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Ergonomics of human-system interaction - Part 971: Accessibility of tactile/haptic interactive systems (ISO 9241-971:2020)

EESTI STANDARDI EESSÕNA

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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ICS 13.180, 35.180

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NORME EUROPÉENNE

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Ergonomics of human-system interaction - Part 971: Accessibility of tactile/haptic interactive systems (ISO 9241-971:2020)

Ergonomie de l'interaction homme-système - Partie 971: Accessibilité des systèmes interactifs tactiles/haptiques (ISO 9241-971:2020)

Ergonomie der Mensch-System-Interaktion - Teil 971: Leitlinien für physische (taktile/haptische) Barrierefreiheit (ISO 9241-971:2020)

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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).

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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*.

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Introduction

The tactile/haptic modality is the most widely used modality for inputs to interactive systems and is used as an important output modality for many contexts of use. Often, haptic devices and applications are designed for the "typical" or "average" user. It is important that interactive systems and their designs follow general ergonomic practice as well as meet the widest range of user needs, characteristics, and capabilities for tactile/haptic interactions.

Examples of the use of tactile/haptic inputs range from the use of keyboards, pointing devices (such as a mouse or track pad) and direct touch (gestures) to the use of non-touch gestures, eye-tracking, single-switch inputs, and whole-body movements. Examples of tactile/haptic outputs include the use of vibration and tactile pattern (e.g. braille) outputs. Tactile/haptic inputs/outputs can be combined (e.g. force feedback systems).

Achieving accessibility involves good ergonomic practice. This document works with other ISO and ISO/IEC standards relating to tactile/haptic interactions (such as ISO 9241-910, ISO 9241-920 and ISO 9241-960) and to accessibility (such as ISO 9241-171 and ISO/IEC 29136) to collect tactile/haptic-related accessibility requirements and recommendations and to provide more specific guidance relating to the accessibility of tactile/haptic interactions. It provides a means of addressing tactile/haptic-related user needs from ISO/IEC 29138-1. As such, it is intended to provide a comprehensive source of guidance on tactile/haptic accessibility.

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Ergonomics of human-system interaction —

Part 971:
Accessibility of tactile/haptic interactive systems

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1 Scope

This document provides both general and specific ergonomic requirements and recommendations for accessible tactile/haptic interactive systems, including accessible tactile/haptic interactions.

This document provides guidance for increasing the accessibility of interactive systems making use of tactile/haptic input/output modalities such as gestures, vibration, and force feedback. The guidance provided also supports alternative input modalities and the use of different output representations.

This document provides guidance for tactile/haptic interactions that is applicable to a variety of interactive systems, including assistive technologies (AT).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9241-171, *Ergonomics of human-system interaction — Part 171: Guidance on software accessibility*

ISO/IEC 29136, *Information technology — User interfaces — Accessibility of personal computer hardware*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
accessibility
extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of user needs, characteristics and capabilities to achieve identified goals in identified contexts of use

Note 1 to entry: Context of use includes direct use or use supported by assistive technologies.

[SOURCE: ISO 9241-112:2017, 3.15]

3.2
assistive technology
AT
hardware or software added to, or incorporated within, a system that increases accessibility for an individual

EXAMPLE Braille display, screen reader, screen magnification software, eye tracking devices.

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