

Accessible Word and PDF document

How to ensure document accessibility

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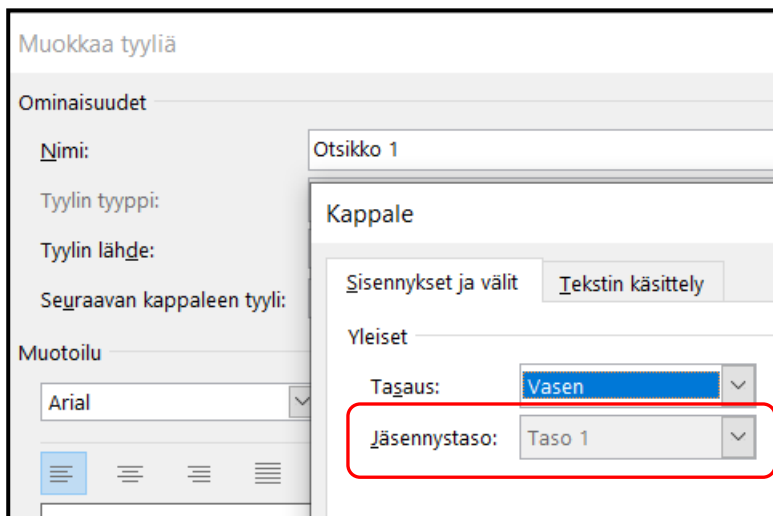
Plan your document structure and create it with built-in Word styles

When producing a Word file, you should first plan a clear structure for your document. Think about the following things:

- What are your main headings and subheadings? How many heading levels will you use?
- What other structures will you include in your document?
- What information should be presented as a list?
- What information is best provided in a table?

When writing your text, implement the document formatting with appropriate styles. Use heading styles to mark headings, list styles to make lists and tables to create tables.

Do not rely on document appearance alone! **Large text in bold is not necessarily a heading**, even if it looks like one. Only headings that have an outline heading level (i.e. Level 1, Level 2, etc.) are real headings. Naming a body text style as heading is not enough to create an accessible heading. You can check the outline level of a style by opening the Modify Style window and selecting Format and Paragraph. The image below shows the outline level of the paragraph.



The layout of a Word document must be defined by styles in order to create an accessible document. Styles contain information about the document structure and also convey that information to readers who use assistive devices. Styles also make editing efficient, since all document parts marked with the same style can be modified simultaneously by changing the settings of the style in question.

When a Word document is converted into PDF, the PDF file tags are created out of Word styles. If styles have not been used, the PDF file only contains P tags (i.e. paragraphs).

If your organisation provides a document template that has been verified accessible, use that template. This means that you do not have to worry about the styles yourself. If needed, you can edit the document template and add any missing styles. If your organisation does not have a document template, use the built-in styles offered by Word and modify them as needed.

How to modify styles:

1. Go to the Home tab. Move the cursor to the text style you wish to modify.
2. Select the style you want from the Styles menu and right-click on that style.
3. From the menu that opens, select Modify...
4. Click on the Format button located at the bottom of the Modify Style window.
5. From the menu that opens, select the element you wish to modify, for example, Font or Paragraph.
6. Set the properties.
7. Approve the changes by clicking OK.

Finalise and refine your document layout only after the entire document is otherwise finished.

When you have used Word styles, modifying the layout can be done quickly and efficiently.

Use heading levels in a logical way

Mark all headings in your text using heading styles. Apply heading levels in a logical order, i.e. set main headings as Heading 1, subheadings as Heading 2 and subheadings of subheadings as Heading 3. If you are familiar with web page heading elements (h1, h2, h3, etc.), Word heading levels are easy to understand. Heading 1 corresponds to a h1 heading (level 1), Heading 2 corresponds to a h2 heading (level 2), Heading 3 is level 3, etc.

1. Write the heading as an independent paragraph.
2. Select the heading text or move the cursor to the heading.
3. Then, select an appropriate and correctly numbered heading style from the Styles on the Home tab.

