

Requirements	Possible solutions
Section I General accessibility requirements related to all products	
1. Requirements on the provision of information:	
(a) the information on the use of the product provided on the product itself (labelling, instructions, and warning) shall be:	
(i) made available via more than one sensory channel	Providing visual and tactile information or visual and auditory information indicating the place where to introduce a card in a self-service terminal so that blind persons and deaf persons can use the terminal.
(ii) presented in an understandable way	Using the same words in a consistent manner, or in a clear and logical structure, so that persons with intellectual disabilities can better understand it.
(iii) presented to users in ways they can perceive	Providing tactile relief format or sound in addition to a text warning so that blind persons can perceive it.
(iv) presented in fonts of adequate size and suitable shape, considering foreseeable conditions of use, and using sufficient contrast, as well as adjustable spacing between letters, lines and paragraphs	Allowing that text can be read by persons who are visually impaired.
(b) the instructions for use of a product, where not provided on the product itself but made available using the product or through other means such as a website, including the accessibility functions of the product, how to activate them and their interoperability with assistive solutions shall be publicly available when the product is placed on the market and shall:	
(i) be made available via more than one sensory channel	Providing electronic files which can be read by a computer using screen readers so that blind persons can use the information.

(ii) be presented in an understandable way	Using the same words in a consistent manner, or in a clear and logical structure, so that persons with intellectual disabilities can better understand them.
(iii) be presented to users in ways they can perceive	Providing subtitles when video instructions are provided.
(iv) be presented in fonts of adequate size and suitable shape, considering foreseeable conditions of use, and using sufficient contrast, as well as adjustable spacing between letters, lines and paragraphs	Allowing that the text can be read by persons who are visually impaired.
(v) Regarding content, be made available in text formats that can be used for generating alternative assistive formats to be presented in different ways and via more than one sensory channel	Printing in Braille, so that a blind person can use them.
(vi) be accompanied by an alternative presentation of any non-textual content	Accompanying a diagram with a text description identifying the main elements or describing key actions.
(vii) include a description of the user interface of the product (handling, control and feedback, input, and output) which is provided in accordance with point 2; the description shall indicate for each of the points in point 2 whether the product provides those features	No example provided
(viii) include a description of the functionality of the product which is provided by functions aiming to address the needs of persons with disabilities in accordance with point 2; the description shall indicate for each of the points in point 2 whether the product provides those features	No example provided
(ix) include a description of the software and hardware interfacing of the product with assistive devices; the description shall include a list of those assistive devices which have been tested together with the product	Including a socket and software in automated teller machines which will allow the plugging of a headphone which will receive the text on the screen in the form of sound.

2. User interface and functionality design:

(a) when the product provides for communication, including interpersonal communication, operation, information, control, and orientation, it shall	Providing instructions in the form of voice and text, or by incorporating tactile signs in a keypad, so that persons who are blind or hard of hearing can interact with the product.
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do so via more than one sensory channel; this shall include providing alternatives to vision, auditory, speech and tactile elements

(b) when the product uses speech, it shall provide alternatives to speech and vocal input for communication, operation control and orientation

(c) when the product uses visual elements it shall provide for flexible magnification, brightness and contrast for communication, information, and operation, as well as ensure interoperability with programs and assistive devices to navigate the interface

(d) when the product uses colour to convey information, indicate an action, require a response, or identify elements, it shall provide an alternative to colour

(e) when the product uses audible signals to convey information, indicate an action, require a response, or identify elements, it shall provide an alternative to audible signals

(f) when the product uses visual elements, it shall provide for flexible ways of improving vision clarity;

(g) when the product uses audio, it shall provide for user control of volume and speed, and enhanced audio features including the reduction of interfering audio signals from surrounding products and audio clarity

(h) when the product requires manual operation and control, it shall provide for sequential control and alternatives to fine motor control, avoiding the need for simultaneous controls for manipulation, and shall use tactile discernible parts

(i) the product shall avoid modes of operation requiring extensive reach and great strength

(j) the product shall avoid triggering photosensitive seizures

Offering in a self-service terminal in addition to the spoken instructions, for example, instructions in the form of text or images so that deaf persons can also perform the action required

Allowing users to enlarge a text, to zoom in on a particular pictogram or to increase the contrast, so that persons who are visually impaired can perceive the information.

