

# **SLOVENSKI STANDARD** SIST EN 17161:2019

01-maj-2019

### Oblikovanje za vse - Dostopnost, ki sledi pristopu "oblikovanje za vse" v proizvodih, dobrinah in storitvah - Razširitev kroga uporabnikov

Design for All - Accessibility following a Design for All approach in products, goods and services - Extending the range of users

Barrierefreiheit von Produkten, Waren und Dienstleistungen nach einem "Design für alle"-Ansatz - Erweiterung des Nutzerkreises RD PREVIEW

Conception pour tous - Accessibilité selon une approche Conception pour tous des produits, des biens et des services - Élargissement de l'éventail d'utilisateurs

https://standards.iteh.ai/catalog/standards/sist/750e313b-d9d1-4431-

Ta slovenski standard je istoveten z: EN 17161-2019

### ICS:

01.120	Standardizacija. Splošna pravila	Standardization. General rules
03.080.01	Storitve na splošno	Services in general
03.120.01	Kakovost na splošno	Quality in general

SIST EN 17161:2019

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#### SIST EN 17161:2019

# EUROPEAN STANDARD NORME EUROPÉENNE **EUROPÄISCHE NORM**

# EN 17161

March 2019

ICS 01.120; 11.180.01; 13.180

**English version** 

# Design for All - Accessibility following a Design for All approach in products, goods and services - Extending the range of users

Conception pour tous - Accessibilité selon une approche Conception pour tous des produits, des biens et des services - Élargissement de l'éventail d'utilisateurs

Barrierefreiheit von Produkten, Waren und Dienstleistungen nach einem "Design für alle"-Ansatz -Erweiterung des Nutzerkreises

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#### SIST EN 17161:2019

### EN 17161:2019 (E)

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### **European foreword**

This document (EN 17161:2019) has been prepared by Technical Committee CEN/CLC/JTC 12 "Design for All", the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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 has been prepared under standardization request M/473, given to CEN and CENELEC by the European Commission, to include accessibility following a 'Design for All' approach in relevant standardization activities for products, goods and services.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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#### EN 17161:2019 (E)

### Introduction

A Design for All approach takes account of human diversity to extend the range of users. This approach inspires innovation in organisations so that management value an inclusive and non-stigmatizing mindset and supports a culture, which prioritises people. The Design for All approach and innovation ensure optimal practices and activities, so that operations have the best tools and resources in place to enable them to achieve accessible products, goods and services, i.e. what this document refers to as 'accessibility outcomes'.

Accessibility seeks to prevent and remove barriers, ensuring that persons with disabilities have access to products, goods and services on an equal basis with others.

Accessibility as an outcome from integrating a Design for All approach throughout the whole organization can maximize the range of potential users of products, goods and services. Extending the range of users can increase markets. It can also increase the proportion of the population, including persons with disabilities, able to participate fully and independently in society. The accessibility of products, goods and services realized by Design for All can benefit all users. Every organization can benefit from this approach.

NOTE 1 Terms such as "Design for All", "Universal Design", "accessible design", "barrier-free design", "inclusive design" and "transgenerational design" are often used interchangeably with the same meaning.

NOTE 2 The approach defined in this document covers all products, goods and services. To keep the text easy to read, the rest of this document will sometimes use the shorter phrase "products and services". Wherever "products and services" is used, it is equivalent to, and should be interpreted as, "products, goods and services".

Each individual user has their own profile of needs, characteristics, capabilities, and preferences, and this fact needs to be recognized when developing mainstream products and services. For most people their profile of capabilities changes substantially throughout the course of their life, as they advance from childhood to adulthood and then into old age. In addition, changing circumstances, accidents, disease and other life-changing events may lead to a significant change in needs, characteristics, sets of capabilities and preferences. Furthermore, the context of use of products, goods and services can influence users' needs, characteristics, capabilities, and preferences, and hence the degree of accessibility and usability. A Design for All approach acknowledges all these variations and circumstances and aims at meeting their requirements to the greatest extent possible.