Do not skip over heading levels, for example, by moving from Heading 1 directly to Heading 3. You can of course have several headings of the same heading style follow each other, for example, you can have more than one level 2 headings following the main heading. You can skip levels when moving up from a lower heading level. For example, this happens when the chapter ends and a level 3 heading is followed by the level 1 heading for the new chapter.

Make use of the Navigation pane

You can check the heading levels you are using with the help of the [Navigation Pane](#). The Navigation Pane should especially be used in documents that contain many headings and several heading levels.

- Go to the View tab and select Navigation Pane.
- The Navigation window appears on the left side of the screen showing the heading structure of your entire document. Lower-level headings are indented.

A web page should only have one main heading (h1 heading), whereas a Word document can contain several headings marked with the Heading 1 style. In longer documents, for example, you can mark the main chapter headings with style Heading 1, use Heading 2 for subheadings and apply other heading levels as needed.

In shorter documents without a cover page or a table of contents, it is best to style the main document heading as Heading 1 and other headings as lower-level headings.

Use descriptive headings

Use descriptive headings, i.e. make sure that the reader can get an overall idea of the document content just by reading the headings. This is especially important in longer reports and publications.

Please note that people using screen readers may also skip from one heading to the next, just like a seeing person browsing headings when looking for a particular thing. This is why even shorter documents should include headings that support readers using assistive devices. In the minutes of a meeting, for example, the different points of the agenda should be marked as headings.

Table of contents and cover page

When headings are marked with heading styles, it is easy to add a table of contents to a Word document. Add a table of contents to your document by selecting Table of Contents on the References tab. Select the desired built-in style. You can also edit its properties and determine which heading levels are included in the table of contents.

If your document has a cover page, you can use the built-in Word cover page heading as the document heading and modify its appearance to your liking.

Body text formatting

Mark all body text with the same paragraph style, for example, with Normal. Select a clear font that is easy to read. Fonts that mimic handwriting or are otherwise playful are often difficult to understand for people with dyslexia. Below are examples of five different fonts.

Use a font that is easy to read. Avoid unnecessary gimmicks. Make sure that you can easily distinguish between the number one, upper case i and lower case L (1, I, l) and other easily confused symbols.

(Garamond, 11 pt)

Use a font that is easy to read. Avoid unnecessary gimmicks. Make sure that you can easily distinguish between the number one, upper case i and lower case L (1, I, l) and other easily confused symbols.

(Trebuchet MS, 11 pt)

Use a font that is easy to read. Avoid unnecessary gimmicks. Make sure that you can easily distinguish between the number one, upper case i and lower case L (1, I, l) and other easily confused symbols.

(Tempus Sans ITC, 11 pt)

Use a font that is easy to read. Avoid unnecessary gimmicks. Make sure that you can easily distinguish between the number one, upper case i and lower case L (1, I, l) and other easily confused symbols.

(Verdana, 11 pt)

Use a font that is easy to read. Avoid unnecessary gimmicks. Make sure that you can easily distinguish between the number one, upper case i and lower case L (1, I, l) and other easily confused symbols.

(Calibri, 11 pt)

It is recommended that the text is aligned with the left margin and the right side is ragged. The recommended line spacing is at least 1.5. These layout settings especially support persons with reading difficulties.

A slightly larger gap between paragraphs makes it easier to notice when the paragraph changes. Define the gaps between paragraphs by modifying the paragraph style, do not add unnecessary paragraph marks. (Screen readers can interpret unnecessary paragraph marks as “empty”.)

Columns

If you wish to split your text into columns, use the Columns function on the Layout tab. **Do not use tables** to divide text into columns. Columns created in this way are difficult to follow for people who use screen readers.

Emphasising text

When you wish to emphasise some part of your text, you should rather use **bold text** than *italics*. Italicised text is harder to read than bold text. Do not emphasise text by underlining it, because in

electronic texts, underlined text is easily interpreted to mean a hyperlink. Also avoid using UPPERCASE to emphasise text, since text written in all caps is slower to read than lowercase text.

