REPORT

ON THE MONITORING RESULTS AND ACCESSIBILITY CHECKS OF PUBLIC SECTOR ORGANISATIONS' WEBSITES CARRIED OUT IN THE PERIOD 2022 - 2024 IN R BULGARIA

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1. SUMMARY

This report presents the monitoring results and accessibility checks of websites and mobile applications of public sector organisations in Bulgaria carried out in the period 2022-2024, which covers three monitoring periods (second, third and fourth).

The document has been prepared by the Ministry of eGovernment (MEG) to fulfill the monitoring, reporting and enforcement functions of Directive (EU) 2016/2102 on the website and mobile applications accessibility of public sector organisations[1] and complies with the Commission Implementing Decision (EU) 2018/1524 of 11 October 2018 establishing the monitoring methodology and reporting modalities by Member States .[2]

During this period, as part of the regular monitoring, the compliance of websites and mobile applications of administrative bodies, entities performing public functions and organisations providing public services in the Republic of Bulgaria with the applicable harmonised standards was checked in order to meet the accessibility requirements of Directive (EU) 2016/2102 and to be usable, understandable and sustainable.

The monitoring and checking activities were carried out on the basis of the Methodology for monitoring and checking content accessibility of websites and mobile applications of the persons referred to in Art. 1 and 2 of the eGovernment Act[3] (the Methodology), which is fully compliant with the methodology established by Implementing Decision (EU) 2018/1524 and the requirements of the harmonised standard EN 301 549 Accessibility requirements for ICT products and services.

The report shall include information on the size and selection of a website sample to be checked, the requirements to be checked, the software tools used, the monitoring results under the different monitoring methods, as well as information on the use of the enforcement procedure and additional measures taken to facilitate the implementation of accessibility requirements.

2. DESCRIPTION OF MONITORING ACTIVITIES

Monitoring activities carried out during the reporting period include:

- planning the checks (determining the size and composition of the samples of websites and mobile apps according to the period and method of monitoring and in accordance with the selection criteria defined);

- carrying out checks using the specified methods - simplified and in-depth observation, and accessibility assessment (with direct reference to the requirements of the harmonised standard); additional user testing by persons with disabilities;

- documentation (according to the templates annexed to the Methodology), synthesis and analysis of the results;

- implementing a mechanism to assist organisations where accessibility deficiencies are identified.

[1] https://eur-lex.europa.eu/legal-content/BG/TXT/?uri=CELEX%3A32016L2102
[2] https://eur-lex.europa.eu/eli/dec_impl/2018/1524/oj?locale=bg
[3] https://egov.government.bg/wps/portal/ministry-meu/home/web-accessibility/monitoring

2.1. General information

During the reporting period, monitoring of websites and mobile applications of public sector organisations (entities under Art. 1 and 2 of the e-Government Act (EGA) was carried out as follows:

- in 2022 (second monitoring period)
  - between February and December, website monitoring using the simplified monitoring method;
  - October-December website monitoring using the in-depth monitoring method .[4]
- in 2023 (third monitoring period)
  - between February and December, website monitoring using the simplified monitoring method;
  - in the period August - December - monitoring of websites using the in-depth monitoring method and mobile apps;
- in 2024 (fourth monitoring period)
  - between February and October - website monitoring using the simplified monitoring method .[5]

The monitoring, reporting and enforcement body on Directive (EU) 2016/2102 for the Republic of Bulgaria is the Minister of eGovernment.

2.2. Composition of the samples

The size and selection of the website samples and mobile applications that are subject to monitoring shall comply with the requirements of point 2 of Annex I of Implementing Decision (EU) 2018/1524, respectively points 9.2 and 10.2 of the Methodology.

Size of the samples

In line with the established requirements, based on the population of Bulgaria according to the National Statistical Institute (6 519 789 inhabitants as of 2021), the number of websites and mobile applications included in the monitoring samples by year (monitoring periods) for the reporting period, depending on the method applied, is as follows:

- Number of websites monitored using the simplified monitoring method - 218 (2022), 273 (2023), 272 (2024); total: 763 websites;
- Number of websites monitored through the in-depth monitoring method - 21 (2022), 24 (2023); total: 45 websites;
- Number of mobile apps monitored through the in-depth monitoring method - 13 (2023).

Determination of website samples

[4] In relation to the establishment of the MEG and the transfer of authority over accessibility checks later in the year, no mobile app checks were carried out in 2022

[5] The planned 2024 in-depth monitoring checks of websites and mobile applications supported by an external contractor were not carried out as the procedure for the selection of an external contractor was terminated on the basis of Article 110(2)(2) second sentence of the Public Procurement Act.

The selection of websites is tailored to achieve diversity, representativeness and geographical balance of distribution and relevance to stakeholders.

The sample covered state websites of central administration, regional, local and other websites as follows:

- State websites - 24 (2022)/ 53 (2023)/ 32 (2024);
- regional websites (NUTS1, NUTS2, NUTS3[6]) - 33 pcs. .(2022)/ 30 (2023)/ 39 (2024);
- local websites (LAU1, LAU2[7]) - 41 pcs. .(2022)/ 57 pcs (2023)/ 70 (2024);
- websites of public law organisations that do not belong to the above three categories - 120 (2022)/ 133 (2023)/ 131 (2024).

The sampled websites provide as many services as possible, across various sectors of public life, including:

- social protection - websites of pension insurance companies, commissions, agencies, associations, foundations - 13 (2022)/ 15 (2023)/ 1 (2024);
- Health - websites of medical institutions: hospitals and laboratories; regional health inspectorates and other state websites - 17 (2022)/33 (2023)/53 (2024);
- transport - websites of carriers (bus, trolleybus, rail passenger and air transport, metro), etc. - 9 pcs (2022) / 13 pcs (2023) / 5 (2024);
- Education - websites of regional education departments, universities, schools, education centres, agencies - 66 (2022)/ 39 (2023)/ 42 (2024);
- environmental protection - regional environmental and water inspectorates, executive agencies, etc.- 9 (2022)/ 10 (2023)/ 23 (2024);
- culture and recreation, nature parks, museums, institutes - websites of cultural institutions: operas, theatres, libraries, houses of culture, community centres - 4 pcs (2022) / 34 pcs (2023) / 36 pcs (2024);
- Housing and utilities - websites of plumbing operators, heating companies, electricity distribution companies - 11 pcs (2022) / 21 pcs (2023) / 14 pcs (2024);
- Employment and tax system - websites of agencies, institutes - 1 (2022)/ 7 (2023)/ 1 (2024);
- Public order and safety - websites of agencies, institutes, insurance companies - 2 (2022)/ 6 (2023)/ 1 (2024);

Municipality websites in the Republic of Bulgaria (local level), planned for verification, provide access to a wide range of administrative services for citizens and businesses in areas such as "social activities", "transport", "agriculture and ecology", "local taxes and fees", "cadastre", etc., which are relevant to the above types of services.

