

Accessibility requirements for ICT products and services

(EN 301 549 V3.1.1 (2019-11))

Medieninhaber und Hersteller:

OVE Österreichischer Verband für Elektrotechnik
Austrian Standards Institute

Copyright © OVE/Austrian Standards Institute – 2020.

Alle Rechte vorbehalten! Nachdruck oder Vervielfältigung, Aufnahme auf oder in sonstige Medien oder Datenträger nur mit Zustimmung gestattet!

Verkauf von in- und ausländischen Normen und technischen Regelwerken durch

Austrian Standards Institute
Heinestraße 38, 1020 Wien
E-Mail: sales@austrian-standards.at
Internet: www.austrian-standards.at
Webshop: www.austrian-standards.at/webshop
Tel.: +43 1 213 00-300
Fax: +43 1 213 00-818

Alle Regelwerke für die Elektrotechnik auch erhältlich bei
OVE Österreichischer Verband für Elektrotechnik
Eschenbachgasse 9, 1010 Wien
E-Mail: verkauf@ove.at
Internet: www.ove.at
Webshop: www.ove.at/webshop
Tel.: +43 1 587 63 73

ICS 33.030

Ident (IDT) mit EN 301 549 V3.1.1 (2019-11)

Ersatz für siehe nationales Vorwort

zuständig OVE/Komitee
TK IT-EG
Informationstechnologie, Telekommunikation und Elektronik

Nationales Vorwort

Diese Europäische Norm EN 301 549 V3.1.1:2019 hat sowohl den Status einer nationalen elektrotechnischen Norm gemäß ETG 1992 als auch den einer nationalen Norm gemäß NormG 2016. Bei ihrer Anwendung ist dieses Nationale Vorwort zu berücksichtigen.

Für den Fall einer undatierten normativen Verweisung (Verweisung auf einen Standard ohne Angabe des Ausgabedatums und ohne Hinweis auf eine Abschnittsnummer, eine Tabelle, ein Bild usw.) bezieht sich die Verweisung auf die jeweils neueste Ausgabe dieses Standards.

Für den Fall einer datierten normativen Verweisung bezieht sich die Verweisung immer auf die in Bezug genommene Ausgabe des Standards.

Der Rechtsstatus dieser nationalen (elektrotechnischen) Norm ist den jeweils geltenden Verordnungen zum Elektrotechnikgesetz zu entnehmen.

Bei mittels Verordnungen zum Elektrotechnikgesetz verbindlich erklärten nationalen (elektrotechnischen) Normen ist zu beachten:

- Hinweise auf Veröffentlichungen beziehen sich, sofern nicht anders angegeben, auf den Stand zum Zeitpunkt der Herausgabe dieser nationalen (elektrotechnischen) Norm. Zum Zeitpunkt der Anwendung dieser nationalen (elektrotechnischen) Norm ist der durch die Verordnungen zum Elektrotechnikgesetz oder gegebenenfalls auf andere Weise festgelegte aktuelle Stand zu berücksichtigen.
- Informative Anhänge und Fußnoten sowie normative Verweise und Hinweise auf Fundstellen in anderen, nicht verbindlichen Texten werden von der Verbindlicherklärung nicht erfasst.

Europäische Normen (EN) von ETSI werden gemäß den „Gemeinsamen Regeln“ von CEN/CENELEC durch Veröffentlichung eines identen Titels und Textes in das Gesamtwerk der nationalen (elektrotechnischen) Normen übernommen, wobei der Nummerierung der Zusatz ÖVE/ÖNORM vorangestellt wird.

Der von ETSI übermittelte Normentext wird in englischer Sprache veröffentlicht, da davon ausgegangen werden kann, dass die Anwender der Norm über ausreichende englische Sprachkenntnisse verfügen.

Erläuterung zum Ersatzvermerk

Gemäß Vorwort zur EN wird das späteste Datum, zu dem nationale (elektrotechnische) Normen, die der vorliegenden Norm entgegenstehen, zurückgezogen werden müssen, mit dow (date of withdrawal) festgelegt. Bis zum Zurückziehungsdatum (dow) 2021-06-30 ist somit die Anwendung folgender Norm(en) noch erlaubt:

ÖVE/ÖNORM EN 301 549 V2.1.2:2018-11-01.

