Version 9.3

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Introduction

Whether elegant Gantt charts, waterfalls or bar and line charts – with empower Charts, highly professional PowerPoint charts are created in no time at all.

Installation, Updates & Troubleshooting

1.1 System Requirements

In order to use empower Charts your system will need to fulfill the following requirements:

- Microsoft Windows 10 or 11
- Microsoft Office 2016, 2019, Office 365 Pro Plus and Enterprise E3 and E5 with PowerPoint and Excel installed
- .NET Framework (at least version 4.6.2 is required)
- PowerPoint may not be run explicitly as administrator

An installation of empower Charts will require about 70MB of hard drive space.

empower Charts support the following User Interface languages: German, English, as well as Spanish, French, Italian, Japanese, Dutch, Portuguese, Russian and Chinese (simplified) via machine translation. The language adapts to the system language of PowerPoint. In case the required language is not supported by PowerPoint, the default language is English.

1.2 Initial Installation

empower Charts can easily be installed by the user. If required, we can also provide a *per machine* installation package for software distribution.

1.3 Installation of an Update

Updates of empower Charts are initialized via a new installation package, which we will provide for you. If the installation is executed as part of the empower® Suite installer with user rights (per user), it is also possible to utilize an auto-update function. This automatically installs updates to empower® Suite products in the background.

1.4 User Settings

The **User Settings** are accessed via the **More** Button in the empower Charts menu **(Figure 1)**. This ribbon group can be found on the Insert Ribbon tab and on the Start or empower Tab.

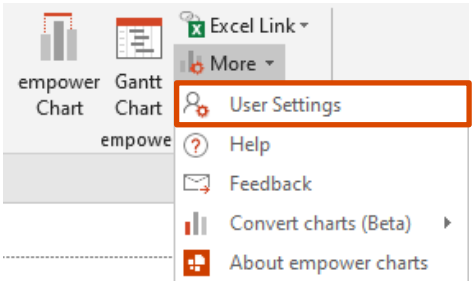


Figure 1: User settings via button **More**

Under Charts User settings, a new window opens up, in which you can change your settings regarding the customizing in use, the Live-Update-Mode, the display of point/series as well as your default Gantt region and your preference for preloading charts (**Figure 2**).

If your empower® version contains a specific customizing in addition to a flex-customizing (see chapter **1.5** Flex-Customizing), you can set a **Default Customizing** from the dropdown menu **(1)**.

In the dropdown menu of **Live Update Mode**, you can set whether the data displayed by an empower chart should update automatically, not at all, or if you prefer to receive an update notification if the underlying linked Excel data of the chart has changed **(2)**.

The third dropdown menu allows you to choose if **Points** or **Series** should be selected **first (3).**

The fourth dropdown menu allows you to set the default region format for your Gantt chart **(4)**.

More information can be found in **Chapter 4 Gantt chart**.

Uncheck the checkbox **Preload charts** in case you do not want to use the Preload-Function for all your charts by default **(5).** The Preloading of charts improves the performance significantly and should be enabled.

More information regarding this function can be found in **Chapter 2.2.1 Edit Charts**

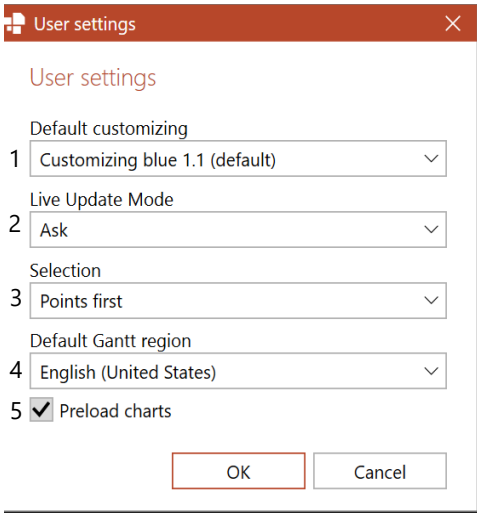


Figure 2: Overview Charts User Settings

1.5 Flex-Customizing

In empower Charts a flexible customizing can be activated additionally during the customizing process. If this function is active, the user has access to a new flexible customizing that adapts to the current PowerPoint master.
When this customizing is used, colors and fonts of newly inserted or existing charts adapt to the current PowerPoint master. Also, the use of a very dark master is possible.
If your company has several, precisely defined empower Charts customizings and also use empower® Slides, empower Charts recognizes the corresponding PowerPoint master and automatically uses the matching empower Charts customizing when inserting new charts.
If this function should be activated, please contact your Onboarding & Professional Services Specialist Team or Customer Success Manager.

1.6 Troubleshooting

Using the **Feedback** function, you are able to report undesirable behavior of empower Charts directly to our support **(Figure 3)**.

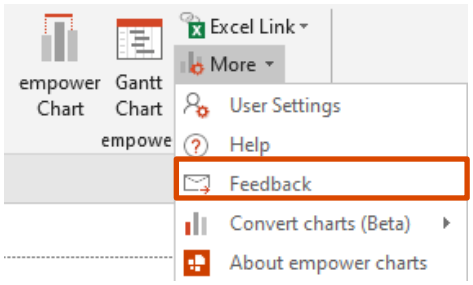


Figure 3: Send Feedback

After clicking **Feedback** a new window of your primary email application (Outlook or Lotus Notes) will open, already addressed to the right recipient. This email will contain a text file which specifies technical details of the error. Please add further details in the body of the email, such as what steps you took that led to the issue with empower Charts.