The samples also included websites of mobile operators, banks, courier and postal service providers, etc.

In line with the requirements for a replicated sample, for each of the observation periods at least 10% of the websites observed in a previous period are included.

[6] According to the Classification of territorial units for statistical purposes in Bulgaria:
NUTS 1 - Level 1 areas; NUTS 2 - Statistical areas; NUT 3 - Regions
[7] LAU 1 - Municipalities; LAU 2 -

Defining the sample of mobile apps

The selection of mobile apps was based on data collected regarding the actual usage by end users (including people with disabilities), their prioritization and apps providing most of the services. The sample covered mobile applications from the following sectors: health, transport, public order and safety, telecommunications, utilities.

2.3. Compliance with standards, technical specifications and tools used for monitoring

2.3.1. Standards and technical specifications

The basis for monitoring and checking websites and mobile applications is the harmonised European standard EN 301 549 V3.2.1 (2021-03) (BDS EN 301549:2021 Accessibility requirements for ICT products and services), as a reference standard to ensure a minimum level of accessibility. The standard is based on the Web Content Accessibility Guidelines (WCAG) 2.1 AA, directly referencing the WCAG Level A and Level AA success criteria.

In the checking process, materials of the World Wide Web Consortium (W3C), the W3C Web Accessibility Initiative (WAI), WebAim, etc. were used in order to make the findings clear and understandable.

In order to identify real accessibility and usability issues, a review of websites of administrations and other public sector organisations was carried out by persons with disabilities as users utilizing relevant assistive technologies.

2.3.2. In-depth monitoring checks and tools used

Website checks using the in-depth observation method

Using the in-depth monitoring method, a **total of 45 websites** were checked for compliance with the requirements of the harmonised standard EN 301 549 V3.2.1 (2021-03). The checks included 49 success criteria, of which 30 level A and 19 level AA, distributed according to accessibility principles (brief explanations of the criteria are presented in the Annex to the report).

The analysis performed reflects the compliance with the specific sample standard of 45 websites and does not assess the qualitative and stylistic content of the observed pages. It is subjective insofar as the findings on time and on some of the criteria concerning the standard are subjective. Due to the verification mechanism and the individual dynamics of the websites' status, it is possible that by the time the summary report is reviewed, some problems have already been solved or have become different. In parallel, some criteria of the standard are subjective in themselves, as they are related to the verifier’s perception, and therefore several different evaluation and analysis techniques are included, aiming to increase objectivity.

The checks used a comprehensive approach that is entirely based on the standard and takes into account the perceivability, usability, understandability and robustness of websites. For each website inspected, an individual report and an annex was produced, presenting a summary status of all criteria of the standard, with results summarised against checklists. The findings included on the specific criteria violated are necessary to properly guide web content developers towards appropriate measures to improve website accessibility. The aggregation principle is formulated according to the requirements of the standard, where the only and sufficient condition is that one element in one page of the specified sample does not meet the

standard in order for the whole website to be considered as not meeting the standard for the specified criterion. Detailed information on all findings, as well as screenshots and explanations, are included in the checklists for each sample page of each designated website.

To perform the in-depth monitoring checks, all websites in the sample were tested with automated tools, assistive technologies and manual testing.

The checks were launched using various **automated** website **testing tools**, such as:

- WAVE Web Accessibility Evaluation Tool (http://wave.webaim.org/);
- W3 HTML Validator (https://validator.w3.org/ ;
- Tingtun Checker (http://checkers.eiii.eu/);
- WCAG Color contrast checker (https://chrome.google.com/webstore/detail/wcag-color-contrast-check/plnahcmalebffmaghcpcmpaciebdhgdf?hl=en);
- axeDev (https://www.deque.com/axe/devtools/);
- PAC Test (https://www.access-for-all.ch/en/);
- Tech spacing bookmarklet (Text spacing 1.4.12) (https://codepen.io/stevef/full/YLMqbo);
- HTML_CodeSniffer (https://squizlabs.github.io/HTML_CodeSniffer).

The use of automatic means showed the following disadvantages:

- cover a few criteria of the standard and do not cover all techniques of the criteria;
- sometimes give incorrect results for compliance with the criteria;
- different instruments cover different numbers of criteria.

On the other hand, automatic tools can be successfully used as auxiliary tools for the following reasons:

- automatically collect and group the various interface elements (images, structured text, shapes, etc.);
- there are criteria where automatic instrument errors are not observed, such as 9.3.1.1.(A);
- allow better documentation of errors through screenshots.

In view of the shortcomings identified, the automatic tools used during the checks were reduced to the following:

- WAVE and axeDev - for general testing;
- W3 HTML Validator - for criterion 9.4.1.1;
- WCAG Color contrast checker - for criteria 9.1.4.3 and 9.1.4.11;
- Tech spacing bookmarklet - for criterion 9.1.4.12.

It is mandatory that each result of the automated testing is checked by an expert before being entered into the checklist.

In the testing process, so as to achieve analysis that is inclusive and tailored for the end user's (target group person) perspective, it is necessary to **use assistive technologies that** provide functionality for different disability groups, such as alternative ways to present content (e.g., synthesized speech or enlarged content), alternative ways to imput content (e.g., via

voice), additional navigation or orientation mechanisms, and content transformations (e.g., to augment As these methods target specific user groups, with specific needs, gaining an overall view of the real website state can only be achieved through the integrated use of several such tools. In a number of situations, pages that pass the automated tests fail subsequent testing using assistive technologies, as this is influenced not only by the code on the page, but also, for example, by whether it conforms to the logical sequence (criteria 9.4.1.1).

The assistive technologies that were used in the inspections were a screen reader and a speech synthesizer.

In **manual testing**, a key aspect is the expertise of the tester and the fact that all the code used on the web pages is usually directly available for review and analysis through any standard browser. The analysis enumerates all available resources on the website and uses HTML and CSS validation methods. The logic of structural elements is checked and spell checking can be performed.

The in-depth observation method for each website covers a representative sample of web pages: general website pages, which are usually linked to directly from the main entry point (home page), and often from the header, navigation and footer sections; pages with essential functionality, including information to which website users refer and the tasks they perform to make that functionality happen; identifying the web technologies relied upon for compliance on (basic web technologies such as HTML and CSS, assistive web technologies such as JavaScript, and specific web technologies such as SMIL, SVG and PDF). As a result of the representativeness process, for each website the sample included:

- all common web pages and web page states identified as the primary web pages on the site;
- all functional pages of the website, content from any essential functionality that identifies the core of the website;
- pages defining the variety of subpage types on the site, including one page of each type;
- pages with content provided using additional web technologies;
- pages leading to other portals or forms in order to comprehensively cover a user-initiated process;
- documents, in PDF or other form, providing essential information related to the core functionality of the website.