EN 301 549 V3.1.1 (2019-11)



Accessibility requirements for ICT products and services

Reference

REN/HF-00301549v311

Keywords

accessibility, HF, ICT, procurement

CENRue de la science, 23
B-1040 Brussels
- BELGIUMTel: + 32 2 550 08 11
Fax: + 32 2 550 08 19**CENELEC**Rue de la science, 23
B-1040 Brussels
- BELGIUMTel.: +32 2 519 68 71
Fax: +32 2 519 69 19**ETSI**650 Route des Lucioles
F-06921 Sophia Antipolis Cedex -
FRANCETel.: +33 4 92 94 42 00
Fax: +33 4 93 65 47 16Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:

[ETSI Search & Browse Standards](#)

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

[ETSI deliverable status](#)

If you find errors in the present document, please send your comment to one of the following services:

[ETSI Committee Support Staff](#)

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2019.

© Comité Européen de Normalisation 2019.

© Comité Européen de Normalisation Electrotechnique 2019.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are trademarks of ETSI registered for the benefit of its Members and
of the 3GPP Organizational Partners.

oneM2M logo is protected for the benefit of its Members.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Contents

Contents.....	3
Intellectual Property Rights.....	8
Foreword.....	8
Modal verbs terminology	9
Introduction	9
1 Scope	11
2 References	11
2.1 Normative references	11
2.2 Informative references	11
3 Definition of terms, symbols and abbreviations.....	14
3.1 Terms	14
3.2 Symbols	18
3.3 Abbreviations.....	18
4 Functional performance.....	19
4.1 Meeting functional performance statements	19
4.2 Functional performance statements	19
4.2.1 Usage without vision.....	19
4.2.2 Usage with limited vision.....	19
4.2.3 Usage without perception of colour	20
4.2.4 Usage without hearing.....	20
4.2.5 Usage with limited hearing	20
4.2.6 Usage with no or limited vocal capability.....	20
4.2.7 Usage with limited manipulation or strength	20
4.2.8 Usage with limited reach.....	21
4.2.9 Minimize photosensitive seizure triggers.....	21
4.2.10 Usage with limited cognition, language or learning.....	21
4.2.11 Privacy	21
5 Generic requirements	22
5.1 Closed functionality.....	22
5.1.1 Introduction (informative).....	22
5.1.2 General	22
5.1.3 Non-visual access.....	22
5.1.4 Functionality closed to text enlargement.....	25
5.1.5 Visual output for auditory information.....	26
5.1.6 Operation without keyboard interface	26
5.1.7 Access without speech	27
5.2 Activation of accessibility features	27
5.3 Biometrics.....	27
5.4 Preservation of accessibility information during conversion.....	27
5.5 Operable parts.....	27
5.5.1 Means of operation.....	27
5.5.2 Operable parts discernibility	27
5.6 Locking or toggle controls.....	28
5.6.1 Tactile or auditory status	28
5.6.2 Visual status	28
5.7 Key repeat.....	28
5.8 Double-strike key acceptance	28
5.9 Simultaneous user actions.....	28
6 ICT with two-way voice communication.....	29
6.1 Audio bandwidth for speech	29

6.2	Real-Time Text (RTT) functionality	29
6.2.1	RTT provision	29
6.2.2	Display of RTT	30
6.2.3	Interoperability	30
6.2.4	RTT responsiveness	31
6.3	Caller ID	31
6.4	Alternatives to voice-based services	31
6.5	Video communication	32
6.5.1	General (informative)	32
6.5.2	Resolution	32
6.5.3	Frame rate	32
6.5.4	Synchronization between audio and video	32
6.5.5	Visual indicator of audio with video	32
6.5.6	Speaker identification with video (sign language) communication	33
6.6	Alternatives to video-based services	33
7	ICT with video capabilities	34
7.1	Caption processing technology	34
7.1.1	Captioning playback	34
7.1.2	Captioning synchronization	34
7.1.3	Preservation of captioning	34
7.1.4	Captions characteristics	34
7.1.5	Spoken subtitles	34
7.2	Audio description technology	35
7.2.1	Audio description playback	35
7.2.2	Audio description synchronization	35
7.2.3	Preservation of audio description	35
7.3	User controls for captions and audio description	35
8	Hardware	36
8.1	General	36
8.1.1	Generic requirements	36
8.1.2	Standard connections	36
8.1.3	Colour	36
8.2	Hardware products with speech output	36
8.2.1	Speech volume gain	36
8.2.2	Magnetic coupling	36
8.3	Stationary ICT	37
8.3.0	General	37
8.3.1	Forward or side reach	37
8.3.2	Forward reach	37
8.3.3	Side reach	40
8.3.4	Clear floor or ground space	41
8.3.5	Visibility	42
8.3.6	Installation instructions	42
8.4	Mechanically operable parts	43
8.4.1	Numeric keys	43
8.4.2	Operation of mechanical parts	43
8.4.3	Keys, tickets and fare cards	43
8.5	Tactile indication of speech mode	43
9	Web	44
9.0	General (informative)	44
9.1	Perceivable	44
9.1.1	Text alternatives	44
9.1.2	Time-based media	44
9.1.3	Adaptable	45
9.1.4	Distinguishable	45
9.2	Operable	46
9.2.1	Keyboard accessible	46
9.2.2	Enough time	47