If you emphasise text by using **colours**, remember that people with colour blindness may find it hard to differentiate between **colours** and that visually impaired people may not detect colours at all. Colour must not be the only way of conveying information, so you need to make sure that access to information is not dependent on seeing colour. This is why hyperlinks should be underlined in addition to being a different colour to the body text to clearly set them apart from the body.

Avoid Word text boxes and WordArt boxes. **Text boxes are difficult** for people using screen readers, since screen readers may not necessarily be able to access the text inside the boxes.

If you need to use several different methods of emphasis in your text, please take into account the fact that screen readers do not usually inform the user about the layout of the text. If it is necessary to observe the different methods of emphasis, you need to specify the purpose of each method in your text. This allows screen reader users to adjust the reading settings of the software they are using.

The best way to ensure that all readers will notice the emphasised information is to clearly state the important content. This means using words in addition to visual methods!

Lists facilitate browsing

Lists can be used to describe different stages of a process or to provide instructions. Lists are clearly set apart from the body text, which makes it easier to browse the text.

Create lists using an appropriate list style. Lists are found in the Paragraph menu on the Home tab.

If the items in your list have no specific order, use a bulleted list style. Select an easily observable bullet.

If you use a numbered list, prefer Arabic numbers: 1, 2, 3. Screen readers can have difficulty reading Roman numerals correctly.

However, avoid multi-level lists, as they are difficult for readers who use screen readers.

Use tables to present information

Create tables using the Insert Table command in Word. **Do not use images made out of tables**, since screen readers are unable to interpret them. Tables created with Word's table tools are accessible, and screen reader users can move within the table content.

Wide tables are difficult to read. Prefer using more rows than columns.

Keep your tables simple. It can be difficult to verify the accessibility of complex tables. Complex tables should be divided into two or more simple tables.

If you are unable to divide complex tables into simpler parts and will convert the Word document into a PDF file, the accessibility of the PDF file tables must be verified using Adobe Acrobat.

Here is how to add a table:

- Go to the Insert tab.
- Click on Table and create your table. Determine the table size, i.e. the number of columns and rows, by selecting the required squares. Another option is to use the Insert Table command and enter the number of columns and rows.
- Insert the information into the table cells.
- Once you have filled your table, move the cursor to the top row of the table. On the Table Tools tab, select **Design**. Make sure that the **Header Row** has been selected (on the left side of the screen). Move to the **Layout** section on the Table Tools tab. Select **Repeat Header Rows**. When Repeat Header Rows is selected, the header row will be repeated if the table continues to the next page.

Taulukko: Suomen väestörakenne 31.12.

Kieli, %	2000	2018
Suomi	92,4	87,6
Ruotsi	5,6	5,2
Saame	0,0	0,0
Muu	1,9	7,1

Lähde: Tilastokeskus, Suomi lukuina 2019, s. 3.

If a table can only be added to the Word document as an image, you must provide an alternative text to the table. This means that the content of the table is written out as text.

Avoid using tables to format your text

Try to format your text using Word styles. Use a table to format your text only if no other solution is available. Word is not the ideal program for producing accessible content, so sometimes compromises need to be made.

Please note, however, that although text formatted by using tables may look good, screen readers will recognise the tables. Screen readers inform their users on how many rows and columns the table has regardless of whether the table has a visible grid or not. If you are able to format your text using tabs, use them rather than tables that are difficult for people who use screen readers.

Screen readers go through tables row by row starting from top left corner and moving towards right. You can check the order by moving with the tabulator from the first cell onward.

Table or list?

Publications sometimes present information in tables even when the pieces of information provided have no clear mutual relationship. [You should consider whether instead of a table you should use lists](#). If there is no good reason for using a table, it is better to group information into several lists.

An example of a table with seven lists.

