

# **EN301549 technical report**

## Chapter 4: Functional Performance Statements (FPS)

Criteria	Conformance Level	Remarks and explanations
4.2.1 Usage without vision	Partially Supports	
4.2.2 Usage with limited vision	Partially Supports	
4.2.3 Usage without perception of colour	Partially Supports	
4.2.4 Usage without hearing	Partially Supports	
4.2.5 Usage with limited hearing	Partially Supports	
4.2.6 Usage with no or limited vocal capability	Partially Supports	
4.2.7 Usage with limited manipulation or strength	Partially Supports	
4.2.8 Usage with limited reach	Partially Supports	
4.2.9 Minimize photosensitive seizure triggers	Partially Supports	
4.2.10 Usage with limited cognition, language or learning	Partially Supports	
4.2.11 Privacy	Partially Supports	

## Chapter 5: Generic Requirements

Criteria	Conformance Level	Remarks and explanations
<b>5.1 Closed functionality</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
<b>5.1.2 General</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
<b>5.1.2.1 Closed functionality</b>	<i>See 5.2 through 13</i>	<i>See information in 5.2 through 13</i>
<b>5.1.2.2 Assistive technology</b>	<i>See 5.1.3 through 5.1.6</i>	<i>See information in 5.1.3 through 5.1.6</i>
<b>5.1.3 Non-visual access</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
5.1.3.1 Audio output of visual information	Not Applicable	
5.1.3.2 Auditory output delivery including speech	Not Applicable	
5.1.3.3 Auditory output correlation	Not Applicable	
5.1.3.4 Speech output user control	Not Applicable	
5.1.3.5 Speech output automatic interruption	Not Applicable	
5.1.3.6 Speech output for non-text content	Not Applicable	
5.1.3.7 Speech output for video information	Not Applicable	
5.1.3.8 Masked entry	Not Applicable	
5.1.3.9 Private access to personal data	Not Applicable	
5.1.3.10 Non-interfering audio output	Not Applicable	
5.1.3.11 Private listening volume	Not Applicable	
5.1.3.12 Speaker volume	Not Applicable	

Criteria	Conformance Level	Remarks and explanations
5.1.3.13 Volume reset	Not Applicable	
5.1.3.14 Spoken languages	Not Applicable	
5.1.3.15 Non-visual error identification	Not Applicable	
5.1.3.16 Receipts, tickets, and transactional outputs	Not Applicable	
5.1.4 Functionality closed to text enlargement	Not Applicable	
5.1.5 Visual output for auditory information	Not Applicable	
<b>5.1.6 Operation without keyboard interface</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
<b>5.1.6.1 Closed functionality</b>	<i>See 5.1.3.1 through 5.1.3.16</i>	<i>See information in 5.1.3.1 through 5.1.3.16</i>
5.1.6.2 Input focus	Not Applicable	
5.1.7 Access without speech	Not Applicable	
5.2 Activation of accessibility features	Not Applicable	
5.3 Biometrics	Not Applicable	
5.4 Preservation of accessibility information during conversion	Not Applicable	
<b>5.5 Operable parts</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
5.5.1 Means of operation	Not Applicable	
5.5.2 Operable parts discernibility	Not Applicable	
<b>5.6 Locking or toggle controls</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
5.6.1 Tactile or auditory status	Not Applicable	
5.6.2 Visual status	Not Applicable	
5.7 Key repeat	Not Applicable	

Criteria	Conformance Level	Remarks and explanations
5.8 Double-strike key acceptance	Not Applicable	
5.9 Simultaneous user actions	Not Applicable	