9.2.3	Seizures and physical reactions	47
9.2.4	Navigable	47
9.2.5	Input modalities	48
9.3	Understandable	48
9.3.1	Readable	48
9.3.2	Predictable	48
9.3.3	Input assistance	48
9.4	Robust	49
9.4.1	Compatible	49
9.5	WCAG 2.1 AAA Success Criteria	49
9.6	WCAG conformance requirements	50
10	Non-web documents	51
10.0	General (informative)	51
10.1	Perceivable	51
10.1.1	Text alternatives	51
10.1.2	Time-based media	51
10.1.3	Adaptable	52
10.1.4	Distinguishable	53
10.2	Operable	54
10.2.1	Keyboard accessible	54
10.2.2	Enough time	55
10.2.3	Seizures and physical reactions	56
10.2.4	Navigable	56
10.2.5	Input modalities	57
10.3	Understandable	58
10.3.1	Readable	58
10.3.2	Predictable	59
10.3.3	Input assistance	59
10.4	Robust	60
10.4.1	Compatible	60
10.5	Caption positioning	61
10.6	Audio description timing	61
11	Software	62
11.0	General (informative)	62
11.1	Perceivable	63
11.1.1	Text alternatives	63
11.1.2	Time-based media	63
11.1.3	Adaptable	64
11.1.4	Distinguishable	66
11.2	Operable	68
11.2.1	Keyboard accessible	68
11.2.2	Enough time	69
11.2.3	Seizures and physical reactions	70
11.2.4	Navigable	70
11.2.5	Input modalities	71
11.3	Understandable	72
11.3.1	Readable	72
11.3.2	Predictable	72
11.3.3	Input assistance	73
11.4	Robust	74
11.4.1	Compatible	74
11.5	Interoperability with assistive technology	75
11.5.1	Closed functionality	75
11.5.2	Accessibility services	75
11.6	Documented accessibility usage	79
11.6.1	User control of accessibility features	79
11.6.2	No disruption of accessibility features	79
11.7	User preferences	79

11.8	Authoring tools	79
11.8.0	General (Informative).....	79
11.8.1	Content technology	79
11.8.2	Accessible content creation	79
11.8.3	Preservation of accessibility information in transformations	79
11.8.4	Repair assistance	80
11.8.5	Templates	80
12	Documentation and support services.....	81
12.1	Product documentation	81
12.1.1	Accessibility and compatibility features	81
12.1.2	Accessible documentation.....	81
12.2	Support services	81
12.2.1	General (informative).....	81
12.2.2	Information on accessibility and compatibility features.....	81
12.2.3	Effective communication	82
12.2.4	Accessible documentation.....	82
13	ICT providing relay or emergency service access.....	83
13.1	Relay services requirements	83
13.1.1	General (informative).....	83
13.1.2	Text relay services.....	83
13.1.3	Sign relay services.....	83
13.1.4	Lip-reading relay services	83
13.1.5	Captioned telephony services.....	83
13.1.6	Speech to speech relay services.....	83
13.2	Access to relay services	83
13.3	Access to emergency services.....	84
14	Conformance	85
Annex A (informative): Relationship between the present document and the essential requirements of Directive 2016/2102.....		86
Annex B (informative): Relationship between requirements and functional performance statements		99
B.1	Relationships between clauses 5 to 13 and the functional performance statements	99
B.2	Interpretation of Table B.2.....	107
B.2.0	General	107
B.2.1	Example	107
Annex C (normative): Determination of conformance.....		109
C.1	Introduction.....	109
C.2	Empty clause.....	109
C.3	Empty clause.....	109
C.4	Functional performance	109
C.5	Generic requirements	109
C.5.1	Closed functionality	109
C.5.2	Activation of accessibility features	114
C.5.3	Biometrics	114
C.5.4	Preservation of accessibility information during conversion	114
C.5.5	Operable parts	114
C.5.6	Locking or toggle controls	115
C.5.7	Key repeat	115
C.5.8	Double-strike key acceptance.....	115
C.5.9	Simultaneous user actions	116
C.6	ICT with two-way voice communication.....	116
C.6.1	Audio bandwidth for speech	116
C.6.2	Real-Time Text (RTT) functionality.....	116
C.6.3	Caller ID.....	120
C.6.4	Alternatives to voice-based services	120
C.6.5	Video communication	120
C.6.6	Alternatives to video-based services	121