Mobile app testing

The mobile applications have been checked for compliance with the criteria set out in the European harmonised standard EN 301 549 V3.2.1 (2021-03) as a reference standard, which shall ensure the minimum level of accessibility for 13 applications of administrations and organisations providing public services.

At the time of the audit, there were no developed and validated tools for automated mobile application testing. According to the criteria, the following testing techniques are applied:

- Reading with TalkBack - testing with a screen reader;
- Work with the application without a screen reader - manual testing;
- Using contrast tools - automatic testing.

2.3.3. Simple observation method checks

Using the simplified monitoring method, a total of **763 websites** were checked for non-compliance with the requirements of the harmonised standard EN 301 549 V3.2.1 (2021-03) using automated tools. The monitoring included testing according to 22 requirements of the harmonised standard/ WCAG 2.1 Level A and Level AA success criteria, according to the four accessibility principles: perceivability, usability, understandability and robustness. The comparison of the requirements with the user needs to be covered by the simplified monitoring is presented in an annex to the report.

In the simplified monitoring, the **WAVE Web Accessibility Evaluation Tool** (WAVE Chrome browser extension) was mainly used to detect non-compliance with accessibility requirements, and in addition software tools such as W3 HTML Validator (https://validator.w3.org/), Tingtun Checker (http://checkers.eiii.eu/), Google Lighthouse.

In order to eliminate the drawbacks of automated testing related to generation of false or misleading results, including false positives, as well as to identify certain non-compliances that cannot be covered by automated tests, and in the case of the simplified surveillance method checks, the combined approach was applied

For each website, the check covered a sample of webpages that included the homepage and pages that contained information about the organisation; essential information provided by the organisation; accessibility statement or policy; a feedback/contact form and a map of the website. The specific number of webpages that are analysed depends on the size and complexity of the website.

During the checks for each web page in the samples, testing with automated tools, analysis of accessibility by disabled users (during the second and third observation periods) and additional manual checks by an expert were carried out, and for each website checked, a report was produced with a completed checklist and attached reports generated by the automated tools used. In cases where discrepancies were found, explanations and prescriptions were provided to the inspected organisations to address them.

In continuation of the good practice from the first monitoring period, **end-users** for whom accessibility is essential **were included** in the verification process the second and third monitoring periods. These were visually impaired, blind and deaf individuals, including IT professionals who had previously participated in this type of testing. The users utilized assistive technologies such as a screen reader with speech synthesiser at their disposal and used questionnaires to analyse how accessible and easy to use they found the websites of public sector organisations. Questions included structural elements, navigation, active elements, accessible alternatives, etc. As a result of the analysis of users with disabilities, real accessibility and usability problems of websites for the specific disability were identified, which are not detected by the automatic accessibility assessment tools used by the MEG experts.

For the websites monitored during the period, in addition to the checks for compliance/non-compliance with the harmonised standard requirements, the following activities were carried out:

- checks for the availability of accessibility statements in relation to the obligation under Article 58c(4) of the SEA for organisations to prepare and publish such statements prominently on their official websites in accordance with Implementing Decision (EU)

2018/1523, as well as a link to the text of the statement on any other webpage of the relevant website;

- Website map checks - in relation to the requirement of the harmonised standard to have multiple ways of finding other web pages on a site and the obligation for administrative bodies to provide a 'site map', as per the Institutional Identity Rules for Public Administration Websites and Portals (https://egov.government.bg/wps/portal/ministry-meu/strategies-policies/institutional-identity).

3. MONITORING RESULTS

3.1. Detailed results

3.1.1. Applied method results of simplified website monitoring

(a) a detailed description of the monitoring results, including measurement data

The results obtained by automated tools when testing each identified webpage were further verified by manual inspection. Full reliance was placed on human expertise to check and correctly interpret certain errors and detect some potential inconsistencies such as: adequate text alternatives provided for non-text elements, the headings (per page, per region) informative enough, the language of the webpage correctly defined.

The aggregated results of the inspections during this reporting period also showed the highest number of non-compliance findings in terms of the following criteria:

Requirement of the harmonised standard		% of monitored sites with identified non-compliance
9.1.4.3 (AA)	Contrast (minimum requirements)	80%
9.1.1.1 (A)	Non-text content	78%
9.2.4.4 (A)	Purpose of link (in context)	70%
9.2.4.6 (AA)	Titles and labels	46%
9.1.3.1 (A)	Information and interconnections	39%
9.3.1.1 (A)	Language on the page	26%

Tab. 1 *Criteria with the most discrepancies found*

A review of available accessibility statements during this period also identified a significant number of websites in which this requirement was not met. Only 20% of the monitored websites have published such, and almost all of them have been prepared in accordance with the template, an annex to the Methodology, prepared pursuant to Implementing Decision (EU) 2018/1523, and include the mandatory elements. Some statements checked were found not to be regularly updated and lacked an inaccessible content description that actually exists on the website. The results of site map checks show that 37% of the websites contain a site map, in an accessible HTML format.

(b) qualitative analysis of the observation results

The results of testing with the Wave tool using the simplified observation method show that errors (WCAG failures) were found in almost all pages tested (98.8% of home pages)

For a large number of websites, accessibility barriers were found in the following components

- Images (9.1.1.1 Non-text content (A)) - unsecured equivalent alternative text for images and active images that convey information (no alt attribute, empty alt attribute, inappropriate alternative text) and incorrectly tagged decorative images.

- Labels, Instructions (9.1.3.1 Information and Interrelationships (A), 9.3.3.2 Labels or Instructions (A)) - labels that are not programmatically linked to corresponding controls in a form and fields without labels (e.g., the search field); use the placeholder attribute as the only method to provide a label for a text field.

- Contrast Ratio (9.1.4.3 Contrast (minimum requirements) (AA)) - Insufficient contrast between text and its background is the most common error, in almost all websites. The minimum contrast ratio requirement specified by WCAG (AA) for text smaller than 18 pt is 4.5:1, and for large text (>=18 pt or >=14 pt if bold) is 3:1, insofar as larger text has better legibility even at lower contrast.

- Links (9.2.4.4 Link Purpose (in Context) (A), 9.1.1.1 Non-textual Content (A)) - text that does not suggest the action to be performed when the link is activated or empty links; links included with the href attribute, without textual content (such as text or a text alternative) or without a label that identifies the target (aria-label or aria-labelledby).

- Structure (Information and interrelations 9.1.3.1 (A), 2.4.6 Titles and labels (AA) 4.1.2. Name, Ry hierarchically nested headings (headings); omitted levels; no level 1 heading; heading structure that does not properly represent main topics and subtopics; heading elements without content.