## Chapter 6: ICT with Two-Way Voice Communication

Criteria	Conformance Level	Remarks and explanations
6.1 Audio bandwidth for speech	<i>Not Applicable</i>	
<b>6.2 Real-time text (RTT) functionality</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
6.2.1.1 RTT communication	Not Applicable	
6.2.1.2 Concurrent voice and text	Not Applicable	
6.2.2.1 Visually distinguishable display		
6.2.2.2 Programmatically determinable send and receive direction	Not Applicable	
6.2.2.3 Speaker identification	Not Applicable	
6.2.2.4 Visual indicator of Audio with RTT	Not Applicable	
6.2.3 Interoperability	Not Applicable	
6.2.4 RTT responsiveness	Not Applicable	
6.3 Caller ID	Not Applicable	
6.4 Alternatives to voice-based services	Not Applicable	
<b>6.5 Video communication</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
<b>6.5.1 General (informative)</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
6.5.2 Resolution	Not Applicable	
6.5.3 Frame rate	Not Applicable	
6.5.4 Synchronization between audio and video	Not Applicable	
6.5.5 Visual indicator of audio with video	Not Applicable	

Criteria	Conformance Level	Remarks and explanations
6.5.6 Speaker identification with video (sign language) communication	Not Applicable	
6.6 Alternatives to video-based services (advisory only)	<i>Advisory no response required</i>	<i>Advisory no response required</i>

## Chapter 7: ICT with Video Capabilities

Criteria	Conformance Level	Remarks and explanations
<b>7.1 Caption processing technology</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
7.1.1 Captioning playback	Not Applicable	
7.1.2 Captioning synchronization	Not Applicable	
7.1.3 Preservation of captioning	Not Applicable	
7.1.4 Captions characteristics	Not Applicable	
7.1.5 Spoken subtitles	Not Applicable	
7.2.1 Audio description playback	Not Applicable	
7.2.2 Audio description synchronization	Not Applicable	
7.2.3 Preservation of audio description	Not Applicable	
7.3 User controls for captions and audio description	Not Applicable	



## Chapter 8: Hardware

Criteria	Conformance Level	Remarks and explanations
<b>8.1.1 Generic requirements</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
8.1.2 Standard connections	Not Applicable	
8.1.3 Colour	Not Applicable	
<b>8.2 Hardware products with speech output</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
8.2.1.1 Speech volume range	Not Applicable	
8.2.1.2 Incremental volume control	Not Applicable	
8.2.2.1 Fixed-line devices	Not Applicable	
8.2.2.2 Wireless communication devices	Not Applicable	
<b>8.3 Stationary ICT</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
8.3.2.1 Unobstructed high forward reach	Not Applicable	
8.3.2.2 Unobstructed low forward reach	Not Applicable	
8.3.2.3.1 Clear space	Not Applicable	
8.3.2.3.2 Obstructed (< 510 mm) forward reach	Not Applicable	
8.3.2.3.3 Obstructed (< 635 mm) forward reach	Not Applicable	
8.3.2.4 Knee and toe clearance width	Not Applicable	
8.3.2.5 Toe clearance	Not Applicable	
8.3.2.6 Knee clearance	Not Applicable	
8.3.3.1 Unobstructed high side reach	Not Applicable	

Criteria	Conformance Level	Remarks and explanations
8.3.3.2 Unobstructed low side reach	Not Applicable	
8.3.3.3.1 Obstructed ( $\leq 255$ mm) side reach	Not Applicable	
8.3.3.3.2 Obstructed ( $\leq 610$ mm) side reach	Not Applicable	
8.3.4.1 Change in level	Not Applicable	
8.3.4.2 Clear floor or ground space	Not Applicable	
8.3.4.3.2 Forward approach	Not Applicable	
8.3.4.3.3 Parallel approach	Not Applicable	
8.3.5 Visibility	Not Applicable	
8.3.6 Installation instructions	Not Applicable	
<b>8.4 Mechanically Operable parts</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
8.4.1 Numeric keys	Not Applicable	
8.4.2.1 Means of operation of mechanical parts	Not Applicable	
8.4.2.2 Force of operation of mechanical parts	Not Applicable	
8.4.3 Keys, tickets and fare cards	Not Applicable	
8.5 Tactile indication of speech mode	Not Applicable	