Your descriptions as well as the email's file attachment will aid us in replication of the error, analyze the case to conclusively deliver a near-term solution.

Please note:
In order to guarantee that all functions of empower Charts work without restrictions, please ensure that you have formatted your presentations in a **PPT** or **PPTX** file format.

1.7 Office-Design

empower® is orients itself to the Office Design of your device.

If the design is set on *Black*, the User Interface of empower® adapts automatically to it **(Figure 4).**

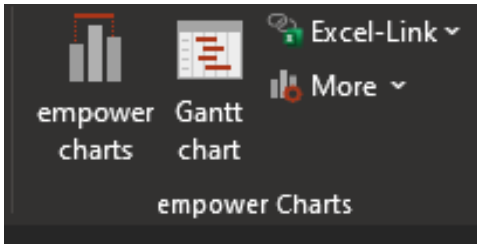


Figure 4: User Interface within a black Office-Design

In comparison, you can see in **Figure 5** how the User Interface acts when set to the *White* theme.

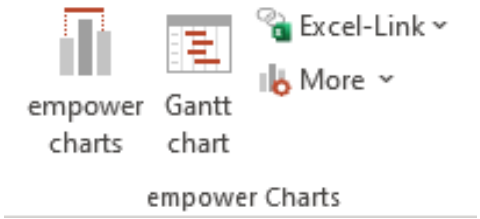


Figure 5: User Interface within a white Office-Design

It is not necessary to restart the Office application, the change is visible immediately within empower®.

empower Charts

2.1 Inserting charts

All empower Charts functions are accessed via the Home or Insert tab in the PowerPoint menu. If you also use empower® Slides you have the possibility to use empower Charts directly from either the Insert tab or directly via the empower® Slides ribbon tab. Depending on the empower® Slides version, there is either a normal button or a split button on the ribbon. In the case of a split button, clicking on the lower half of the split button will open the window with the chart types.

To insert a chart, click on **empower Chart** and select one of the available chart types **(Figure 6)**.

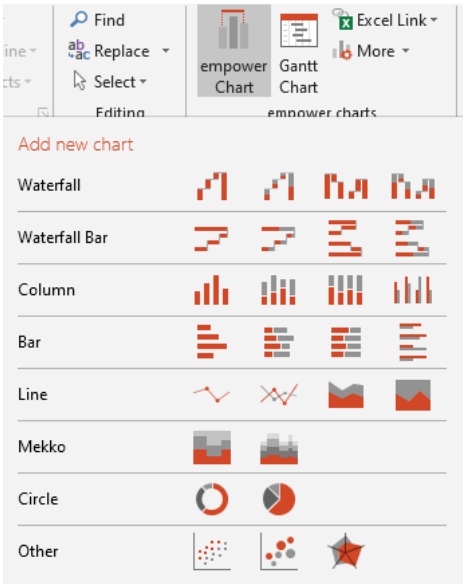


Figure 6: empower Chart types

If you have previously selected a placeholder on your slide, empower Charts will insert the selected chart directly into the selected placeholder. To edit the chart – either its appearance or data – simply select the chart. An Action Bar will appear above the chart which will allow you to make the desired changes. Many formatting can also be done directly in the chart, e.g., coloring elements or moving data labels.

Once a chart has been inserted on a slide, you can move it freely on the slide by Drag & Drop. This works also if you select multiple charts and other shapes as well.

2.2 Editing Chart Data

2.2.1 Edit Charts

The Preload-Function loads charts as soon as you enter a slide, which significantly increases the performance around the selection of charts. Furthermore, charts and their elements already shine at Mouse-Over. This also speeds up the processing, as the desired element in the chart can be selected directly. If an element is placed above a chart, the use of it is only possible if the preload function is deactivated. Otherwise, the element disappears in the layer behind the chart and can therefore not be used or edited. The preload function can be deactivated and activated for a single chart via the eye symbol next to the upper right corner of a chart. Via the user settings, the preload function can also be switched off all together, but this is not recommended (loss of performance). **(Figure 7).**

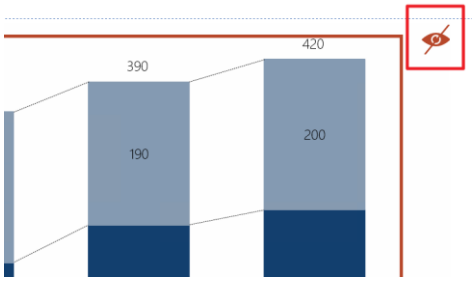


Figure 7: Preload-Function

2.2.2 Embedded Excel Table

Similar to editing a standard PowerPoint chart, you can edit the data of the chart with the aid of an embedded Excel table.

To do so, click on the action point labeled **Edit Data** in the Action Bar above the chart **(Figure 8)**. Alternatively, you can also instantly open the Excel table by performing a double click on the chart in order to edit its contents. The embedded Excel table will open as you are used to from native PowerPoint behavior.

Figure 8: Edit Excel data

This Excel has been enhanced to on the one hand load faster, but also offer easy access to functions such as the sorting, formatting and transposing of data, as well as inserting and deleting columns into the table **(Figure 9)**. Position and sizing of this Excel window will be saved and reapplied when you re-open the Excel. If you wish to open the standard Excel, you can do so by clicking on the **Excel icon** to the top of the window.