In addition of giving a choice to press the green or the red button for selecting an option, providing in written on the buttons what the options are, to allow person who are colour blind to make the choice.

When a computer gives an error signal, providing a written text or an image indicating the error, to allow deaf persons to apprehend that an error is occurring.

Allowing for additional contrast in foreground images so that persons who have low vision can see them.

Allowing the user of a telephone to select the volume of the sound and reduce the interference with hearing aids so that persons who are hard of hearing can use the telephone.

Making touch screen buttons bigger and well separated so that persons with tremor can press them.

Ensuring that buttons to be pressed do not require much force so that persons who have motor impairments can use them.

Avoiding flickering images so that persons who get seizures are not at risk.

<p>(k) the product shall protect the user's privacy when he or she uses the accessibility features</p>	<p>Allowing the use of headphones when spoken information is provided by automated teller machines.</p>
<p>(l) the product shall provide an alternative to biometrics identification and control</p>	<p>As an alternative to fingerprint recognition, allowing users who cannot use their hands to select a password for locking and unlocking a phone.</p>
<p>(m) the product shall ensure the consistency of the functionality and shall provide enough, and flexible amounts of, time for interaction</p>	<p>Ensuring that the software reacts in a predictable way when a particular action is performed and providing enough time to enter a password so that is easy to use for persons with intellectual disabilities.</p>
<p>(n) the product shall provide software and hardware for interfacing with the assistive technologies</p>	<p>Offering a connection with a refreshable Braille display so that blind persons can use the computer.</p>
<p>(o) the product shall comply with the following sector-specific requirements</p>	<p>Examples of sector-specific requirements</p>
<p>(i) self-service terminals:</p> <ul style="list-style-type: none"> — shall provide for text-to-speech technology — shall allow for the use of personal headsets — where a timed response is required, shall alert the user via more than one sensory channel; — shall give the possibility to extend the time given; — shall have an adequate contrast and tactilely discernible keys and controls when keys and controls are available — shall not require an accessibility feature to be activated in order to enable a user who needs the feature to turn it on — when the product uses audio or audible signals, it shall be compatible with assistive devices and technologies available at union level, including hearing technologies such as hearing aids, telecoils, cochlear implants and assistive listening devices; 	<p>No example provided</p>
<p>(ii) e-readers shall provide for text-to-speech technology</p>	<p>No example provided</p>

(iii) consumer terminal equipment with interactive computing capability, used for the provision of electronic communications services:

— shall, when such products have text capability in addition to voice, provide for the handling of real time text and support high fidelity audio

— shall, when they have video capabilities in addition to or in combination with text and voice, provide for the handling of total conversation including synchronised voice, real time text, and video with a resolution enabling sign language communication

— shall ensure effective wireless coupling to hearing technologies

— shall avoid interferences with assistive devices;

(iv) consumer terminal equipment with interactive computing capability, used for accessing audio visual media services shall make available to persons with disabilities the accessibility components provided by the audiovisual media service provider, for user access, selection, control, and personalisation and for transmission to assistive devices.

Providing that a mobile phone should be able to handle real time text conversations so that persons who are hard of hearing can exchange information in an interactive way.

Allowing the simultaneous use of video to display sign language and text to write a message, so that two deaf persons can communicate with each other or with a hearing person.

Ensuring that subtitles are transmitted through the set top box for their use by deaf persons.

3. Support services: No example provided

Section II

Accessibility requirements related to all products, except for self-service terminals¹

In addition to the requirements of Section I, the packaging and instructions of products covered by this Section shall be made accessible, to maximise their foreseeable use by persons with disabilities. This means that:

(a) the packaging of the product including the information provided in it (e.g. about opening, closing, use, disposal), including, when provided, information about the accessibility characteristics of the product, shall be made accessible; and, when feasible, that accessible information shall be provided on the package

(b) the instructions for the installation and maintenance, storage and disposal of the product not provided on the product itself but made available through other means, such as a website, shall be publicly available when the product is placed on the market and shall comply with the following requirements:

(i) be available via more than one sensory channel;

Indicating in the packaging that the phone contains accessibility features for persons with disabilities.