## Chapter 9: Web (applies also to 10, 11 and 12)

### Corresponding to WCAG 2.1 Level A

Success Criteria	Conformance Level	Remarks and explanations
1.1.1 Non-text Content	Partially supports	Exceptions include: - General > Identische und unvollständige Textbeschreibung für Bildlink Home Page > Kein Textäquivalent für informatives SVG-Bild Home Page > Unnötiger Alternativtext für dekorative Bilder Contact Page > Unnötiger Alternativtext für dekorative Bilder Authentication > Textbeschreibung für Bildschaltflächen fehlt Wegbeschreibung > Kein Textäquivalent für informatives SVG-Bild Wegbeschreibung > Unnötiger Alternativtext für dekorative Bilder Parkita Haltestelle DUS > Unnötiger Alternativtext für dekorative Bilder Parkhaus > Unnötiger Alternativtext für dekorative Bilder Umbuchen > Für interaktives Bild wurde kein genauer Alternativtext angegeben. Umbuchen > Unnötiger Alternativtext für dekorative Bilder Über Uns > Unnötiger Alternativtext für dekorative Bilder Über Uns > Unvollständiger Alternativtext für informatives Bild B2B > Unnötiger Alternativtext für dekorative Bilder Carlsplatz > Unnötiger Alternativtext für dekorative Bilder

		Eventparken > Unnötiger Alternativtext für dekorative Bilder
1.2.1 Audio-only and Video-only (Prerecorded)	Supports	
1.2.2 Captions (Prerecorded)	Supports	
1.2.3 Audio Description or Media Alternative Supports	Supports	
1.3.1 Info and Relationships	Partially supports	<p>Exceptions include:</p> <ul style="list-style-type: none"> <li>- General &gt; Überschriften nicht definiert</li> <li>- General &gt; Verwendung mehrerer &lt;header&gt;-Landmark-Tags</li> </ul> <p>Home Page &gt; Fehlende Gruppierung von Formularsteuerelementen</p> <p>Home Page &gt; Unangemessene Überschriftenstruktur</p> <p>Contact Page &gt; Unangemessene Überschriftenstruktur</p> <p>Help &gt; Überschriften nicht definiert</p> <p>Authentication &gt; Unangemessene Überschriftenstruktur</p> <p>Wegbeschreibung &gt; Fehlende Gruppierung von Formularsteuerelementen</p> <p>Parkhaus &gt; Unangemessene Überschriftenstruktur</p> <p>Carlsplatz &gt; Unangemessene Überschriftenstruktur</p> <p>Eventparken &gt; Unangemessene Überschriftenstruktur</p>
1.3.2 Meaningful Sequence	Supports	
1.3.3 Sensory Characteristics	Partially supports	<p>Exceptions include:</p> <p>Parkita Haltestelle DUS &gt; Anweisungen basieren auf visuellen Sinnesmerkmalen</p>

1.4.1 Use of Color	Supports	
1.4.2 Audio Control	Supports	
2.1.1 Keyboard	Partially supports	Exceptions include: Authentication > Tasten nicht mit einer Tastatur bedienbar Umbuchen > Links, die nicht mit einer Tastatur bedient werden können Über Uns > Inkonsistentes Linkverhalten
2.1.2 No Keyboard Trap	Supports	
2.1.4 Character Key Shortcuts	Supports	
2.2.1 Timing Adjustable	Supports	
2.2.2 Pause Stop Hide	Partially supports	Exceptions include: Home Page > Keine Möglichkeit, bewegte Inhalte zu kontrollieren
2.3.1 Three Flashes or Below Threshold	Supports	
2.4.1 Bypass Blocks	Supports	
2.4.2 Page Titled	Supports	
2.4.3 Focus Order	Supports	
2.4.4 Link Purpose (In Context)	Partially supports	Exceptions include: Home Page > Identischer Linktext
2.5.1 Pointer Gestures	Supports	
2.5.2 Pointer	Supports	