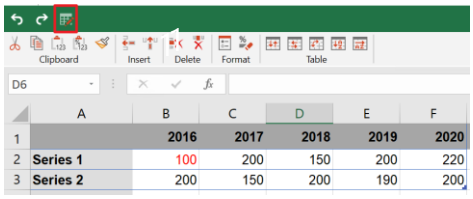


Figure 9: Editing data in integrated empower charts Excel

Additional information on the characteristics of Mekko and waterfall charts and their mini-Excel is accessible via a Help symbol. If you click on the Help symbol, a new separate window opens up. The information can be copied out if needed. **(Figure 10).**

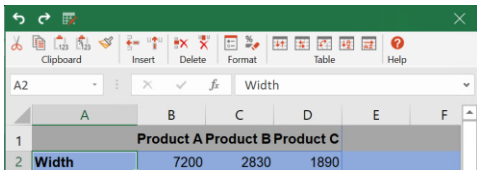


Figure 10: help symbol

You can now edit, add and remove data, as well as select the data range that is to be displayed by the chart.

You can directly format text in superscript or subscript in the Excel table by either selecting the desired text and press **Ctrl + 1** or right-clicking the selected text and click on **Format Cells** to open the formatting options (**Figure 11**).

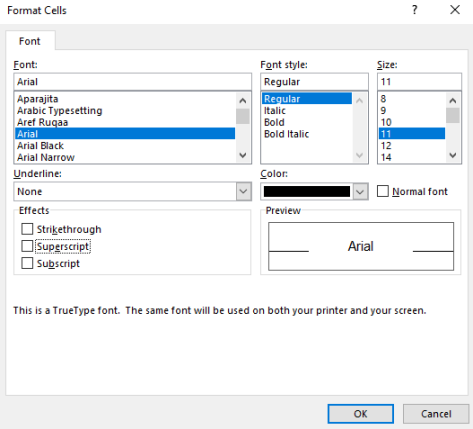


Figure 11: Formatting options for cells

In addition, it is possible to reorder the data displayed in the empower Chart data rows by row or column of the embedded Excel table. The external Excel window allows you to manipulate data in multiple ways **(Figure 12):**

- Reverse rows (with formulas) **(1)**
- Reverse columns (with formulas) **(2)**
- Transpose table (values only) **(3)**
- Sort rows **(4)**
- Sort columns **(5)**

By default, the initial sorting option is **ascending**. Clicking the button, a second time, will perform the opposite action.

Figure 12: Sort data

Please note:
Where possible formulas contained in the table are preserved. The options for 'transpose' and 'sort' will convert any formulas contained in the table to values.

During a copy or cut procedure (cell contains a selection frame), an insertion of cells or columns is not possible.

2.2.3 External Excel Data

Apart from using embedded data, empower Charts also allows you to access external Excel data sources. In order to do so, click the action point **Data** and then on **Excel-Link (Figure 13)**. A new dialog window will open in which you can either select a local Excel file or choose a file from your SharePoint.

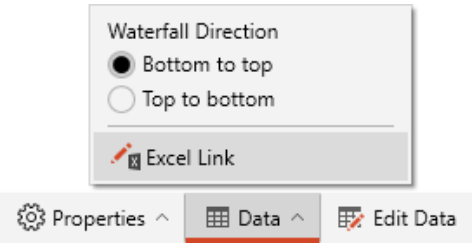


Figure 13: Create Excel-link

Excel files, that are stored in SharePoint or OneDrive but have been as well synchronized locally can be linked locally. This mode is called the hybrid mode. It increases the performance of the links and enables relative paths. Furthermore, online available, linked files can also be opened from

PowerPoint. In addition, the Open Link Sources feature is now available for all Excel files.

If you want to open a local Excel file, select **Open local file (Figure 14)**. Granted you already have multiple Excel sheets opened, they will be displayed in a list. From here you can open the table with a single click. If you do not wish to include currently opened Excel sheets (or do not have any opened) click on **Browse…** in the drop-down menu. A Windows Explorer window in which you can select the desired file.

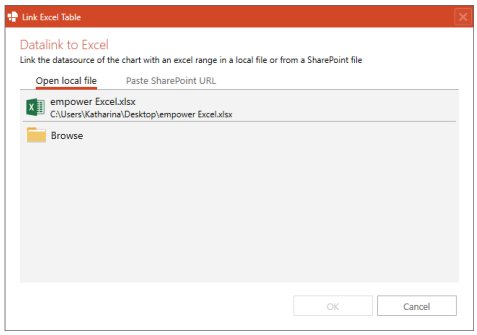


Figure 14: Open local file

To open an Excel file from your SharePoint, select **Paste SharePoint URL (Figure 15).** Paste the link to the file into the entry field. To copy the link, simply click on **Open menu** to the right of the Excel file (this is the button with three dots) and copy the link from the menu that has opened, or by clicking on **Copy link**. After the insertion, click on the button labelled **Open link**. A connection to the selected file will be established. This may take a short period of time and may also require the entry of your SharePoint credentials.

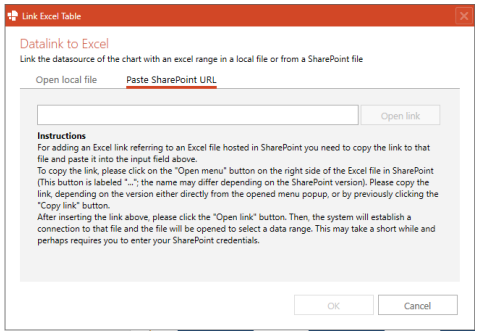


Figure 15: Paste SharePoint URL

MFA (Multifactor Authentication) is also supported in empower Charts. If you create an Excel-link with data from an MFA protected SharePoint location, a login window for entering your login data opens after selecting and opening the SharePoint URL **(Figure 16)**.