- Page language (9.3.1.1. (A)) - unidentified page language (no lang attribute in html element); incorrectly defined main page language.

- Page Title (9.2.4.2. (A)) - Titles that contain only the name of the organization; titles in which information unique to the page is not placed at the top or do not include the name of the organization.

Some of the pages checked were found to have documents that could be downloaded which were completely unreadable for screen reader users (e.g. pdf files with scanned images), as well as documents the accessibility of which could be improved.

Some of the discrepancies mentioned were not detected as errors by the automated tool, but were found as a result of manual checking by an expert and by a user utilizing a screen reader.

As noted the automated tests can only address a portion of the WCAG success criteria requirements and do not cover all issues, therefore a top score does not guarantee an accessible site, however in order to perform a comparative analysis, when documenting the results of the checks, the values that the Tingtun Checker and Google Lighthouse tools reported in terms of accessibility and successfully passed dtests at the time of evaluation were also recorded.

Testing with the Google Lighthouse tool during the last monitoring period showed that 29% of homepages scored in the 75-85 range on the tool's scale, 32% scored in the 85-95 range, and 8% scored in the 95-100 range, of which 3% had a maximum score of 100. Only 3% of the homepages recorded a score below 50. According to the results of the Tingtun Checker tool testing during the last observation period, 92% of the homepages scored in the 75-100 range, with 4% of them passing all the tests of the tool (maximum score of 100 on the scale).

3.1.2. Applied method results of in-depth website monitoring

(a) a detailed description of the monitoring results, including measurement data

Table 2 provides an overview of the testing performed by criteria - automatic, manual or screen reader.

Requirement	Criterion	Tested automatically Yes/No	Automatic means used	Manually tested Yes/No	Tested with screen reader Yes/No
Non-text content	9.1.1.1 (A)	Yes	Wave, Axe tool	Yes	No
Sound only and picture only (pre-recorded)	9.1.2.1 (A)	No	Not used	Yes	No
Captions (pre-recorded)	9.1.2.2 (A)	No	Not used	Yes	No
Audio description or media alternative (pre-recorded)	9.1.2.3 (A)	No	Not used	Yes	No
Audio description (pre-recorded)	9.1.2.5 (AA)	No	Not used	Yes	No
Information and interconnections	9.1.3.1 (A)	Yes	Wave, Axe tool	Yes	Yes
Meaningful consistency	9.1.3.2 (A)	No	Not used	Yes	Yes
Sensory characteristics	9.1.3.3 (A)	No	Not used	Yes	No
Orientation	9.1.3.4 (AA)	No	Not used	Yes	No
Identifying the purpose of the input fields	9.1.3.5 (AA)	No	Not used	Yes	No
Use of colour	9.1.4.1 (A)	No	Not used	Yes	No
Sizing and reshaping	9.1.4.10 (AA)	No	Not used	Yes	No
Contrast of non-text objects	9.1.4.11 (AA)	No	Contrast checker	Yes	No
Distance between text	9.1.4.12 (AA)	Yes	Text Spacing	Yes	No
Content on passage or focus	9.1.4.13 (AA)	No	Not used	Yes	No
Sound control	9.1.4.2 (A)	No	Not used	Yes	No
Contrast (minimum requirements)	9.1.4.3 (AA)	Yes	Contrast checker	Yes	No
Resize text	9.1.4.4 (AA)	No	Not used	Yes	No
Text images	9.1.4.5 (AA)	No	Not used	Yes	No
Keyboard	9.2.1.1 (A)	Yes	Wave, Axe tool	Yes	Yes
No keyboard focus fixing	9.2.1.2 (A)	No	Not used	Yes	No
Shortcuts via symbol keys	9.2.1.4 (A)	No	Not used	Yes	No
Adjustable time intervals	9.2.2.1 (A)	No	Not used	Yes	No
Pause, stop, hide	9.2.2.2 (A)	No	Not used	Yes	No
Three flashes or sub-threshold flashes	9.2.3.1 (A)	No	Not used	Yes	No
Bypassing blocks of information	9.2.4.1 (A)	Yes	Wave	Yes	Yes

Requirement	Criterion	Tested automatically Yes/No	Automatic means used	Manually tested Yes/No	Tested with screen reader Yes/No
Title of page	9.2.4.2 (A)	Yes	Wave, Axe tool	Yes	Yes
Order of focus assignment	9.2.4.3 (A)	No	Not used	Yes	Yes
Purpose of link (in context)	9.2.4.4 (A)	Yes	Wave, Axe tool	Yes	Yes
Alternative routes	9.2.4.5 (AA)	No	Not used	Yes	No
Titles and labels	9.2.4.6 (AA)	No	Not used	Yes	Yes
Visible focus	9.2.4.7 (AA)	No	Not used	Yes	No
Cursor/pointer gestures	9.2.5.1 (A)	No	Not used	Yes	No
Turn off cursor/pointer gestures	9.2.5.2 (A)	No	Not used	Yes	No
Label in name	9.2.5.3 (A)	No	Not used	Yes	Yes
Movement activation	9.2.5.4 (A)	No	Not used	Yes	No
Language on the page	9.3.1.1. (A)	Yes	Wave, Axe tool	Yes	Yes
Language of the individual parts	9.3.1.2 (AA)	Yes	Wave	Yes	Yes
When receiving focus	9.3.2.1 (A)	No	Not used	Yes	No
Automatic change on entry	9.3.2.2 (A)	No	Not used	Yes	No
Systematic navigation	9.3.2.3 (AA)	No	Not used	Yes	No
Systematic identification	9.3.2.4 (AA)	No	Not used	Yes	No
Identifying errors	9.3.3.1(A)	No	Not used	Yes	Yes
Tags or instructions	9.3.3.2 (A)	No	Not used	Yes	Yes
Suggestion for bug fix	9.3.3.3 (AA)	No	Not used	Yes	Yes
Prevention of errors (legal, financial, factual)	9.3.3.4 (AA)	No	Not used	Yes	Yes
Logical parsing	9.4.1.1 (A)	Yes	HTML Validator	Yes	Yes
Name, role, value	9.4.1.2 (A)	Yes	Wave, Axe tool	Yes	Yes
Status messages	9.4.1.3 (AA)	No	Not used	Yes	No

Tab. 2 Testing performed by criteria - automatic, manual or screen reader

(b) qualitative analysis of the observation results

Of the 45 sites checked by the in-depth monitoring method, none met the requirements for compliance with the standard

The analysis by criteria clearly shows a predominance of inconsistencies in criteria concerning textual and graphical content:

- **Lack of linked text**

The <a> element in HTML is used to specify links to other web pages or places on the same web page. However, sometimes developers use the <a> element to provide other interactive functionality, often in a way that excludes any hyperlink text. The result is that assistive technologies, such as screen readers, have no way to determine the purpose of the link,

leaving the end user uncertain about what will happen when they follow the link. It is therefore essential for each connection to be defined in an accessible way.