Esimerkkejä digitaalisista sovelluksista

Sivustot ja portfoliot	Kuvalliset esitykset	Videot ja animaatiot
Google sites O365 Sway Wordpress Adobe Spark Page Bulb	O365 Sway Adobe Spark Post Pover Point Canva	iMovie Adobe Spark Video Flipgrid Clips Screen cast o matic Flipaclip Stop motion
Ääni ja musiikki	Testit ja kyselyt	Pelilliset sovellukset
Clyp Anchor Spreaker Garage band	Form O365 Forms Google Forms Doodle	Quizlet Kahoot Seppo Socrative
	Tiedon koostaminen	
	Thinglink Padlet Trello	

(Source: Toimii! Hoitajan opas toiminnallisiin menetelmiin. Edita 2019.)

In this example, the table contains seven separate groups presented in table form. For the purposes of accessibility, seven lists would be a better solution.

Use headers and footers with caution

Headers and footers are difficult in terms of accessibility, since current screen readers are usually unable to read the texts unless the user knows how to search for them in the Word document. [If your document uses headers or footers, make sure that no important information is provided only in them.](#)

Headers and footers may contain information that is repeated on every page of the document and that the seeing reader skips over when repeated. This kind of information may include organisation logo and contact details. However, make sure that the contact information needed by the reader is included somewhere in the body text and that the document date is also mentioned somewhere outside the header.

Page numbers are located either in the header or the footer of a Word document. Luckily, screen readers inform their users on the current page of the programme, meaning that screen reader users receive information about the page numbers.

Provide descriptive names for hyperlinks

If your text contains hyperlinks to websites, for example, make sure that the link is underlined and preferably blue in colour. If you write an URL address or part of it in a document, Word usually underlines it and turns it blue automatically.

URL addresses are often long and hard to read, especially if they contain irrelevant number and letter combinations. Edit the hyperlink text so that the visible part is easily understandable, for example: [Saavutettavasti website](#) contains further information on creating accessible content.

Sometimes it can be **necessary** to provide the reader with the **entire** URL address. Especially if the document will be published or **printed**, the link texts must be given in a format that allows them to be written in the browser address bar. If the URL address is short and simple, the link can be left unnamed in the **body text** and the entire **URL** used, for example, www.saavutettavasti.fi. Another option is to provide the address **in parentheses or in a footer**.

Here is how:

1. Write the URL address in the document. Word identifies the URL as a web address and changes the appearance of the link name.
2. Go to the link text and right-click on it.
3. In the window that opens, select Edit Hyperlink...
4. In the Text to display field, write a descriptive name for the hyperlink in a format that suits the body text.
5. Also check that the correct URL is given in the Address field.
6. Click OK.

Using colours in your document

Accessibility requirements call for a sufficient contrast between the text and its background. In documents, the text is usually black and the background white, providing the greatest possible

contrast ratio. If you are using some other text colour than black or some other background colour than white, you need make sure that the contrast is sufficient.

- In small text with a font size below 18 points, the contrast ratio between the text and its background must be at least 4.5:1. (Here the contrast ratio between the yellow background and the black text is 19.55:1).
- In large text with a font size above 18 points, the contrast ratio must be at least 3:1. (Here the contrast ratio of the text and background is 3.03:1.)

Contrast ratios between colours can be calculated, for example, using the WebAIM.org Contrast Checker: (<https://webaim.org/resources/contrastchecker/>).

Contrast requirements also apply to non-text content. This means that sufficient colour contrast must be ensured in document graphs and diagrams that contain essential information. Examples and further information can be found in the W3C instructions [Understanding Non-text Contrast](#).¹

Colour must not be the only way of conveying information, so graphs and diagrams may include different patterns in addition to colours. You can print out a grayscale version of your document in order to discover whether some information can only be accessed by seeing colour. An exception to this accessibility requirement are photographs or such presentation methods where colour has an essential purpose. These can include images of heat maps or flags of countries.

