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Ergonomics of human-system interaction - Part 210: Human-centred design for interactive systems (ISO 9241-210:2019)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

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**Ergonomics of human-system interaction - Part 210:  
Human-centred design for interactive systems (ISO 9241-  
210:2019)**

Ergonomie de l'interaction homme-système - Partie  
210: Conception centrée sur l'opérateur humain pour  
les systèmes interactifs (ISO 9241-210:2019)

Ergonomie der Mensch-System-Interaktion - Teil 210:  
Prozess zur Gestaltung gebrauchstauglicher  
interaktiver Systeme (ISO 9241-210:2019)

This European Standard was approved by CEN on 1 July 2019.

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**EN ISO 9241-210:2019 (E)**

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## **European foreword**

This document (EN ISO 9241-210:2019) 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of an identical text or by endorsement, at the latest by February 2020, and conflicting national standards shall be withdrawn at the latest by February 2020.

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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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, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 9241-210:2019 has been approved by CEN as EN ISO 9241-210:2019 without any modification.

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**Ergonomics of human-system  
interaction —**

**Part 210:  
Human-centred design for  
interactive systems**

*Ergonomie de l'interaction homme-système —*

*Partie 210: Conception centrée sur l'opérateur humain pour les  
systèmes interactifs*



Reference number  
ISO 9241-210:2019(E)

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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 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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](http://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*.

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](http://www.iso.org/members.html).

This second edition cancels and replaces the first edition (ISO 9241-210:2010), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- [Figure 1](#) has been updated for clarity;
- additional information about accessibility has been added in [7.1](#);
- editorial changes have been made to align with the ISO/IEC Directives, Part 2.

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

**ISO 9241-210:2019(E)****Introduction**

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.

There is a substantial body of human factors/ergonomics and usability knowledge about how human-centred design can be organized and used effectively. This document aims to make this information available to help those responsible for managing hardware and software design and re-design processes to identify and plan effective and timely human-centred design activities.

The human-centred approach to design described in this document complements existing systems design approaches. It can be incorporated in approaches as diverse as object-oriented, waterfall and rapid application development.

The principles of human-centred design and the related activities have not changed substantially since ISO 13407 was produced and have been validated by ten years of application. This document reflects this by making requirements as well as recommendations.

# Ergonomics of human-system interaction —

## Part 210:

# Human-centred design for interactive systems

## 1 Scope

This document provides requirements and recommendations for human-centred design principles and activities throughout the life cycle of computer-based interactive systems. It is intended to be used by those managing design processes, and is concerned with ways in which both hardware and software components of interactive systems can enhance human-system interaction.

**NOTE** Computer-based interactive systems vary in scale and complexity. Examples include off-the-shelf (shrink-wrap) software products, custom office systems, process control systems, automated banking systems, Web sites and applications, and consumer products such as vending machines, mobile phones and digital television. Throughout this document, such systems are generally referred to as products, systems or services although, for simplicity, sometimes only one term is used.

This document provides an overview of human-centred design activities. It does not provide detailed coverage of the methods and techniques required for human-centred design, nor does it address health or safety aspects in detail. Although it addresses the planning and management of human-centred design, it does not address all aspects of project management.

The information in this document is intended for use by those responsible for planning and managing projects that design and develop interactive systems. It therefore addresses technical human factors and ergonomics issues only to the extent necessary to allow such individuals to understand their relevance and importance in the design process as a whole. It also provides a framework for human factors and usability professionals involved in human-centred design. Detailed human factors/ergonomics, usability and accessibility issues are dealt with more fully in a number of standards including other parts of ISO 9241 (see [Annex A](#)) and ISO 6385, which sets out the broad principles of ergonomics.

The requirements and recommendations in this document can benefit all parties involved in human-centred design and development. [Annex B](#) provides a checklist that can be used to support claims of conformance with this document.

## 2 Normative references

There are no normative references in this document.

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