Cancellation		
2.5.3 Label in Name	Supports	
2.5.4 Motion Actuation	Supports	
3.1.1 Language of Page	Supports	
3.2.1 On Focus	Supports	
3.2.2 On Input	Supports	
3.2.6 Consistent Help	Supports	
3.3.1 Error Identification	Partially supports	Exceptions include: Authentication > Fehlermeldung wird einzeln angezeigt
3.3.2 Labels or Instructions	Partially supports	Exceptions include: Umbuchen > Falsche Platzierung der Anweisung
3.3.7 Redundant Entry	Supports	
4.1.1 Parsing	Supports	
4.1.2 Name Role Value	Partially supports	Exceptions include: - General > Fehlendes aria-labelledby-Attribut - General > Der Status zum Erweitern/Reduzieren der Schaltfläche ist nicht definiert. - General > Der aktuelle Status ist nicht definiert Help > Der Status „Erweitern/Reduzieren“ ist falsch definiert. Help > ARIA-Attribut falsch definiert

## Corresponding to WCAG 2.1 Level AA

Success Criteria	Conformance Level	Remarks and explanations
1.2.4 Captions (Live)	Supports	
1.2.5 Audio Description (Prerecorded)	Supports	
1.3.4 Orientation	Supports	
1.3.5 Identify Input Purpose	Supports	
1.4.3 Contrast (Minimum)	Partially supports	<p>Exceptions include:</p> <ul style="list-style-type: none"> <li>- General &gt; Unzureichender Farbkontrast für Standardtext</li> <li>Home Page &gt; Unzureichender Farbkontrast für Standardtext</li> <li>Contact Page &gt; Unzureichender Farbkontrast für Standardtext</li> <li>Legal Notice &gt; Unzureichender Farbkontrast für Standardtext</li> <li>Site Map &gt; Unzureichender Farbkontrast für Standardtext</li> <li>Help &gt; Unzureichender Farbkontrast für Standardtext</li> <li>Wegbeschreibung &gt; Unzureichender Farbkontrast für großen Text</li> <li>Umbuchen &gt; Unzureichender Farbkontrast für großen Text</li> </ul>
1.4.4 Resize text	Supports	
1.4.5 Images of Text	Supports	
1.4.10 Reflow	Supports	
1.4.11 Non-text	Partially supports	Exceptions include:

Contrast		Authentication > Unzureichender Farbkontrast für die Ränder von Formularsteuerelementen
1.4.12 Text-spacing	Supports	
1.4.13 Content on Hover or Focus	Supports	
2.4.5 Multiple Ways	Supports	
2.4.6 Headings and Labels	Partially supports	Exceptions include: - General > Nicht beschreibende Beschriftungen für Schaltflächen
2.4.7 Focus Visible	Supports	
2.4.11 Focus Not Obscured (Minimum)	Supports	
2.5.7 Dragging Movements	Supports	
2.5.8 Target Size (Minimum)	Supports	
3.1.2 Language of Parts	Supports	
3.2.3 Consistent Navigation	Supports	
3.2.4 Consistent Identification	Supports	
3.3.3 Error Suggestion	Supports	
3.3.4 Error Prevention (LFD)	Supports	
3.3.8 Accessible Authentication	Supports	



(Minimum)		
4.1.3 Status Messages	Supports	



## Chapter 10: Non-Web Documents

Criteria	Conformance Level	Remarks and explanations
<b>10.0 General (informative)</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
10.1.1.1 through 10.4.1.3	See WCAG 2.1 section	See information in WCAG 2.1 section
10.5 Caption positioning	Not Applicable	
10.6 Audio description timing	Not Applicable	

## Chapter 11: Software

Criteria	Conformance Level	Remarks and explanations
<b>11.0 General (informative)</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
11.1.1.1 through 11.4.1.3	See WCAG 2.1 section	See information in WCAG 2.1 section
<b>11.5 Interoperability with assistive technology</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
<b>11.5.1 Closed functionality</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
<b>11.5.2 Accessibility services</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
11.5.2.1 Platform accessibility service support for software that provides a user interface	See 11.5.2.5 through 11.5.2.17	See information in 11.5.2.5 through 11.5.2.17
11.5.2.2 Platform accessibility service support for assistive technologies	See 11.5.2.5 through 11.5.2.17	See information in 11.5.2.5 through 11.5.2.17