- **Inactive element in the tab order**

This error occurs when a non-interactive element is included in the tab order using tabindex="0", making it focusable with the tab key even though it is not necessary, reducing efficiency and increasing effort for users utilizing keyboard shortcuts. Typically, only interactive elements such as links, buttons, and form input fields shall be included in the focus order.

- **Missing link attribute "alt"**

This problem is often related to 9.4.1.1. Often connections are marked with an icon or another graphical element that visually displays the purpose of the connection. However, a common mistake is to provide a graphic without any textual alternative description. When a link with an image has no textual description, users of assistive technologies will be unaware of the link's purpose.

- **Missing text "alt"**

Related to the previous problem, the alternative image text provides a textual description of the image content. When the <img> element does not have a text alternative, screen reader users have no way to know what it is about. Providing a text alternative that communicates the same information as the image is one of the most basic accessibility requirements.

- **Incorrectly nested list**

Using tags to identify lists helps to communicate the structure of the page content in an accessible way. When a list element has a nested list, it is important to use markup in the correct way to make nested relations clear. This helps to avoid confusion when the list structure is traversed by screen readers.

- **Using duplicate labels with the same names**

Another common problem found by automated tools is related to form fields that have multiple identical labels. More than one label with exactly the same text can make it difficult for some users to understand the form structure and decide what content to enter in a particular field, increasing the likelihood of input errors. If the form has multiple labels with the same text, this is an indication that the form design may need to be revised or the labeling of each input field may need to be changed.

- **Positive tabindex value**

The tabindex attribute is a way to control which elements on a web page receive focus with the tab key. In the past, developers have used different tabindex values to try to control the order of focus across a page. This approach is actually very brittle and difficult to maintain. To optimize keyboard usage, do not try to control the focus order using positive tabindex values.

- **Invalid aria-describedby**

Occasionally, control may require a description as well as a label when users need additional details about the status or purpose of the control. The aria-describedby attribute can be used to provide a link between the control and some descriptive text elsewhere on the page. However, the ID value defined by aria-describedby must match an element on the page with

the same ID, otherwise the relations between these elements will not be conveyed by accessibility technologies.

- **Missing label for element "button"**

Like links without text, a button without an accessible label does not convey its purpose to users of accessibility technologies. Unfortunately, many buttons are implemented in such a way that they are based on visual icons, which means that users must be able to see that icon to understand the purpose of the button. To avoid this problem, provide each control with an accessible label that clearly communicates its purpose.

- **Invalid aria-labelledby**

In specific situations, control can be provided with an accessible label by linking the control to text elsewhere on the page. The aria-labelledby attribute can provide this link, but must correctly refer to the ID of the text element, otherwise the link between the control and its label is lost to users of accessibility technologies.

3.1.3. Results for an Applied Deep Monitoring Method for Mobile Applications

In Tab. 3 presents an overview of the testing performed by criteria - automatic, manual or screen reader:

Requirement	Criterion	Tested automatically Yes/No	Automatic means used	Tested manually Yes/No	Tested with screen reader Yes/No
Non-text content	11.1.1.1.1 (A)	No	Not used	Yes	Yes
Audio and video content (pre-recorded)	11.1.2.1.1 (A)	No	Not used	Yes	Yes
Captions (pre-recorded)	11.1.2.2 (A)	No	Not used	Yes	Yes
Information and interconnections	11.1.3.1.1 (A)	No	Not used	Yes	Yes
Sensory characteristics	11.1.3.3 (A)	No	Not used	Yes	No
Orientation	11.1.3.4 (AA)	No	Not used	Yes	No
Identifying the purpose of the input fields	11.1.3.5 (AA)	No	Not used	Yes	Yes
Use of colour	11.1.4.1 (A)	No	Not used	Yes	No

Requirement	Criterion	Tested automatically Yes/No	Automatic means used	Tested manually Yes/No	Tested with screen reader Yes/No
Sound control	11.1.4.2 (A)	No	Not used	Yes	No
Contrast (minimum requirements)	11.1.4.3 (AA)	Yes	contrastchecker.com	Yes	No
Text images	11.1.4.5.1 (AA)	No	Not used	Yes	No
Contrast of non-text objects	11.1.4.11 (AA)	Yes	contrastchecker.com	Yes	No
Content on passage or focus	11.1.4.13 (AA)	No	Not used	Yes	No
Adjustable time intervals	11.2.2.1 (A)	No	Not used	Yes	No
Pause, stop, hide	11.2.2.2 (A)	No	Not used	Yes	No
Three flashes or sub-threshold flashes	11.2.3.1 (A)	No	Not used	Yes	No
Purpose of link (in context)	11.2.4.4 (A)	No	Not used	Yes	Yes
Titles and labels	11.2.4.6 (AA)	No	Not used	Yes	Yes
Cursor/pointer gestures	11.2.5.1 (A)	No	Not used	Yes	No
Turn off cursor/pointer gestures	11.2.5.2 (A)	No	Not used	Yes	No
Activation by movement	11.2.5.4 (A)	No	Not used	Yes	No
Automatic change on entry	11.3.2.2 (A)	No	Not used	Yes	No
Identifying errors	11.3.3.1.1(A)	No	Not used	Yes	Yes

Requirement	Criterion	Tested automatically Yes/No	Automatic means used	Tested manually Yes/No	Tested with screen reader Yes/No
Prevention of errors (legal, financial, factual)	11.3.3.4 (AA)	No	Not used	Yes	Yes
Name, role, value	11.4.1.2.1(A)	No	Not used	Yes	Yes
Open to accessibility technologies	11.5.2	No	Not used	Yes	Yes
No interruption in the use of accessibility technologies	11.6.2	No	Not used	Yes	Yes
Custom settings	11.7	No	Not used	Yes	No

Tab. 3 Testing performed by criteria - automatic, manual or screen reader

Detailed description of the result analysis, including measurement data

Of the mobile apps tested, 4 mobile apps fully met the requirements for compliance with the standard, namely:

- eHealth - https://play.google.com/store/apps/details?id=bg.government.my.his.android;
- EasyDoc Bulgaria - https://play.google.com/store/apps/details?id=com.easydoc.android;
- Econt Express Ltd - https://play.google.com/store/apps/details?id=com.econt.prod.pme;
- SmartFSC - Financial Supervisory Commission - https://play.google.com/store/apps/details?id=com.scalefocus.fsc.