Adding alternative text to images

According to accessibility requirements, a corresponding text must be provided for images. In Word documents, this text counterpart is called alt text. Alt text explains the essential content and meaning of the image.

Alt text is needed and used by people reading the document with the help of a screen reader. In other words, alt text is not a caption that is visible to all users in connection with the image, but a text provided and visible only to the screen reader users.

When writing alt text, think of the overall impression created by the body text, possible caption and the alt text for the image. Do the texts alone provide the same information that is received by viewing the visible texts and the image?

Write the alt text using similar language and vocabulary than elsewhere in the document. Although a technical term might seem appropriate, do not use it in the alt text unless it has been explained

¹ <https://www.w3.org/WAI/WCAG21/Understanding/non-text-contrast.html>

earlier in the body text. As in all communications, think of the recipient! Take into account the fact that an image may need a completely different alternative description in different contexts. A photo can be purely decorative in one document, but an important part of the content of some other document.

When drawing up alt text, answer the following questions:

- What role does the image play in the document?
- What essential information does the image contain? What additional information does the image contain compared to the body text?

Make sure that the alt text is short and snappy. Focus on the relevant issues, do not describe appearance or colours unless they are significant and referred to elsewhere in the text.

In the latest versions of Word (Office 365, Word 2019), images can be marked as decorative, in which case an alt text is not needed.

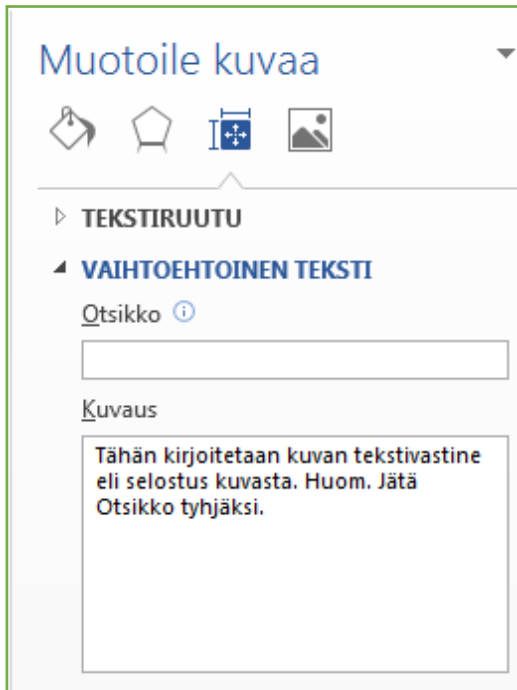
How to add alt text in the latest Word versions:

1. Move the cursor over the image and right-click on it.
2. Open the Alt Text window by clicking on Edit Alt Text... Write a short description of the essential content of the image in the white field. End your text with a full stop.
3. If the image is purely decorative or the caption contains all essential information, mark the image as decorative.

In Word 2016 or older, add alt text as follows:

1. Move the cursor over the image and right-click on it.
2. Select Format picture...
3. From the window that opens, select the third tab Layout and Properties.
4. Select Alt Text and enter a description of the image content in the Description field. Leave the Heading field empty. Screen readers skip over the heading and read the description content where the image is in the document.

Below is an image of the Word 2016 Format picture window.

