....	30
B.5.1	Range of individualization possibilities	30
B.5.2	Evaluating individualization designs.....	30
B.6	Stages of individualization	30
Annex C	(informative) Checklist for ISO 9241-129.....	31
C.1	General.....	31
C.2	How to use the table.....	31
Bibliography	56
Tables		
Table C.1	— Example checklist.....	33

iTeh STANDARD PREVIEW

(standards.iteh.ai)

SIST EN ISO 9241-129:2011

<https://standards.iteh.ai/catalog/standards/sist/5a383d1d-7a80-4506-b81a-08649c89427b/sist-en-iso-9241-129-2011>

DRAFT

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 9241-129 was prepared by Technical Committee ISO/TC TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

ISO 9241 consists of the following parts, under the general title *Ergonomic requirements for office work with visual display terminals (VDTs)*:

- Part 1: General introduction
- Part 2: Guidance on task requirements
- Part 3: Visual display requirements
- Part 4: Keyboard requirements
- Part 5: Workstation layout and postural requirements
- Part 6: Guidance on the work environment
- Part 9: Requirements for non-keyboard input devices
- Part 11: Guidance on usability
- Part 12: Presentation of information
- Part 13: User guidance
- Part 14: Menu dialogues
- Part 15: Command dialogues
- Part 16: Direct- manipulation dialogues
- Part 17: Form filling dialogues

ISO 9241 also consists of the following parts, under the general title *Ergonomics of human-system interaction*:

ISO/DIS 9241-129

- *Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services*
- *Part 110: Dialogue principles*
- *Part 129: Guidance on individualization*
- *Part 151: Software ergonomics for Guidance on World Wide Web user interfaces*
- *Part 171: Guidance on software accessibility*
- *Part 300: Introduction to electronic visual display requirements*
- *Part 302: Terminology for electronic visual displays*
- *Part 303: Requirements for electronic visual displays*
- *Part 304: User performance test methods for electronic visual displays*
- *Part 305: Optical laboratory test methods for electronic visual displays*
- *Part 306: Field assessment methods for electronic visual displays*
- *Part 307: Analysis and compliance test methods for electronic visual displays*
- *Part 308: Surface-conduction electron-emitter displays (SED) [Technical Report]*
- *Part 309: Organic light-emitting diode (OLED) displays [Technical Report]*
- *Part 400: Principles and requirements for physical input devices*
- *Part 410: Design criteria for physical input devices*
- *Part 920: Guidance on tactile and haptic interactions*

For the other parts under preparation, see Annex A.

Introduction

Individualization is used in a wide variety of ways to enhance applications both for users and for branding of the applications themselves. The wide variety of different implementations include many instances where individualization creates considerable challenges for the users that it should be helping. This becomes an even greater challenge when users have to deal with different individualization approaches in each of the several applications that they use.

The purpose of this part of ISO 9241 is to provide guidance on the application of software individualization in order to achieve as high a level of usability as possible. Thus it addresses individualization as the modification of interaction and presentation of information to suit individual capabilities and needs of users. Individualization enables support of a wide range of users, tasks, and contexts of use. It is particularly useful in increasing accessibility (which is discussed in ISO 9241-171).

In ISO 9241-110 individualization is identified as one of the seven dialogue principles that are important for the design and evaluation of interactive systems. General guidance on individualization is provided in ISO 9241-110. This part of ISO 9241 provides considerably more detail on the ergonomic use of individualization.

This part of ISO 9241 addresses both user-initiated and system-initiated individualization. It encompasses the concepts of configuration, customization, adaptivity, adaptation, profiling, and internationalization.

This part of ISO 9241 serves the following types of users:

- designers of user-interface development tools and style guides to be used by interface designers;
- 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;
- system administrators responsible for implementing solutions to meet end-user needs;
- buyers, who will reference this part of ISO 9241 during product procurement;
- evaluators, who are responsible for ensuring that products are in accordance with this part of ISO 9241.

The ultimate beneficiary of this part of ISO 9241 will be the end-user of the software. Although it is unlikely that end-users will read this part of ISO 9241, its application by designers, developers, buyers and evaluators ought to provide user interfaces that are more accessible. This part of ISO 9241 concerns the development of software for user interfaces. However, those involved in designing the hardware aspects of user interfaces may also find it useful when considering the interactions between software and hardware aspects.