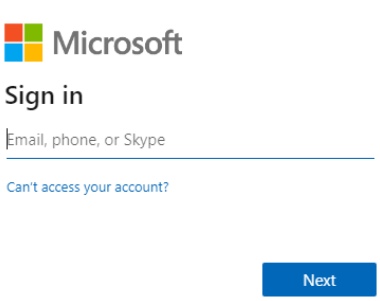


Figure 16: Entering login data

empower Charts supports both SharePoint as well as files located on OneDrive or Microsoft Teams. It is recommended that you open the Excel file first, and then link it to the chart. The hybrid mode makes it possible not only to link files stored online. This makes it easier to work with locally stored files, as they do not have to be uploaded to process them as a chart.

As soon as you have opened an Excel sheet it will be positioned to the right of your PowerPoint window. Now select the data range you wish to include in the chart; empower Charts automatically recognizes data that is to be selected. Use the cursor to adapt the selection if required. A window opens in the Excel sheet which displays the selected range; a click on **OK** will confirm your selection **(Figure 17).**

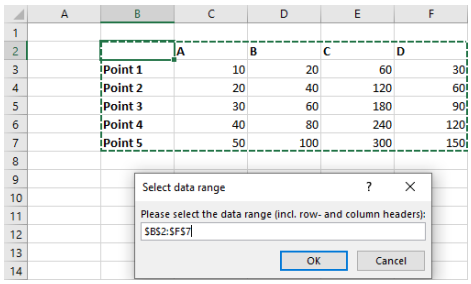


Figure 17: Selecting data range in Excel source file

You can enable a dynamic size for the selected Excel range via the toggle button **Dynamic size** (**Figure 18**).

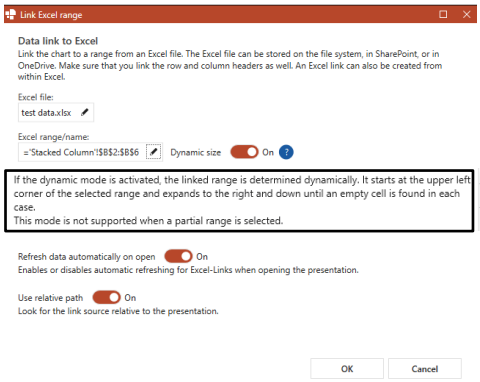


Figure 18: Dynamic size for Excel range

The empower Chart will consider the upper left corner of the Excel range as fixed and will take over the entire data range until it encounters empty cells on the left and bottom of the range. This way, the data range will automatically be extended if you add a column and/or row to the data source in the Excel file and refresh the chart with a click on the button **Refresh**.

Please note:
Dynamic size mode is not supported when partial areas of an Excel file are selected.

You can not only select an entire range, but also connect partial areas with each other (**Figure 19**). By that you can exclude certain columns from the source file from integration in charts. To do this, use your cursor to select a range, then hold down **Ctrl** and select another range. You confirm your selection by clicking on **OK**.

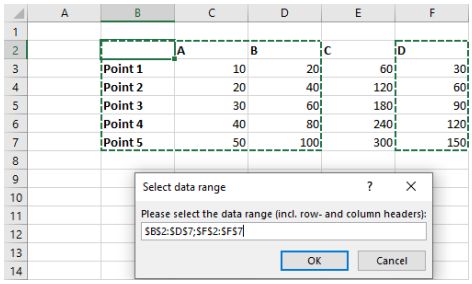


Figure 19: Selecting partial areas

Once you have selected the desired data range, you have the option to have the chart display the data by Series or Column. You can also define whether the data of this link should be updated each time the PowerPoint file is opened and whether a relative link should be created.

For details see chapters 2.2.5 and 2.2.6.

To link the chart with the Excel table, click on **OK** again **(Figure 20)**. The data of the Excel sheet should now be displayed by the chart.

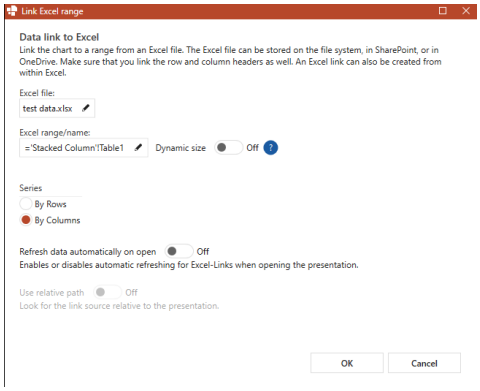


Figure 20: Setup of Excel-Link

The desired range in the Excel table can also be copied using the keyboard shortcut **Ctrl C** and added to a native PowerPoint chart using **Ctrl V**. A window will appear where you can confirm that the previously native PowerPoint chart will be converted to an empower Chart and the copied data area will be applied **(Figure 21)**. If the selected chart is already an empower Chart, the Copy & Paste function can be used as well. Areas copied by keyboard shortcut can also be copied to a table. For all variants, the Excel-Link is created automatically.

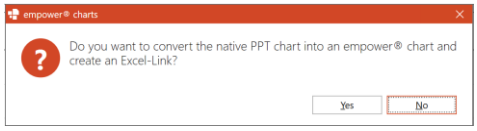


Figure 21: Link through shortcut

If you are unsure which areas of an Excel table have a link, you can select the option **Highlight linked ranges** in the ribbon under insert in the part empower Charts. This function highlights the linked range in the Excel table via a dashed border. Clicking on the border of this area opens a new window called **Link indicators**. This shows where the present Excel table is linked (**Figure 22**). However, it is important that both linked files, the Excel file and the PowerPoint file, must be saved. If a link has been made and the files have been saved, the highlight function can be used by clicking **Refresh**.