Providing electronic files which can be read by a computer using screen readers so that blind persons can use the information

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(i) payment terminals

(ii) the following self-service terminals dedicated to the provision of services covered by this Directive:

— automated teller machines

— ticketing machines

— check-in machines

— interactive self-service terminals providing information, excluding terminals installed as integrated parts of vehicles, aircrafts, ships or rolling stock

(ii) be presented in an understandable way

Using the same words in a consistent manner, or in a clear and logical structure, so that persons with intellectual disabilities can better understand it.

(iii) be presented to users in ways they can perceive

Providing tactile relief format or sound when a text warning is present so that blind persons receive the warning.

(iv) be presented in fonts of adequate size and suitable shape, considering foreseeable conditions of use, and using sufficient contrast, as well as adjustable spacing between letters, lines and paragraphs

Providing that the text can be read by persons who are visually impaired.

(v) content of instructions shall be made available in text formats that can be used for generating alternative assistive formats to be presented in different ways and via more than one sensory channel; and

Printing in Braille, so that a blind person can read it.

(vi) instructions containing any non-textual content shall be accompanied by an alternative presentation of that content.

Supplementing a diagram with a text description identifying the main elements or describing key actions.

Section III

General accessibility requirements related to all services

(a) ensuring the accessibility of the products used in the provision of the service, in accordance with Section I of this Annex and, where applicable, Section II thereof	No example provided
(b) providing information about the functioning of the service, and where products are used in the provision of the service, its link to these products as well as information about their accessibility characteristics and interoperability with assistive devices and facilities:	Providing electronic files which can be read by a computer using screen readers so that blind persons can use the information.
(i) making the information available via more than one sensory channel	Using the same words in a consistent manner or in a clear and logical structure so that persons with intellectual disabilities can better understand it.
(ii) presenting the information in an understandable way	Including subtitles when a video with instructions is provided.
(iii) presenting the information to users in ways they can perceive	Providing that a blind person can use a file by printing it in Braille.
(iv) making the information content available in text formats that can be used to generate alternative assistive formats to be presented in different ways by the users and via more than one sensory channel	Providing that the text can be read by persons who are visually impaired.
(v) presenting in fonts of adequate size and suitable shape, considering foreseeable conditions of use and using sufficient contrast, as well as adjustable spacing between letters, lines and paragraphs	Supplementing a diagram with a text description identifying the main elements or describing key actions.
(vi) supplementing any non-textual content with an alternative presentation of that content; and	When a service provider offers a USB-key containing information about the service, providing that information is accessible.
(vii) providing electronic information needed in the provision of the service in a consistent and adequate way by making it perceivable, operable, understandable, and robust	

(c) making websites, including the related online applications, and mobile device-based services, including mobile applications, accessible in a consistent and adequate way by making them perceivable, operable, understandable, and robust

Providing text description of pictures, making all functionality available from a keyboard, giving users enough time to read, making content appear and operate in a predictable way, and providing compatibility with assistive technologies, so that persons with diverse disabilities can read and interact with a website.

(d) where available, support services (help desks, call centres, technical support, relay services and training services) providing information on the accessibility of the service and its compatibility with assistive technologies, in accessible modes of communication

No example provided

Section IV

Additional accessibility requirements related to specific services

The provision of services to maximise their foreseeable use by persons with disabilities, shall be achieved by including functions, practices, policies and procedures and alterations in the operation of the service targeted to address the needs of persons with disabilities and ensure interoperability with assistive technologies:

(a) Electronic communications services, including emergency communications

(i) providing real time text in addition to voice communication;	Providing that persons who are hard of hearing could write and receive text in an interactive manner and in real time.
(ii) providing total conversation where video is provided in addition to voice communication;	Providing that deaf persons can use sign language to communicate among themselves.
(iii) ensuring that emergency communications using voice, text (including real time text) is synchronised and where video is provided is also synchronised as total conversation and is transmitted by the electronic communications service providers to the most appropriate PSAP ² .	Providing that a person who has speech and hearing impairments and chooses to use a combination of text, voice, and video, knows that the communication is transmitted through the network to an emergency service.