This document describes the adoption, throughout the whole organization, of a process-driven Design for All approach in relation to all aspects of design, development, and manufacturing. Involvement of users, including persons with disabilities, all the way through is a central part of this approach. Accessible products and services are amongst the key outcomes.

The requirements and recommendations in this document can complement existing organisational management and operational processes in order to achieve accessibility outcomes. The product design and development process is usually part of a management system, such as EN ISO 9001, into which accessibility following a Design for All approach can be integrated.

This document defines the requirements in an order that is consistent with organisational planning and process management, i.e.:

- Understanding the context of the organization, the needs and expectations of interested parties, including people with disabilities, the integration of a Design for All approach within established systems and processes (Clause 4);
- Leadership, policy and responsibilities in support of a Design for All approach and the achievement of accessibility outcomes (Clause 5);
- The planning of Design for All objectives and how to achieve them (Clause 6);

- Organizing the support and other resources, including people and information needed to realize a Design for All approach and the delivery of accessibility outcomes (Clause 7);
- Operational processes related to meeting users' requirements, including persons with disabilities, and developing products and services across the entire end-to-end chain, in accordance with the Design for All approach (Clause 8);
- Processes to monitor, measure, analyse and evaluate the effectiveness and correctness of the Design for All approach and its accessibility outcomes (Clause 9);
- The continuous improvement of the Design for All approach (Clause 10).

Management of the processes and the approach as a whole can be achieved using "Plan-Do-Check-Act" (PDCA) or similar methodology. The normative clauses of this document broadly reflect the widely-used PDCA model. The PDCA cycle is a way to achieve continuous improvement in business, development and manufacturing processes. In the same way that a circle has no start or end, the PDCA method is also constant and unbroken.

Figure 1 illustrates how the processes and requirements set out in Clauses 4 to 10 are related and interconnected and how continuous improvement is achieved through repeated cycles of design and implementation. The figure makes it clear that committed leadership as well as the provision of adequate support and resources are central to achieving the right outcomes.

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Figure 1 — Integrating a Design for All approach into the continuous processes for design, development and provision of products, goods and services

NOTE 3 Figure 1 shows a diagram of the interrelations between the processes, procedures and activities in this standard to achieve Accessibility outcomes based on the application of a Design for All approach. It consists of concentric cicles showing the various layers of these interrelating elements.

On top of the diagram there is the Design for All approach. From there, the viewer's eye is drawn to "Leadership" (Clause 5) and "Support" (Clause 7) in the centre. "Planning" (Clause 6), "Operation" (Clause 8) and "Performance evaluation" (Clause 9) are connected to and arranged in a circle around this centre. This cluster of elements is framed by an outer circle labelled "Continuous improvement" (Clause 10) and embedded in a layer labelled "Context of the organisation" (Clause 4). From the centre, where it has been absorbed, the Design for All approach is spread across all illustrated components to result in Accessibility outcomes at the bottom.

The Design for All approach described in this document does not imply uniformity of the design of products, goods, and services.

### 1 Scope

This document specifies requirements that enable an organization to design, develop and provide products, goods and services so that they can be accessed, understood and used by the widest range of users, including persons with disabilities.

This document specifies requirements and recommendations that enables an organization to extend their range of users by identifying diverse needs, characteristics, capabilities, and preferences, by directly or indirectly involving users, and by using knowledge about accessibility in its procedures and processes.

This document specifies requirements that can enable an organization to meet applicable statutory and regulatory requirements as related to the accessibility of its products, goods and services.

The requirements set out in this document are generic and are intended to be applicable to all relevant parts of all organisations, regardless of type, size or products, goods and services provided.

This document promotes accessibility following a Design for All approach in mainstream products goods and services and interoperability of these with assistive technologies.

This document does not provide technical design specifications and does not imply uniformity in design or functionality of products, goods and services.