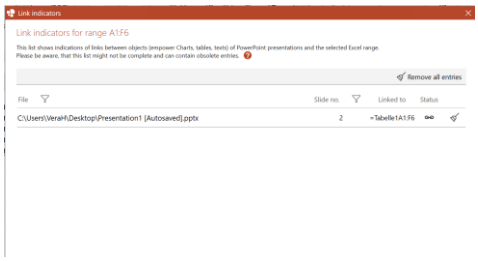


Figure 22: Link indicator

Links to shapes can be established as well. To do this, insert the desired shapes into your presentation. Then you can select the desired cells in the Excel table to link to the presentation. These cells can then be copied to the shapes using **Ctrl C** and **Ctrl V**. Once you have inserted the desired cells, it is possible to create Excel-Links by clicking on the button next to it **(Figure 23).** This process creates multiple links at the same time and each shape gets its own link. This function can also be used if the fields selected in the Excel table contain text only.

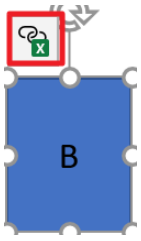


Figure 23: Excel-Link at shape

You can also link Excel objects (Range, chart or shape) as images to PowerPoint. The selected Excel object from the Excel table will be inserted as a vector graphic on the slide. The image is automatically locked in aspect ratio and will not be distorted if its size is being adapted manually.

The Excel object can either be placed manually on a slide or with a click on a placeholder.

An Excel object that is inserted as an image to PowerPoint can be a Range/table, an Excel chart or a shape (**Figure 24**).

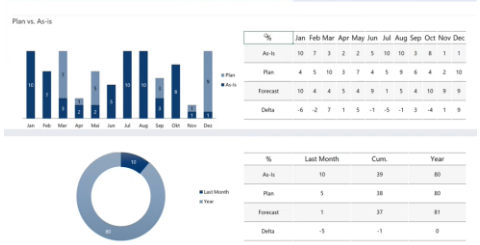


Figure 24: Example linked Excel objects as images

Please note:
Excel ranges/tables that are linked as images to PowerPoint are also compatible with the live update mode (see chapter User Settings) and the image on the slide will be updated according to the linked Excel data. The live update does not work for Excel charts or shapes that are linked as images to PowerPoint due to technical limitations of Excel.

Alternatively, Excel-Links can also be created directly from Excel. To do so, there are ribbon buttons in Excel on the Insert tab **(Figure 25)**. It can be both a new and an existing PPT target object linked. Native PPT charts can also serve as a target and are directly converted when linked.

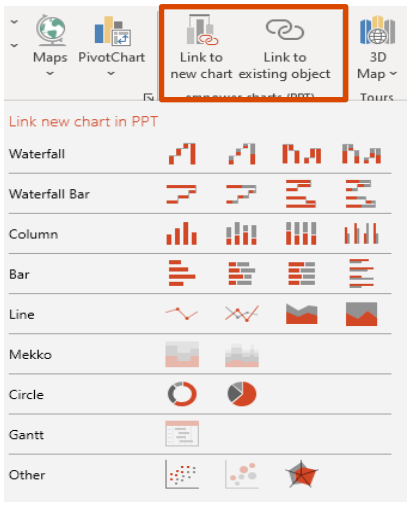


Figure 25: Create link in Excel

To create a link to a PPT object, simply click **Link to existing object** and select the desired object in PowerPoint **(Figure 26)**.

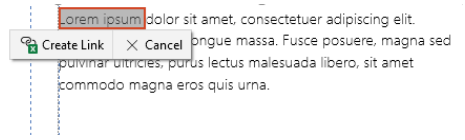


Figure 26: Link to PPT object

empower® automatically recognizes whether a chart or only a table or text can be linked based on the data selection in the Excel file.

More information can be found in **Chapter 2.2.4** Additional Excel-Link Options

If you have linked a data chart to an Excel table object via an Excel-Link, the linked data range and thus also the chart automatically grow and shrink when the linked Excel table becomes larger or smaller. If rows/columns are hidden in linked Excel files, they are transferred hidden to PPT. Thus, this data is still available when breaking a link.

2.2.4 Additional Excel-Link Options

With the help of empower Charts, in addition to data charts, tables and text boxes can be linked to Excel files. This allows you to link entire reports to Excel files. In principle, the same procedure is followed as with data charts.

To link a table to an Excel file, you can create similar to data charts a link between your PowerPoint table and an Excel file. First select the PowerPoint table then use **Excel-Link** from the Ribbon and then **Create Excel-Link (Figure 27)**. You can also right click on a PowerPoint table and select **Create Excel-Link**.

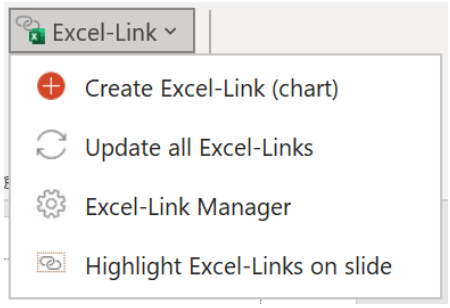


Figure 27: Create Excel-Link

Here, as with charts, a new window will open where you can open an Excel file (local or on a network drive) or from an Excel file from your SharePoint/OneDrive **(Figure 28)**. The selected Excel file is opened and displayed. You then have the option of selecting the cell range to be linked to the PowerPoint table. Here you can also connect partial areas and exclude certain columns. Files with merged cells can be opened and linked as well.