(b) Services providing access to audiovisual media services:

(i) providing electronic program guides (EPGs ³) which are perceivable, operable, understandable, and robust and provide information about the availability of accessibility;	Providing that a blind person can select programs on the television.
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² Public safety answering point is a call center or dispatch center that handles emergency calls and coordinates emergency responses.

³ An EPG is an electronically generated list of content broadcast by a channel over a certain period. This on-screen menu tells what TV and radio programs are available on television by pressing a button the remote control. In most modern broadcast systems, this EPG is generated automatically, fed by the broadcaster as an XML, HTML, or CSV file. EPG functionality varies slightly depending on the platform (Freeview, Freesat, Sky, etc.). Most allow to see which programs will be available up to a week in advance. Some offer additional functionality, such as seeing what programs were on last week and then watching them using an on-demand player such as BBC iPlayer.

(ii) ensuring that the accessibility components (access services) of the audiovisual media services such as subtitles for the deaf and hard of hearing, audio description, spoken subtitles and sign language interpretation are fully transmitted with adequate quality for accurate display, and synchronised with sound and video, while allowing for user control of their display and use.

Supporting the possibility to select, personalise and display 'access services' such as subtitles for deaf persons or persons who are hard of hearing, audio description, spoken subtitles and sign language interpretation, by providing means for effective wireless coupling to hearing technologies or by providing user controls to activate 'access services' for audiovisual media services at the same level of prominence as the primary media controls.

(c) Air, bus, rail and waterborne passenger transport services except for urban and suburban transport services and regional transport services:

(i) ensuring the provision of information on the accessibility of vehicles, the surrounding infrastructure, and the built environment and on assistance for persons with disabilities;

(ii) ensuring the provision of information about smart ticketing (electronic reservation, booking of tickets, etc.), real- time travel information (timetables, information about traffic disruptions, connecting services, onwards travel with other transport modes, etc.), and additional service information (e.g., staffing of stations, lifts that are out of order or services that are temporarily unavailable).

No example provided

No example provided

(d) Urban and suburban transport services and regional transport services⁴

(e) Consumer banking services:

(i) providing identification methods, electronic signatures, security, and payment services which are perceivable, operable, understandable, and robust;

Making the identification dialogues on a screen readable by screen readers so that blind persons can use them.

⁴ Ensure the accessibility of self-service terminals used in the provision of the service in accordance with Section I of this Annex.

(ii) ensuring that the information is understandable, without exceeding a level of complexity superior to level b2 (upper intermediate) of the council of Europe's common European framework of reference for languages.

No example provided

(f) E-books:

(i) ensuring that, when an e-book contains audio in addition to text, it then provides synchronised text and audio;

Providing that a person with dyslexia can read and hear the text at the same time.

(ii) ensuring that e-book digital files do not prevent assistive technology from operating properly;

Enabling synchronized text and audio output or by enabling a refreshable Braille transcript

(iii) ensuring access to the content, the navigation of the file content and layout including dynamic layout, the provision of the structure, flexibility, and choice in the presentation of the content;

Providing that a blind person can access the index or change chapters.

(iv) allowing alternative renditions of the content and its interoperability with a variety of assistive technologies, in such a way that it is perceivable, understandable, operable, and robust;

No example provided

(v) making them discoverable by providing information through metadata about their accessibility features;

Ensuring that information on their accessibility features is available in the electronic file so that persons with disabilities can be informed.

(vi) ensuring that digital rights management measures do not block accessibility features.

Ensuring that there is no blocking, for example that technical protection measures, rights management information or interoperability issues do not prevent the text from being read aloud by the assistive devices, so that blind users can read the book.

(g) E-Commerce services:

(i) providing the information concerning accessibility of the products and services being sold when this information is provided by the responsible economic operator

Ensuring that available information on the accessibility features of a product is not deleted.

(ii) ensuring the accessibility of the functionality for identification, security and payment when delivered as part of a service instead of a product by making it perceivable, operable, understandable, and robust;

(iii) providing identification methods, electronic signatures, and payment services which are perceivable, operable, understandable, and robust.