### 2 Normative references

There are no normative references in this document.

#### **iTeh STANDARD PREVIEW** 3 Terms and definitions

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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: EN ISO 9241-112:2017, 3.15 [5]]

#### 3.2

#### assistive technology

equipment, product system, hardware, software or service that is used to increase, maintain or improve capabilities of individuals

Note 1 to entry: Assistive technology is an umbrella term that is broader than assistive products.

Note 2 to entry: Assistive technology can include assistive services, and professional services needed for assessment, recommendation and provision.

[SOURCE: CEN-CENELEC Guide 6:2014, 2.16 [13]]

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#### 3.3

#### context of use

physical and social environments in which a system is used, including users, tasks, equipment and materials

[SOURCE: CEN-CENELEC Guide 6:2014, 2.7 [13]]

#### 3.4

#### documented information

information required to be controlled and maintained by an organisation and the medium on which it is contained

Note 1 to entry: documented information can be in any format and media and from any source.

Note 2 to entry: documented information can refer to:

- the management system, including related processes;
- information created in order for the organization to operate (documentation);
- evidence of results achieved.

Note 3 to entry: this constitutes one of the common terms and core definitions for ISO management system standards given in Annex SL of the Consolidated ISO Supplement to the ISO/IEC Directives, Part 1.

[SOURCE: ISO 9000:2015, 3.8.6 [1]]

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#### end-to-end chain <u>SIST EN 17161:2019</u> sequence of information, processes and activities that enable a user to discover, acquire, use, maintain and dispose of a product, good or service, including post-safe support and warranty fulfilment

EXAMPLE 1 In order to make a train journey, a user obtains information about train times and facilities (presale), purchases a ticket, accesses departure and destination stations and facilities, boards, uses and leaves the train and may require support or complaint (post-sale) services.

EXAMPLE 2 A user buying a new television, researches the market, finds a supplier, buys the television, arranges delivery, installs, connects and configures it, uses it, and gets it repaired, updated or disposed of, as, necessary.

### 3.6

3.5

### interested party

#### stakeholder

person or organisation that can affect, be affected by, or perceive itself to be affected by a decision or activity

EXAMPLE Users, consumers, customers, owners, people in an organization, providers, bankers, regulators, unions, non-governmental organisations, partners or society that can include competitors or opposing pressure groups.

[SOURCE: ISO 9000:2015, 3.2.3, Modified – added examples of 'users' and 'consumers', Note 2 to entry from source not included [1]]

### 3.7

#### organisation

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, association, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

[SOURCE: ISO 9000:2015, 3.2.1 [1]]

#### 3.8

#### requirement

need or expectation that is stated, generally implied or obligatory

[SOURCE: ISO 9000:2015, 3.6.4 (option 2) [1]]

#### 3.9

#### strategy

planned activities to achieve an objective

[SOURCE: ISO 9000:2015, 3.5.12 [1]]

#### 3.10 Universal Design

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design of products, environments programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design

SIST EN 17161:2019 Note 1 to entry: Universal/Design shall not exclude assistive devices for particular groups or persons with disabilities where this is needed. 81d1-f4aee5c25ded/sist-en-17161-2019

Note 2 to entry: Terms such as Universal Design, accessible design, Design for All, barrier-free design, inclusive design and transgenerational design are often used interchangeably with the same meaning.

[SOURCE: United Nations Convention on the Rights of Persons with Disabilities, Art. 2 [17], modified — Note 2 to entry has been added]

[SOURCE: CEN-CENELEC Guide 6:2014, 2.18 [13]]

#### 3.11

#### usability

extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

[SOURCE: EN ISO 9241-11:2018, 3.1.1: modified – notes deleted [3]]

#### 3.12

#### user

person who interacts with a system, product or service

Note 1 to entry: The person who uses a service provided by a system, such as a customer in a shop or passenger on a train, can be considered a user.