Ezdrave is a mobile application of the National Health Information System, which is owned by the Ministry of Health. The mobile application (Android and iOS) was developed by Information Services, the national system integrator of the Republic of Bulgaria. The app gives every citizen access to their electronic patient record. Ezdrave is linked with the electronic medical record through a QR code that is generated in the web version of the medical record. Through the app, the medical record data is easily accessible anywhere, anytime.

The mobile app provides the following information:

- E-reviews conducted;
- E-guidance issued;

- Vaccines administered and certificates issued;
- Laboratory test results;
- E-hospitalisation panel;
- Blood Donation Panel;
- Long-term health care panel;
- Notification of issued and completed e-documents;
- Parental access to children's electronic records;
- General health information.

eHealth is an official patient record, version 3.3.3 which allows users to add and delete contacts directly from the mobile device in the "Emergency Contacts" section. On the latest version, other improvements have been made to the Personal Record module related to screen accessibility when text is zoomed.

The analysis shows that the most frequent discrepancies are in the fundamental criteria:

- Non-textual content 11.1.1.1.1 (A) - Non-compliance for this criterion was in 69.23% of the applications reviewed. The significant issue here is the misunderstanding of the meaning and function of the alternative text.
- Name, Role, Value 11.4.1.2 (A) - Noncompliance for this criterion was in 53.85% of the applications reviewed. Most often these were menu buttons that were missing, a name, or the name did not match the function of the button.
- Contrast (minimum requirements) 11.1.4.3 (AA) - Noncompliance for this criterion was in 61.54% of the applications reviewed. The contrast between text and background is less than 4.5:1.

The standard (EN 301 549 V3.2.1 (2021-03)) for Criterion 11.1.4.3 states that the same conformance requirements apply as WCAG Success Criterion 1.4.3 Contrast (Minimum). It has been found that WCAG Success Criterion 1.4.3 Contrast (Minimum) specifies two minimum contrast values depending on the font size: 4.5:1 for the overall criterion and 3:1 for Large Text. For mobile apps and software in general, the definition of "large text" cannot be objectively applied (font size in pt cannot be measured).

There has been a significant improvement in the quality of applications, with the use of modern framework solutions containing accessibility technologies built in. New "best practices" in programming are also improving the level of accessibility.

During the reporting period, no reports were received by the Minister for eGovernment from public sector organisations on the use of the derogation on excessive burden provided for in Article 5 of Directive (EU) 2016/2102 (Exceptions to the accessibility obligation on grounds of excessive burden, Article 39a of the Regulation on general requirements for information systems, registers and electronic administrative services).

4. USING THE APPLICATION PROCEDURE AND FEEDBACK FROM USERS THEY

In order to create an effective mechanism for the implementation of Directive (EU) 2016/2102, the procedure for submission of alerts and complaints by citizens and organizations

regardingviolation of the accessibility requirements of website content or mobile applications of public sector organizations (persons under Article 1, paragraphs 1 and 2 of the EEA Act) is regulated by law[8] .

In the first stage, if an accessibility irregularity is detected, the user has the possibility to send an alert to the relevant obliged person who owns the website. The obliged entity itself describes the procedure and timeframes to deal with alerts from citizens and organisations about breaches of accessibility requirements and publishes it as part of the accessibility statement on its website. As a second step, the possibility of lodging a complaint with the Minister of eGovernment is regulated if the person referred to in Article 1(1)(b) of the Directive does not comply with the accessibility requirements. 1 or 2 of the EMU Act fails to respond to a report submitted to it within the time limit or fails to take the measures to remedy the accessibility breach specified in response to the report.

When examining the complaint, the Minister of e-Government may, by a decision, give binding instructions if he finds a violation of the content accessibility requirements, indicating the deadline for their implementation by the person referred to in Art. 1 and 2, or reject it if he/she finds no breach.

In the process of resolving issues related to website and mobile applications accessibility, the Minister of Labour and Social Policy also has a duty to provide a binding opinion on non-technical issues related to the specific needs of persons with disabilities that arise in the course of observations, inspections and reviews, or in the course of complaints handling, upon the request of the Minister of e-Government.

During the reporting period, the Ministry of eGovernment did not receive any complaints from citizens regarding breaches of the accessibility requirements for website content.

5. INFORMATION ON ADDITIONAL MEASURES TAKEN

Since the launch of the monitoring activities, public sector organisations have shown an increasing commitment to insure and improve the accessibility of their websites and mobile apps through the harmonised standard implementation, so that better compliance and accessible content for all is achieved. Feedback from the organisations inspected, as well as the re-inspections carried out, show that the necessary actions are being taken to address non-compliances within the set timeframe, to improve accessibility and to maintain accessible content. As a result of a thorough review on the accessibility of their websites, some organisations have planned and created entirely new websites.

More and more public administration structures are taking advantage of the opportunity to build a portal site using a template developed in accordance with accessibility requirements. Through the e-Government Portal Platform (EGP) a free service for federated portals of administrations is provided. The portal platform is a cloud-based solution for building websites according to a pre-prepared template within a single infrastructure. The templates allow for a relative customisation of the look and feel of the site, but preserve the structure in order to facilitate the end user and create a unified online visual identity for government institutions. By the end of 2024, the developed set of templates includes templates for website of a municipality,

[8] Law on e-government

regional administration, specialised territorial administration, back-office structures created by law, executive agencies, ministries. So far, a total of 70 administrations' federated portals have been put into operation, and another 111 have been configured under construction

Information about the service, demonstration versions of developed template websites, General Terms and Conditions for the construction and maintenance of a federated portal in the the PEG infrastructure and a template application form are published on the official website of the Ministry of e-Government at: https://unifiedmodel.egov.bg/wps/portal/unified-model/for-administrations/federirani-portali/federirani-portali. The MEG has conducted trainings for administrations and has prepared video instructions for content management in the portals of municipal and regional administrations.

In order to raise awareness, MEG implemented the following activities:

- It has created a dedicated space on its website where it publishes up-to-date news, documents and useful links (https://egov.government.bg/wps/portal/ministry-meu/home/web-accessibility).

- Keeps up-to-date all documents related to the implementation of the monitoring and control functions and, in order to ensure transparency and support administrations, ensures their publicity, including by publishing them on the Ministry's website.

- In 2022, it carried out an update of the Methodology and its annexes, in line with the new version of the harmonised standard EN 301 549 (V3.2.1 (2021-03)), best practices of Member States and the experience gained during the verification process. The developed and updated annexes contain the accessibility requirements, accessibility assessment checks, testing tools, approach for web page sampling, sample checklists and check reports, sample accessibility declaration, recommendations for user interfaces, procedure and checklist to consider preliminary severity assessments. The methodology for monitoring and checking the website accessibility and mobile app content, together with its annexes, is publicly available at: https://egov.government.bg/wps/portal/ministry-meu/home/web-accessibility/monitoring.