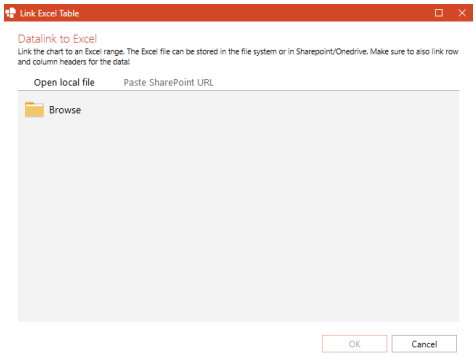


Figure 28: Select file

When linking tables, formatting (text color, cell fill color) can optionally be adopted. To do this, you can simply **right-click** or click on the **Create Excel-Link (table)** option via **Excel-Link**. Once the file is linked, you can copy the colors from Excel **(Figure 29)**.

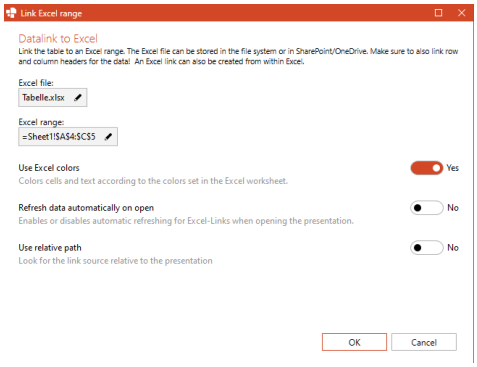


Figure 29: Maintain colors from Excel

Please note:
For tables, the PowerPoint table will always be adjusted to match the Excel cells, but there is no automatic adjustment of column widths or cell formats.

In addition to tables, you also have the option of linking any text boxes as well as individual words or text passages with Excel files.

To do this, you can use the same procedure as for tables, such as linking a title placeholder to an Excel cell.

To link individual words or longer text passages, you can select the desired area and click on **Create Excel-Link (text)** in the right-click context menu **(Figure 30)** or via **Excel-Link**in the Ribbon.

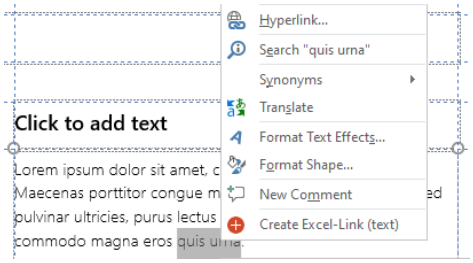
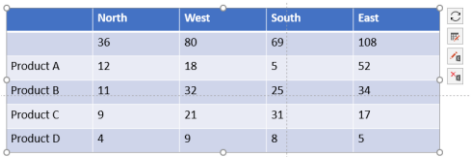


Figure 30: Link text

Linked shapes, tables and texts have hover icons on the right side to update the object, edit the link, open the source, and delete the link **(Figure 31)**.



	North	West	South	East
	36	80	69	108
Product A	12	18	5	52
Product B	11	32	25	34
Product C	9	21	31	17
Product D	4	9	8	5

Figure 31: Hover icons

In the **Excel-Link Manager**, you can define the desired decimal separator and the thousands separator when linking tables and texts. To do this, you can simply click on the **Excel-Link Manager** and use the **Configure Separators** to change the separators by clicking on **Manual** so that they are displayed differently from the Excel table **(Figure 32).** If these are set to **Automatic**, the settings are taken from Excel.

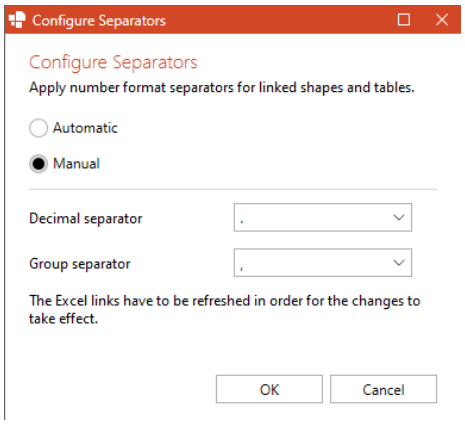


Figure 32: Configure Separators

2.2.5 Automatic Data Refresh after Opening

If you have linked a chart with an external source of data you have the ability to set the chart to update its data once its presentation is opened (locally or from empower). Toggle the switch **Refresh data automatically on open** to either **Yes** or **No** accordingly **(Figure 33)**.

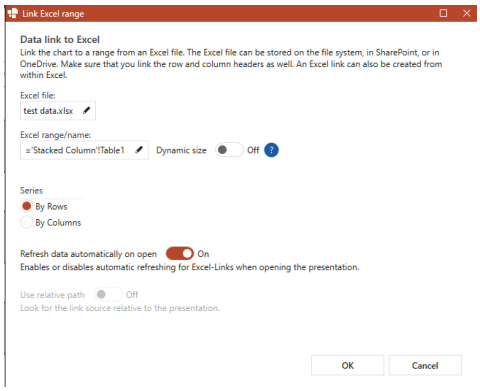


Figure 33: Data refresh settings

2.2.6 Using Relative Paths

If you have linked a chart with an external data source you can set to use **Relative Paths (Figure 34)**. Instead of using an invariable path this setting will allow use of a relative path of the respective PowerPoint and Excel file. If you wish to send a PowerPoint or Excel file (the charts in the PPT are linked with the Excel file) as an email attachment, their recipient is able to save these files to their local hard drive. Even though the connection to the chart refers to a path that is inaccessible to this recipient, a link to the Excel data can be established via the relative path, provided the files are saved in a similar fashion. If, for example, the original files have been placed in the same folder, it is necessary that these files are also placed in the same folder when saved locally.