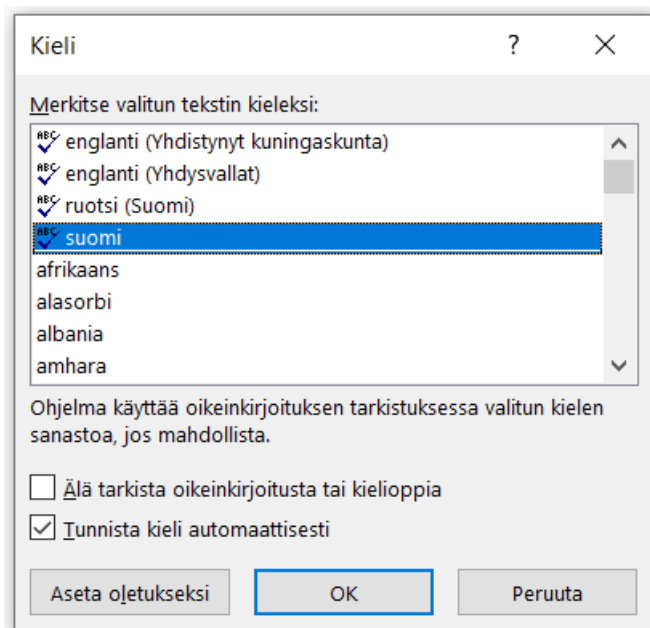


Setting the language

A Word document must have a designated main language, i.e. the language in which most of the document content is written. The document language is usually recognised automatically. You can adjust the language settings in Word under Language. When writing a document in Finnish, for example, it is good to check that the set language is Finnish. The same goes for English.

Check the language as follows:

1. Open the [Review](#) tab and select [Language](#).
2. Select Set Proofing Language. Make sure that the chosen language is the language in which the document is mainly written.
3. If your document has sections in a different language, you can set the language for each section separately. Select the text and set the correct language as described above.
4. Finally, click OK.



Document properties

Word documents must be given a title in the file properties. This title applies to the entire document. If the document has a cover page, the heading on that page is used as the title in the file properties. If the document does not have a cover page, the title must be given separately. Add and check the file title as follows:

1. Open the File menu, click on Info and move to the right to find the [Properties](#).
2. Under properties you will find the [Title](#) field. If the file does not yet have a title, the field reads Add Title.
3. Move the cursor to the field and add a descriptive title to the file. If the document already has a title, you are able to edit it.

Furthermore, provide the file with a good and clear file name. A good name makes it clear what the document is about. The main heading of the document is often a good file title. An understandable file name is important to people who download the file and search for it later from their device.

Checking

When you have finished working on your Word document, you must check its accessibility. Use the built-in automatic checking function in Word and check certain things yourself. **Please note that you can only inspect documents saved in the docx format.** If your document is in an older doc format, convert the document into a docx file.

Check Accessibility function

Word software provides a function that allows you to check the accessibility of your document. This function is called Check Accessibility and it can discover many accessibility errors and problems, however, not all of them. The function is found on the File tab, or in the latest Word versions, on the Review tab.

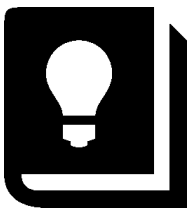
1. Open the File/Review tab.
2. Open the Check for issues menu.
3. Select Check Accessibility.
4. This opens the Accessibility window on the right side of the Word document. The inspection results show possible errors and warnings.
5. Go through all errors and correct them. Please note that Word also provides additional information about the errors and instructions on how to fix them.

Please note that the inspection cannot find all errors and does not assess quality! For example, the inspection discovers whether an image has an alt text, but it does not assess how good that alt text is. Therefore, you must further inspect your document yourself.

Check the document yourself

Once you have used the Check Accessibility function and fixed the discovered errors, check the following:

- Have the document headings been set using heading styles?
- Do the file properties contain a title for the file?
- Does the file have a good and descriptive name?
- Do the images have sensible alt texts?