- Participated in a specialized seminar on "Digital Environment Communication" under the project "Digital Transformation in Education - Digital Competence and Learning", organized by the Institute of Public Administration, where experts from the Ministry presented the overall policy, standard requirements, obligations and checks carried out on the accessibility of websites.

- Specialized course for trainees of the Military Academy "G. C. Rakovski Academy, Ministry of Defence, Ministry of the Interior and the Centre for Human Resource Development and Regional Initiatives, with the leading topic of search engine optimization. Experts from MEG presented accessibility policies, best practices and important highlights related to ensuring electronic environment accessibility for all users, including people with disabilities through the use of various assistive technologies.

Despite the growing awareness of digital accessibility, many administrations and public service organisations face challenges to implement the technical standard EN 301 549 and to develop and maintain accessible websites and mobile applications.

On the other hand, there are also challenges for the MEG experts who carry out accessibility control. At national level, there is a lack of a certifying body that conducts interdisciplinary conceptual training on accessibility and universal design, accessibility

standards, and the acquisition of in-depth knowledge of different testing processes, techniques and strategies. Accessibility is a dynamic and continuous process that adapts to changing user needs and preferences, as well as changing technologies and platforms. Each year, MEG commits financial resources to conduct certified training to increase the number of experts available to conduct testing, ensure professional knowledge and skills, and unify the testing approach and process.

The MEG has raised the importance of this type of training to be introduced as a discipline in many technical universities at an earlier stage and all future professionals to build a set of skills and abilities to apply accessibility principles.

The Ministry's e-Government policy is aimed at providing an accessible Internet environment for the widest possible range of users, regardless of their abilities, technologies used and skills. Staff are actively working to improve the accessibility and usability of the information provided and in parallel to adhere to the best practice, despite the rapid dynamic development of browsers and technology solutions to develop and access the internet environment.

Despite the accumulated internal expertise in the field of accessibility, the Ministry calls for external support (through the implementation of joint initiatives for accessibility of administrations, sharing experience from other administrations, promoting awareness of accessibility issues). All these efforts are the tools to bring together professionals from the organisations responsible to administer websites. Regular awareness raising plays a role to build knowledge and skills by informing about changes in the legal framework, new projects and tools and possible partnerships.

Annex to the Report on the website accessibility monitoring of public sector organisations in the period 2022-2024 in the Republic of Bulgaria

Requirements and user needs they address

Requirement of the harmonised standard included in the simplified observation	User needs it satisfies
9.1.1.1 (A) Non-text content	lack of sight, limited vision, lack of hearing limited hearing, limited cognitive abilities
9.1.2.1 (A) Sound only and picture only (pre-recorded)	lack of vision, limited vision, lack of hearing, limited hearing limited cognitive abilities
9.1.2.2 (A) Captions (pre-recorded)	lack of hearing, limited hearing limited cognitive abilities
9.1.2.3 (A) Audio description or media alternative (pre-recorded)	lack of vision limited vision, limited cognitive abilities
9.1.3.1 (A) Information and interconnections	lack of vision, limited vision, limited cognitive abilities
9.1.4.2 (A) Sound control	No vision, limited hearing, limited cognitive abilities
9.1.4.3 (AA) Contrast (minimum requirements)	limited vision, no colour perception, limited cognitive abilities
9.1.4.4 (AA) Text resizing	limited vision, limited manual dexterity or strength
9.1.4.5 (AA) Text images	limited vision, no ability to recognize colors
9.2.1.1 (A) Keypad	no sight, limited vision, no voice ability, limited manual dexterity or strength
9.2.1.2 (A) Without keyboard focus fixation	no sight, limited vision, no voice ability, limited manual dexterity or strength
9.2.2.2 (A) Pause, stop, hide	lack of vision, limited vision, limited manual dexterity or strength, lack of hearing, limited hearing
9.2.3.1 (A) Three flashes or below the flash threshold	the need to minimize the elements causing photosensitive epileptic seizures
9.2.4.2 (A) Page Title	Lack of vision, limited vision, limited manual dexterity or strength, use with limited cognitive ability
9.2.4.3 (A) Order of focus assignment	lack of sight, limited vision, lack of hearing, use without voice ability, limited cognitive ability
9.2.4.4 (A) Purpose of link (in context)	lack of vision, limited vision, limited manual dexterity or strength, limited cognitive abilities use without voice capabilities
9.2.4.6 (AA) Titles and labels	no vision, limited vision, no voice ability, no hearing, limited manual dexterity or strength, limited cognitive ability
9.2.4.7 (AA) Visible focus	no vision, limited vision, no voice ability, limited manual dexterity or strength, limited cognitive ability
9.3.1.1 (A) Page language	lack of sight, limited vision, lack of hearing limited hearing, limited cognitive abilities

9.3.3.1(A) Fault identification	lack of sight, limited vision, lack of hearing limited hearing, limited cognitive abilities
9.3.3.2 (A) Labels or instructions	no vision, limited vision, no voice ability, limited manual dexterity or strength, limited cognitive ability
9.4.1.2 (A) Name, role, value	lack of vision, limited vision, limited manual dexterity or strength

Clarification of criteria of harmonised standard EN 301 549 V3.2.1 (2021-03)

Requirement/success criterion included in the test	Criterion	Clarification of what is being checked
Non-text content	9.1.1.1 (A)	Images, image buttons in forms and image maps, and areas within them have appropriate, equivalent alternative text.
Sound only and picture only (pre-recorded)	9.1.2.1 (A)	A transcript of the relevant audio/video content is provided on file (pre-recorded, not live) .
Captions (pre-recorded)	9.1.2.2 (A)	Synchronized captions are provided for video that is not active.(pre-recorded, not live).
Sound description or media alternative	9.1.2.3 (A)	Provided transcript or audio description for a video that was pre-recorded (pre-recorded, not live).
Captions (live)	9.1.2.4 (AA)	Subtitles are provided to describe audio/video content that is being streamed live.
Audio description (pre-recorded)	9.1.2.5 (AA)	Descriptive annotations in the form of audio content are provided for video content synchronously. (pre-recorded, not live).
Information and interconnections	9.1.3.1 (A)	The information, structure and relations between them can be "programmatically" (through software tools) defined or are accessible with descriptive text.
Meaningful consistency	9.1.3.2 (A)	When the sequence of content presentation affects its meaningfulness, the site provides an opportunity to manage this sequence programmatically (through software tools).
Sensory characteristics	9.1.3.3 (A)	The instructions that are provided in order to understand and work with the content do not rely solely on sensory and material characteristics such as shape, colour, size, place of visualisation, orientation in space and sound.
Orientation	9.1.3.4 (AA)	The content provided on the site is not limited in view and orientation to only one direction or only one display, Allows to change the orientation of portrait and landscape and does not depend on the size of the display on which it is displayed.
Identifying the purpose of input fields	9.1.3.5 (AA)	The meaning of the input field that collects user information provides the ability to be programmatically modified when the field serves the purposes described in the "Input Purposes for User Interface Components" section of the standard.