Criteria	Conformance Level	Remarks and explanations
11.5.2.3 Use of accessibility services	See information in 11.5.2.5 through 11.5.2.17	See information in 11.5.2.5 through 11.5.2.17
11.5.2.4 Assistive technology	Not Applicable	
11.5.2.5 Object information	Not Applicable	
11.5.2.6 Row, column, and headers	Not Applicable	
11.5.2.7 Values	Not Applicable	
11.5.2.8 Label relationships	Not Applicable	
11.5.2.9 Parent-child relationships	Not Applicable	
11.5.2.10 Text	Not Applicable	
11.5.2.11 List of available actions	Not Applicable	
11.5.2.12 Execution of available actions	Not Applicable	
11.5.2.13 Tracking of focus and selection attributes	Not Applicable	
11.5.2.14 Modification of focus and selection attributes	Not Applicable	
11.5.2.15 Change notification	Not Applicable	
11.5.2.16 Modifications of states and properties	Not Applicable	
11.5.2.17 Modifications of values and text	Not Applicable	
<b>11.6 Documented accessibility usage</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
11.6.1 User control of accessibility features	Not Applicable	
11.6.2 No disruption of accessibility features	Not Applicable	
11.7 User preferences	Not Applicable	
<b>11.8 Authoring tools</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>

Criteria	Conformance Level	Remarks and explanations
<b>11.8.1 Content technology</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
11.8.2 Accessible content creation	See WCAG 2.1 section (If not authoring tool, enter “Not Applicable”)	See information in WCAG 2.1 section
11.8.3 Preservation of accessibility information in transformations	Not Applicable	
11.8.4 Repair assistance	Not Applicable	
11.8.5 Templates	Not Applicable	

## Chapter 12: Documentation and Support Services

Criteria	Conformance Level	Remarks and explanations
<b>12.1 Product documentation</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
12.1.1 Accessibility and compatibility features	Not Applicable	
12.1.2 Accessible documentation	See WCAG 2.1 section	See information in WCAG 2.1 section
<b>12.2 Support Services</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
12.2.2 Information on accessibility and compatibility features	Not Applicable	
12.2.3 Effective communication	Not Applicable	
12.2.4 Accessible documentation	See WCAG 2.1 section	See information in WCAG 2.1 section



## Chapter 13: ICT Providing Relay or Emergency Service Access

Criteria	Conformance Level	Remarks and explanations
<b>13.1 Relay services requirements</b>	<i>Heading cell no response required</i>	<i>Heading cell no response required</i>
13.1.2 Text relay services	Not Applicable	
13.1.3 Sign relay services	Not Applicable	
13.1.4 Lip-reading relay services	Not Applicable	
13.1.5 Captioned telephony services	Not Applicable	
13.1.6 Speech to speech relay services	Not Applicable	
13.2 Access to relay services	Not Applicable	
13.3 Access to emergency services	Not Applicable	

# Web accessibility

Disability is defined as: any activity limitation or participation restriction in society, experienced by a person as a result of a substantial, lasting or definitive alteration of one or more physical, sensory, mental, cognitive, or psychic functions, a multiple disability, or a disabling health condition (article L. 114 of the Social Action and Families Code).

Web accessibility consists of making online public communication services accessible to people with disabilities, and is based on four fundamental principles:

**Perceivable:** Information and user interface components must be presented to the user in such a way that they can perceive them. For example, providing textual equivalents for all non-textual content that can then be presented in other forms according to the user's needs: large characters, braille, speech synthesis, symbols or simplified language.

**Operable:** User interface and navigation components must be operable. For example, making all functionality available via keyboard.