Making the payment service user interface available by voice so that blind persons can make online purchases independently.

Making the identification dialogues on a screen readable by screen readers so that blind persons can use them.

Section V

Specific accessibility requirements related to the answering of emergency communication (112)

To maximise their foreseeable use by persons with disabilities, the answering of emergency communications to the single European emergency number '112' by the most appropriate PSAP, shall be achieved by including functions, practices, policies and procedures and alterations targeted to address the needs of persons with disabilities.

Emergency communications to the single European emergency number '112' shall be appropriately answered, in the manner best suited to the national organisation of emergency systems, by the most appropriate PSAP using the same communication means as received, namely by using synchronised voice and text (including real time text), or, where video is provided, voice, text (including real time text) and video synchronised as total conversation.

Section VI

Accessibility requirements for features, elements or functions of products and services

The presumption to fulfil the relevant obligations set out in other Union acts concerning features, elements or functions of products and services requires the following:

1. Products:

- (a) the accessibility of the information concerning the functioning and accessibility features related to products complies with the corresponding elements set out in point 1 of section i of this annex, namely information on the use of the product provided on the product itself and the instructions for use of a product, not provided in the product itself but made available through the use of the product or other means such as a website;
- (b) the accessibility of features, elements and functions of the user interface and the functionality design of products complies with the corresponding accessibility requirements of such user interface or functionality design set out in point 2 of section i of this annex;
- (c) the accessibility of the packaging, including the information provided in it and instructions for the installation and maintenance, storage and disposal of the product not provided in the product itself but made available through other means such as a website, except for self-service terminals complies with the corresponding accessibility requirements set out in section ii of this annex.

2. Services:

- (a) the accessibility of the features, elements and functions of services complies with the corresponding accessibility requirements for those features, elements and functions set out in the services-related sections of this annex.

Section VII

Functional performance criteria

To maximise the foreseeable use by persons with disabilities, when the accessibility requirements, set out in Sections I to VI of this Annex, do not address one or more functions of the design and production of products or the provision of services those functions or means shall be accessible by complying with the related functional performance criteria.

Those functional performance criteria may only be used as an alternative to one or more specific technical requirements, when these are referred to in the accessibility requirements, if and only if the application of the relevant functional performance criteria complies with the accessibility requirements and it determines that the design and production of products and the provision of services results in equivalent or increased accessibility for the foreseeable use by persons with disabilities.

a) usage without vision	Where the product or service provides visual modes of operation, it shall provide at least one mode of operation that does not require vision.
(b) usage with limited vision	Where the product or service provides visual modes of operation, it shall provide at least one mode of operation that enables users to operate the product with limited vision.
(c) usage without perception of colour	Where the product or service provides visual modes of operation, it shall provide at least one mode of operation that does not require user perception of colour.
(d) usage without hearing	Where the product or service provides auditory modes of operation, it shall provide at least one mode of operation that does not require hearing.

(e) usage with limited hearing

Where the product or service provides auditory modes of operation, it shall provide at least one mode of operation with enhanced audio features that enables users with limited hearing to operate the product.

(f) usage without vocal capability

Where the product or service requires vocal input from users, it shall provide at least one mode of operation that does not require vocal input. Vocal input includes any orally generated sounds like speech, whistles or clicks.

(g) usage with limited manipulation or strength

Where the product or service requires manual actions, it shall provide at least one mode of operation that enables users to make use of the product through alternative actions not requiring fine motor control and manipulation, hand strength or operation of more than one control at the same time.

(h) usage with limited reach

The operational elements of products shall be within reach of all users. Where the product or service provides a manual mode of operation, it shall provide at least one mode of operation that is operable with limited reach and limited strength.

(i) minimising the risk of triggering photosensitive seizures

Where the product provides visual modes of operation, it shall avoid modes of operation that trigger photosensitive seizures.

(j) usage with limited cognition

The product or service shall provide at least one mode of operation incorporating features that make it simpler and easier to use.

(k) privacy

Where the product or service incorporates features that are provided for accessibility, it shall provide at least one mode of operation that maintains privacy when using those features that are provided for accessibility.