Requirement/success criterion included in the test	Criterion	Clarification of what is being checked
Use of colour	9.1.4.1 (A)	When colours are used, they should not be the only visual tool as a way of defining a user action, an indication of a user response expectation or a marker to distinguish a visual element. For the above, there should be alternative means of differentiation besides the use of colour.
Sound control	9.1.4.2 (A)	If a page automatically loads a sound that lasts more than 3 seconds, it should be easily stoppable or allow its volume to be reduced.
Contrast (minimum requirements)	9.1.4.3 (AA)	Contrast ratio for normal text is at least 4.5:1
Resize text	9.1.4.4 (AA)	Text can be resized up to 200% without the use of additional technology and without loss of content or functionality.
Text images	9.1.4.5 (AA)	Interactive elements (e.g. form controls) are visible and usable.
Sizing and reshaping	9.1.4.10 (AA)	Content can be delivered without loss of information or functional features and without the mandatory need for horizontal and vertical scrolling.
Contrast of non-text objects	9.1.4.11 (AA)	Visually rendered content has a 3:1 contrast ratio between adjacent colors
Distance between text	9.1.4.12 (AA)	For content created using HTML-like markup languages (markup languages) that support CSS, no loss of content or functionality is allowed.
Content on passage or focus	9.1.4.13 (AA)	When moving the mouse over an object or focusing on content by means of a keyboard, additional objects in the content that otherwise remain hidden are displayed
Keyboard	9.2.1.1 (A)	All page functionality is accessible using the keyboard with no time limit to press the shortcut key.
No keyboard focus fixing	9.2.1.2 (A)	The shortcut keys and access keys do not conflict with the known browser and screen reader shortcut keys.
Shortcuts via symbol keys	9.2.1.4 (A)	If the keyboard shortcut is implemented in the content using only letters, punctuation, numbers or symbols, then a mechanism must be available to turn off or change the keyboard shortcut. Alternatively, it should only be active when the object is in focus.
Adjustable time intervals	9.2.2.1 (A)	For any content that is made available for a limited time, the user must be able to turn off the limit, set the display limit, increase the display limit.
Pause, stop, hide	9.2.2.2 (A)	Automatic content updates can be paused, stopped or hidden by the user, or the user can manually control the timing of updates
Three flashes or sub-threshold flashes	9.2.3.1 (A)	The page shall not have content that flashes more than 3 times per second, unless that flashing content is small enough and the flashes are low contrast and do not contain much red. Common thresholds for flashes and red flashing shall be checked.

Requirement/success criterion included in the test	Criterion	Clarification of what is being checked
Bypassing blocks of information	9.2.4.1 (A)	A content management mechanism is available that allows skipping blocks of content that are repeated multiple times.
Title of page	9.2.4.2 (A)	The web page has a title that describes it concisely, adequately and informatively and allows it to be distinguished from other pages.
Order of focus assignment	9.2.4.3 (A)	The focus of the keyboard is not fixed on a particular element on the page. You can navigate to and from any element on the page using only the keyboard.
Purpose of link (in context)	9.2.4.4 (A)	The purpose of each link in the page can be defined by the link name alone or by the link name in combination with an additional element that can be defined programmatically.
Alternative routes	9.2.4.5 (AA)	More than one ways are possible to access a web page or group of web pages.
Titles and labels	9.2.4.6 (AA)	Page headings and labels for controls in forms are informative and meaningful.
Visible focus	9.2.4.7 (AA)	Visually see which element on the page has the current keyboard focus (i.e. while viewing the page with just a keyboard, you can see where you are).
Cursor/pointer gestures	9.2.5.1 (A)	All control gestures that require "typing" a curve with the cursor also have an alternative (gesture, key) for execution that does not require typing a curve.
Turn off cursor/pointer gestures	9.2.5.2 (A)	All control gestures that are performed with the cursor/pointer must be able to be adjusted appropriately.
Name labels	9.2.5.3 (A)	For content objects with labels that contain text or text images, the name of the label itself must contain the text that is visually represented in the image.
Activation by movement	9.2.5.4 (A)	Functionality that is controlled by device movement or user movement, to have alternative control available in the user interface. The control of the same functionality shall provide the option to be disabled to prevent accidental user actions.
Language on the page	9.3.1.1. (A)	The default language of each page can be programmatically (software) defined.
Language of individual parts	9.3.1.2 (AA)	The language of any phrase or piece of text must allow it to be programmatically modified (translated to a different language, etc.), with the exception of object names, technical terms, words from an undefined language, and words and phrases that have a specific contextual meaning.
When receiving focus	9.3.2.1 (A)	When any element is focused, the focusing event must not cause the content context to change.
Automatic change on entry	9.3.2.2 (A)	Changing the setting of any interface component shall not cause the contextual content to change automatically unless the user is warned in advance of these automatic changes.
Systematic navigation	9.3.2.3 (AA)	Navigation mechanisms that repeat across multiple pages in a group should be structured in the same way for all pages in the group, unless the user requests otherwise.

Requirement/success criterion included in the test	Criterion	Clarification of what is being checked
Systematic identification	9.3.2.4 (AA)	Components that have identical functionality in a page group must be identifiable in the same way (be identical) for each individual page.
Identifying errors	9.3.3.1(A)	If automatic form completion checking is supported and such an error is detected, then it must be shown to the user in text form and they must be able to read it.
Tags or instructions	9.3.3.2 (A)	Labels, directions and instructions shall be provided in a form accessible to the user fto complete items on the page or to file out forms.
Bug fixing suggestions	9.3.3.3 (AA)	If an input error is detected and there is a possibility to correct it automatically, the user should be made aware of the possible corrections, unless this causes a security risk.
Prevention of errors (legal, financial, factual)	9.3.3.4 (AA)	For web pages that bind the user to legal consequences or financial transactions, as well as those that manage the user's own data (store, delete, modify), the following conditions must be met: * Each operation to be reversible * Each answer can be corrected * The user is given the opportunity to correct the entered data before sending * Users to be given the opportunity to confirm data before sending
Logical parsing	9.4.1.1 (A)	For content created using HTML-like markup languages, elements are placed at the appropriate level and the use of duplicate IDs is avoided.
Name, role, value	9.4.1.2 (A)	For all UI components, including those that are automatically generated, the component name and role can be programmatically defined. Notifications shall be available to the user when these components are changed automatically.
Status messages	9.4.1.3 (AA)	For content created using HTML-like markup languages, status and status messages should be software-definable according to the user's role and characteristics, including whether they use assistive technologies without receiving focus.