C.7	ICT with video capabilities	122
C.7.1	Caption processing technology	122
C.7.2	Audio description technology	123
C.7.3	User controls for captions and audio description	123
C.8	Hardware	123
C.8.1	General	123
C.8.2	Hardware products with speech output	124
C.8.3	Stationary ICT	125
C.8.4	Mechanically operable parts	131
C.8.5	Tactile indication of speech mode	131
C.9	Web	132
C.9.0	General (informative)	132
C.9.1	Perceivable	132
C.9.2	Operable	136
C.9.3	Understandable	139
C.9.4	Robust	141
C.9.5	WCAG 2.1 AAA Success Criteria (Informative)	141
C.9.6	WCAG 2.1 conformance requirements	142
C.10	Non-web documents	142
C.10.0	General (informative)	142
C.10.1	Perceivable	142
C.10.2	Operable	146
C.10.3	Understandable	149
C.10.4	Robust	151
C.10.5	Caption positioning	151
C.10.6	Audio description timing	151
C.11	Software	152
C.11.0	General	152
C.11.1	Perceivable	152
C.11.2	Operable	158
C.11.3	Understandable	162
C.11.4	Robust	164
C.11.5	Interoperability with assistive technology	165
C.11.6	Documented accessibility usage	170
C.11.7	User preferences	170
C.11.8	Authoring tools	170
C.12	Documentation and support services	172
C.12.1	Product documentation	172
C.12.2	Support services	172
C.13	ICT providing relay or emergency service access	173
C.13.1	Relay service requirements	173
C.13.2	Access to relay services	174
C.13.3	Access to emergency services	174
	Annex D (informative): Further resources for cognitive accessibility	175
	Annex E (informative): Guidance for users of the present document	176
E.1	Introduction	176
E.2	Overview	176
E.3	Clause 4	177
E.4	How to use the standard	177
E.4.1	Self scoping requirements	177
E.4.2	Connection between requirements and functional performance statements	177
E.5	The European Web Accessibility Directive	178
E.6	Annex D: Further resources for cognitive accessibility	178
	History	179

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Human Factors (HF), and the eAccessibility Joint Working Group (JWG) of CEN/CENELEC/ETSI.

EN 301 549 was originally produced under Mandate M 376 [i.3] and specified functional accessibility requirements applicable to ICT products and services, together with a description of the test procedures and evaluation methodology for each accessibility requirement in a form that is suitable for use in procurement. The other deliverables prepared in response to the original Mandate M 376 were: ETSI TR 102 612 [i.9] "Human Factors (HF); European accessibility requirements for public procurement of products and services in the ICT domain (European Commission Mandate M 376, Phase 1)", ETSI TR 101 550 [i.7] "Documents relevant to EN 301 549 "Accessibility requirements suitable for public procurement of ICT products and services in Europe"", ETSI TR 101 551 [i.8] "Guidelines on the use of accessibility award criteria suitable for public procurement of ICT products and services in Europe", and ETSI TR 101 552 [i.30] "Guidance for the application of conformity assessment to accessibility requirements for public procurement of ICT products and services in Europe". These have not been updated to reflect any changes to the content or scope of the present document, made as a part of the M 554 revision effort.

This revision to EN 301 549 has been prepared under the Commission's standardisation request C(2017)2585 final [i.27] to provide, in additions to its other uses, one voluntary means of conforming to the essential requirements of Directive 2016/2102 [i.28] on the accessibility of the websites and mobile applications of public sector bodies. The minimum requirements of the European Web Accessibility Directive (Directive 2016/2102) are explicitly detailed in Annex A.

Once the present document is cited in the Official Journal of the European Union under Directive 2016/2102, conformance with the normative clauses of the present document given in Tables A.1 and A.2 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

The present document has been developed from EN 301 549 [i.29] V2.1.2 (08-2018).

National transposition dates	
Date of adoption of this EN:	17 September 2019
Date of latest announcement of this EN (doa):	31 December 2019
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 June 2020
Date of withdrawal of any conflicting National Standard (dow):	31 June 2021

Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "may not", "need", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"must" and "must not" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

The present document is developed in response to standardisation request M 554 [i.27] from the European Commission to CEN, CENELEC and ETSI. It is a revision of the European Standard (EN) that was initially prepared in response to Phase 2 of Mandate M 376 [i.3].