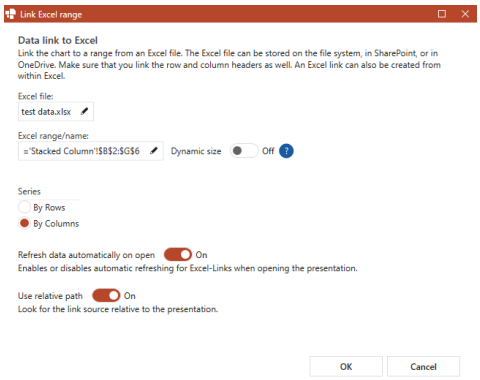


Figure 34: Excel-Link options

Please note:
If you activate the function to use relative paths you are required to ensure that the path of the Excel file does not change.

2.2.7 Excel-Link Manager

If you use multiple Excel-Links in your presentation, you can click on **Excel-Link** and the **Excel-Link Manager** in order to manage all links **(Figure 35)**. This button is located on the top right of the empower Charts section. Excel-Links can be highlighted here as well. There is a new window opening up, when hovering through the Icons in the Excel-Link Manager.

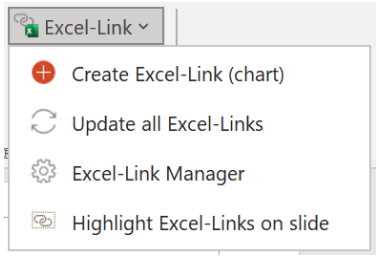


Figure 35: Open Excel-Link Manager

As soon as you have opened the Excel-Link manager, you will see an overview of all Excel files that are linked to elements in your presentation **(Figure 36)**. On the left is listed, on which slide the linked element is located. In addition, the linked element is highlighted on the respective slide. The save location of the Excel file is also specified, which you can open by simply clicking on the path. If you select multiple items, you are able to update all elements at once or delete their connection.

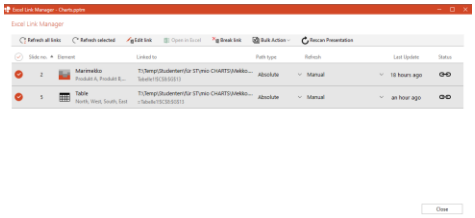


Figure 36: Excel-Link Manager

Conversely, you can also go to a slide, select via the Excel-Link manager **Highlight Excel-Links on slide**. This will show you all the objects that are linked **(Figure 37)**.

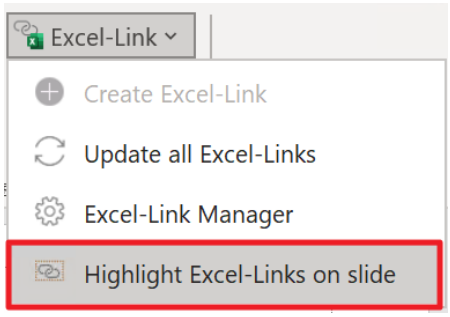


Figure 37: Show Excel-Links on slide

You can also exchange the original file for single or multiple links at the same time. To do this, simply select the corresponding links and click **Edit Link**. This gives you the option to directly switch links pointing to a particular file to another file if it has the same structure. Simply select the file you want **(Figure 38)**.

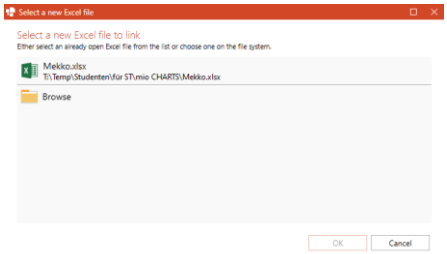


Figure 38: Change link source

This works even if the Excel files are stored in OneDrive or SharePoint.

To maintain consistency, the new Excel-Link Manager offers the feature **Rescan Presentation**. This gives you the opportunity to check the currently opened presentation for existing links and displays for instance all linked objects including sketch of their position on the respective slide **(Figure 39)**.

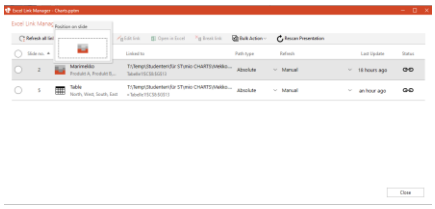


Figure 39: Overview of element and position

Depending on the type of linked source, different icons are displayed in the Excel-Link Manager **(Figure 40)**.

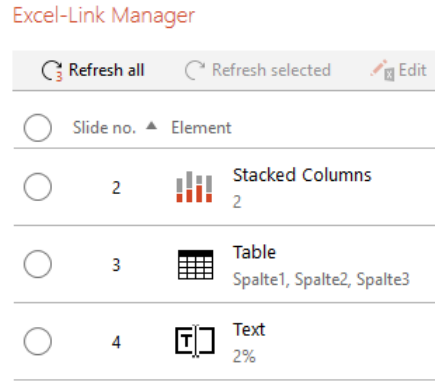


Figure 40: Example different icons

2.3 Adapting Charts

2.3.1 Data Labels

Click on **Data Labels** in the Action Bar in order to change properties as well as data values and labels **(Figure 41)**.