**Understandable:** Information and the use of the user interface must be understandable. Textual content must be made readable and navigation must be consistent.

**Robust:** Content must be sufficiently robust to be reliably interpreted by a wide variety of user agents, including assistive technologies.

## Test environments

### Operating systems

- Apple Mac Os X (last version)
- Microsoft Windows (last version)
- Apple Ios (last version)
- Google Android (last version)

*We have not used Linux as it is currently very uncommon among users with disabilities.*

### Browsers and user software



In the latest versions available on the different operating systems:

- Google Chrome
- Windows Edge
- Safari
- Adobe Acrobat Reader / Preview on Mac (for PDFs only)

## Screen readers and assistive technologies

In order to achieve the most standard evaluation **we test everything with no adaptation.**

In order to make the most realistic evaluation **we also make some adaptation like:**

- Graphic adaptations present on the different systems (colors, contrasts, subtitles, etc.)
- Mouse emulations, magnifiers and screen keyboards or keyboard improved settings always of the different systems
- Voiceover - Apple systems only
- Talkback - Android only
- NVDA (last version) and Freedom scientific Jaws (second-to-last version) - PC systems only

## Methodology

### Objective manual and semi-automatic verification methodology

We analyze content with different automatic and semiautomatic systems and compare the results between tools to obtain the most complete and objective verification. The reference standard, unless specifically requested, that we use is always the latest (WCAG 2.1) so that we can ensure compliance in all countries from which the touchpoint (site, app, etc.) can be accessed.

Our verification is therefore compliant with WCAG 2.1 level AA, and the requirements in [UNI EN 301549 Guidelines](#) or their declination in the French RGAA's. Each tool produces results that are then analyzed by our experts: it is, therefore, possible that not all tool results appear because they are judged to be false negatives.

## Automated tools for syntax checking

- **W3C Markup Validation Service** : used with generated code, because it is the official tool for checking HTML, XHTML, MathHTML, etc. <https://validator.w3.org/>
- **W3C CSS Validation service** : although the correctness of the CSS does not affect accessibility, it could affect some aspects that still have an impact on it if not correctly interpreted because it is incorrect. The verification is therefore appropriate and done with <https://jigsaw.w3.org/css-validator/>
- **PAC PDF checker** : <https://pdfua.foundation/en/pdf-accessibility-checker-pac/>

## Automatic and semi-automatic tools for color verification

- **Color Contrast Analyser (CCA)** : used punctually on dubious contrasts <https://developer.paciellogroup.com/resources/contrastanalyser/>
- **WCAG Color contrast checker** : used as the first check to verify the contrasts of the colors used in the CSS of the pages.
- **Text on background image a11y check** : used to check when text should overlap images <https://www.brandwood.com/a11y/>
- **Color contrast accessibility evaluator** : used as an additional control for some online pages <https://color.a11y.com/Contrast/>

## Automatic and semi-automatic tools for checking accessibility

Some online validators used as samples on the pages:

- Accesscan <https://www.accessiway.com/accessscan>
- Wave <https://wave.webaim.org/>

And other local tools:

- **Web developer toolbar**: Used to support manual verification. It allowed us to locate images without alt texts, fields without labels, etc. <https://chrispederick.com/work/web-developer/>
- **AXE e Lighthouse for Chrome**: they have provided us with precise indications on the defects of the accessibility of the HTML code but also on WAI ARIA attributes, fundamental in the case of web applications and interactive components.
- **Siteimprove for Chrome**: like AX, it provides useful indications for verifying compliance but is a tool evaluated by AgID useful for monitoring public sites.

## Terms

The terms used in the Conformance Level information are defined as follows:

**Supports:** The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.

**Partially Supports:** Some functionality of the product does not meet the criterion.

**Does Not Support:** The majority of product functionality does not meet the criterion.

**Not Applicable:** The criterion is not relevant to the product.

**Not Evaluated:** The product has not been evaluated against the criterion. This can only be used in WCAG Level AAA criteria.