[SOURCE: ISO 27500:2016, 2.12 [12]]

### 4 Context of the organization – Design for All approach

### 4.1 Accessibility following a Design for All approach

The organization shall apply a Design for All approach throughout the organization in order to achieve accessibility outcomes by addressing the requirements specified in this document.

The organization shall seek to extend the range of users of its products and services, taking account of human diversity including older persons and persons with disabilities.

The organization shall maintain documented information related to its Design for All approach as listed in 7.5. This can be integrated within existing documented information, including that maintained as part of established management systems (see also 4.5).

A Design for All approach focuses on accessibility and usability from the earliest possible time and throughout all stages in the life of products and services including interoperability across the end-to-end chain of use.

NOTE 1 Applying a Design for All approach does not mean "one size fits all". Each design process and its outcome are unique.

Focusing on the combination of accessibility and usability involves both access and ease of use based on considering a diverse range of needs, characteristics, capabilities, and preferences. It can affect task effectiveness and efficiency as well as user satisfaction with the product or service. Taking account of greater diversity often improves accessibility and usability. It results in products and services that can be accessed, understood and used by the widest range of people. Access, understand and use is about how people generally interact with a product or service: first they access it (approach and perceive); secondly they understand it (comprehend and decide) and thirdly they use it (act or react). In order to allow for equivalency in use, multiple solutions or personalization may be needed.

Accessibility following a Design for All approach is related to other concepts. An explanation of the relation between these is provided in Annex A. related 5225ded/sist-orbit. An explanation of the accessibility following a provided in Annex A.

NOTE 2 Human rights law and standards for sustainable development use 'Universal Design' as a corresponding term for 'Design for All approach', 'accessibility' and 'usability'.

#### 4.2 Understanding the organization and its context

The organization shall ensure that all relevant organisational policies, processes and activities follow a Design for All approach.

The organization shall determine at the earliest opportunity how to make a product or service accessible and usable by the widest range of users to the greatest extent possible.

The organization shall determine internal and external factors that are relevant to its purpose and to its strategic direction and that affect its Design for All approach, such as:

- a) user needs, characteristics, capabilities and preferences;
- b) feedback on existing products and services, in particular on their accessibility and usability aspects and on the range of users they reach;
- c) reputation of the organization;
- d) legal and regulatory obligations;
- e) competitors' activities;
- f) functionally provided by assistive technologies;

- compatibility and interoperability with assistive technologies; g)
- h) technological factors and changes/advancements in technical capabilities;
- capacities of the delivery/supply chain; i)
- end-to-end chain; i)
- k) economic factors;
- standards and guidance addressing accessibility, as listed in Annex E. 1)

The organization shall review the information about these internal and external factors.

Understanding the external context can be facilitated by considering the impact of the whole supply NOTE 1 chain and end-to-end chain from a user perspective, as well as issues arising from regulatory, technological. competitive, social and economic environments, whether international, national, regional or local.

NOTE 2 Understanding the internal context can be facilitated by identifying the drivers for integrating a Design for All approach related to existing culture and values.

The organization's drivers for adopting a Design for All approach can differ depending on the organization and the context in which it operates.

The Design for All approach objectives and the intended accessibility outcomes should be aligned to those drivers, such as competitive advantage, public policies, innovation, sustainability and human rights.

Potential drivers for integrating this approach in order to achieve accessibility and usability can include: NOTE 3

- stimulation of innovation and creativity; 17161:2019 a)
- b)
- increased markets and channels for distribution for products and services; c)
- d) meeting or surpassing user expectations;
- e) enhancement of organization image or brand;
- f) improved customer loyalty;
- attraction of financing and investment, particularly from socially conscious investors; g)
- enhancement of employee motivation; h)
- i) increased knowledge about a product or service;
- compliance to statutory and regulatory requirements; j)
- k) improved internal and external communications;
- 1) enhanced sense of organisational pride and social responsibility;
- m) opportunities around further channels of distribution.