Convert Word into PDF

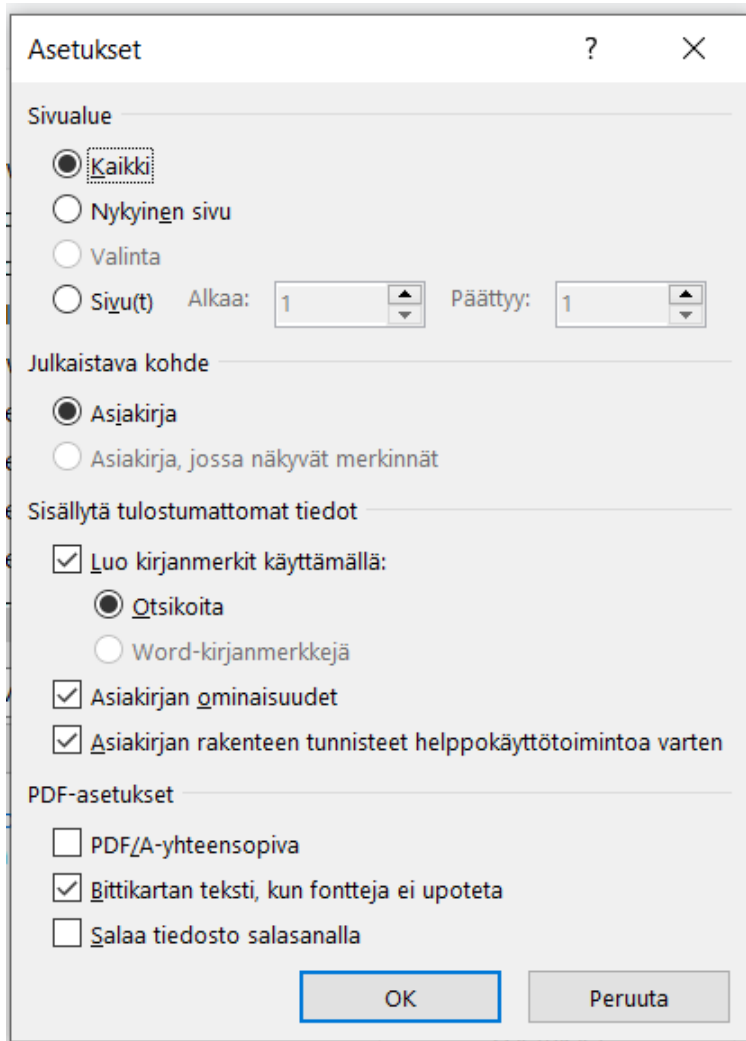
Once you have produced a Word document in accordance with the instructions above and checked its accessibility, you can convert your document into an accessible PDF file. If the structure of your document is simple, all you have to do is save it as PDF.

Check the created PDF file with a PDF checker (e.g. Adobe Acrobat Pro check) if in addition to the text, headings, images and their alt texts and simple tables, your document contains any of the following elements:

- text boxes
- tables with several heading rows
- floating elements on top of the text, e.g. SmartArt shapes or patterns, WordArt text, etc.
- mathematical expressions
- headers or footers that contain essential information

Convert a Word document into PDF as follows:

1. Select the File tab.
2. Select Export. Then select Create PDF or XPS Document.
3. Click on Create PDF/XPS.
4. In the window that opens, determine the folder in which the file is saved. Give a file name that describes the content of the document.
5. Before clicking Publish, open Options.
6. Select both Document structure tags for accessibility and Document properties. By selecting these boxes, the heading identifiers (i.e. tags) and the title given to the file are transferred to the PDF file. You should also select Create bookmarks using Headings. This facilitates moving within the PDF file.
7. Select PDF/A compliant.
8. Click OK and then Publish.



In older versions of Word you can create a PDF file with the Save as function. Make sure that you have selected both Document structure tags for accessibility and Document properties.

Do not use the Print to PDF function! It does not create an accessible PDF.

Please note: If you are using Adobe Acrobat Pro and your Word version contains the Acrobat PDFMaker function, make sure that you have selected the Convert document information and Enable Accessibility and Reflow with tagged Adobe PDF boxes in the Acrobat tab Preferences.

Short instructions to creating an accessible Word document

- Plan a clear structure for your document.
- Use clear language that is easy to understand.
- Use built-in Word styles to mark structures and create formatting.
- Provide an alternative text to images
- Set the document language.
- Provide a title for the document in the file properties.
- Provide a descriptive name for the file.
- Use the Check Accessibility function to inspect the accessibility of your document.