The present document covers a wide range of requirements for a variety of ICT solutions. It is relevant for all organizations who buy, develop or manufacture ICT products or services. It consists of fourteen clauses and five annexes:

- Clauses 0 to 3 include background information, the scope of the standard, and links to other standards, definitions and explanations of abbreviations.
- Clause 4 contains functional performance statements that explain the functionality that is needed to enable users with different abilities to locate, identify and operate functions in technology. The user needs underlying the functional performance statements are the basis for the requirements in subsequent clauses.
- Clauses 5 to 13 provide specific testable criteria for accessible ICT, related to technical requirements for different kinds of ICT, starting with generic requirements in clause 5.
- Clause 14 is about conformance. All clauses except those in clause 12, related to documentation and support services, are self-scoping. This means they are introduced with the phrase 'Where ICT <pre-condition>'. Conformance is achieved when the pre-condition is true and the corresponding test (in Annex C) is passed, or when the pre-condition is false and, therefore, the requirement is not applicable.
- Annex A has two tables with requirements related to Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies [i.28]. The first table applies to web pages and documents and the second applies to mobile applications. The minimum requirements are collected from clauses 9, 10 and 11 and some requirements from clauses 5, 6, 7 and 12 that are relevant to fulfill the Directive.
- Annex B contains a table showing which of the requirements set out in clauses 5 to 13 related to different types of ICT support the user needs as expressed in the functional performance statements of clause 4.
- Annex C is a normative annex that sets out the means necessary to determine conformance with the individual requirements. It does not provide a testing methodology.
- Annex D points to additional resources related to improving accessibility for users with limited cognitive, language and learning abilities.

- Annex E provides an overview and simple explanation of the structure of the present document, including an explanation of how it can be used.

When the present document is used for most purposes, including when used in ICT procurement, all of the requirements in clauses 5 to 13, as well as the functional performance statements in clause 4 should be considered. The potential applicability of any requirement can be determined from the self-scoping phrase at the beginning of each requirement.

When the present document is used as the basis to determine conformity with the essential requirements of Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies [i.28], Tables A.1 and A.2 in Annex A identify all the applicable requirements.

NOTE 1: The present document reflects the content of the W3C WCAG 2.1 Recommendation [5].

NOTE 2: Annex E provides an overview and simple explanation of the structure of the present document, including an explanation of how it can be used. Readers who are unfamiliar with the present document are recommended to read Annex E first to give them a better understanding of the present document and how to use it.

1 Scope

The present document specifies the functional accessibility requirements applicable to ICT products and services, together with a description of the test procedures and evaluation methodology for each accessibility requirement in a form that is suitable for use in public procurement within Europe. The present document is intended to be used with Web based technologies, non-web technologies and hybrids that use both. It covers both software and hardware as well as services. It is intended for use by both providers and procurers, but it is expected that it will also be of use to many others as well.

The relationship between the present document and the essential requirements of Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies [i.28] is given in Annex A.

The present document contains the necessary functional requirements and provides a reference document such that if procedures are followed by different actors, the results of testing are similar and the interpretation of those results is clear. The test descriptions and evaluation methodology included in the present document are elaborated to a level of detail compliant with ISO/IEC 17007:2009 [i.14], so that conformance testing can give conclusive results.

2 References

2.1 Normative references

References are specific, identified by date of publication and/or edition number or version number. Only the cited version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at [ETSI References in docbox](#).

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] ETSI ETS 300 381 (Edition 1) (December 1994): "Telephony for hearing impaired people; Inductive coupling of telephone earphones to hearing aids".
- [2] ETSI ES 200 381-1 (V1.2.1) (October 2012): "Telephony for hearing impaired people; Inductive coupling of telephone earphones to hearing aids; Part 1: Fixed-line speech terminals".
- [3] ETSI ES 200 381-2 (V1.1.1) (October 2012): "Telephony for hearing impaired people; Inductive coupling of telephone earphones to hearing aids; Part 2: Cellular speech terminals".
- [4] W3C Recommendation (December 2008) /ISO/IEC 40500:2012: "Web Content Accessibility Guidelines (WCAG) 2.0".

NOTE: Available at [WCAG 2.0](#).

- [5] W3C Recommendation (June 2018): "Web Content Accessibility Guidelines (WCAG) 2.1".

NOTE: Available at [WCAG 2.1](#).

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.