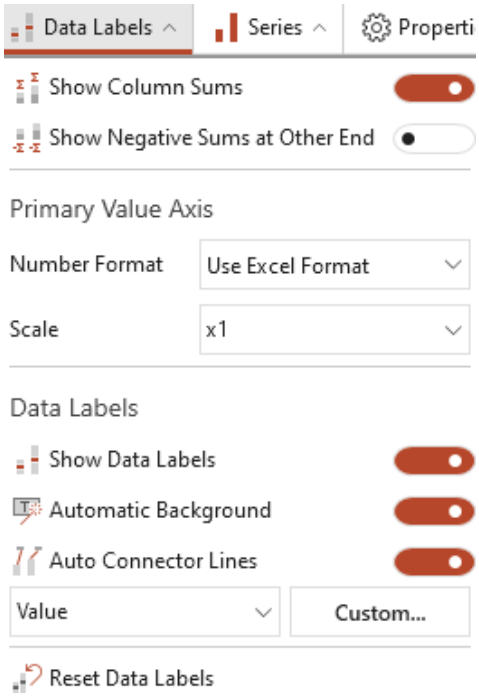


Figure 41: Data labels

When working with column and bar charts, you have the possibility to decide if you wish to display the **column sums** in the chart. When working with grouped charts you can activate **Show data labels outside** instead. Values are then not displayed within the column or bar, but outside of it **(Figure 42)**.

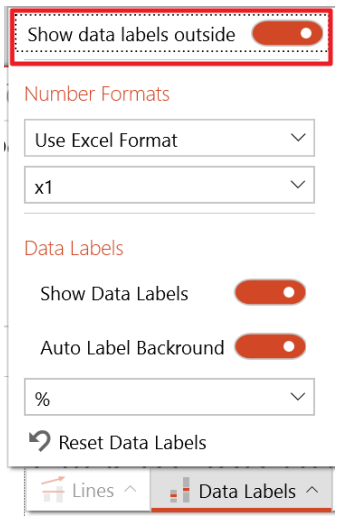


Figure 42: Show data labels outside

Using **Show Data Labels,** the data labels in the chart can be switched on and off globally. If these are turned on, you can set in the drop-down list below what you want the caption to display. If you want to display the values of the chart as percentages or as a combination of value and percentage value, you can select the corresponding entry **(Figure 43)**.

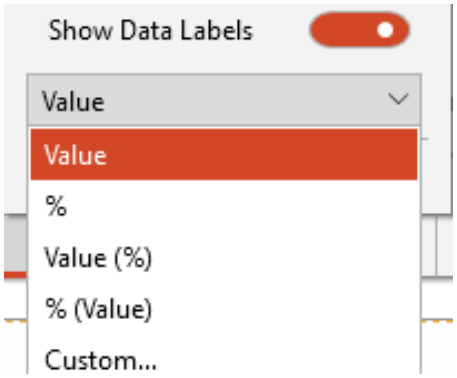


Figure 43: Value or percentage

More information can be found in **Chapter 2.3.2 Custom Data Labels.**

If data points are very small, so that the data label would not be properly readable, data label backgrounds for those particular labels are automatically displayed to allow better readability **(Figure 44)**.

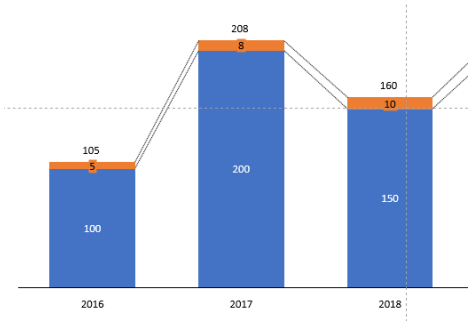


Figure 44: Data label background

Furthermore, you can reset the settings of the data label to the original format, please click reset **Data Labels**. This resets both formatting and the position of the data labels.

Background visibility for data labels can be controlled manually if required in a chart. By default, **Auto Label Background** is enabled, but can be disabled if necessary **(Figure 45)**. If the automatic data label is deactivated, you can select individually for each data label whether a background should be displayed or not. This setting does not have to be applied for an entire chart.

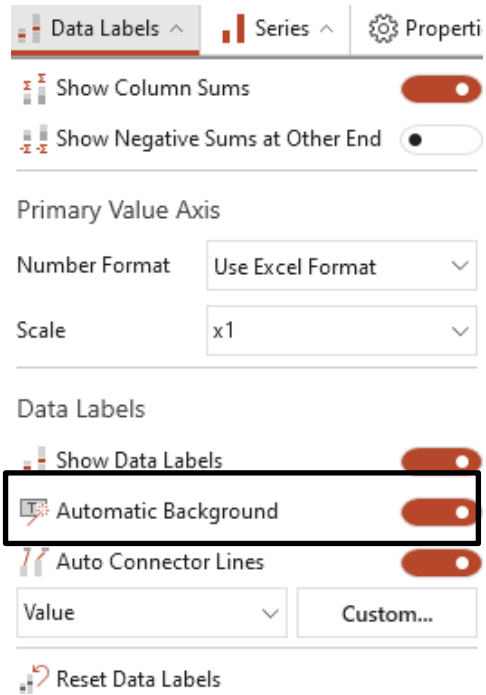


Figure 45: Auto Label Background

You can select multiple data labels at once and format them all at once. To do so, either press the key **Ctrl** and select all desired labels or select the first label, then press the key **Shift** and select the last label so that the desired range of labels is selected at once.

Labels of new data points adopt the formatting of the majority of neighboring labels. This helps when adding series or categories to an existing chart.

Data labels on a chart are connected via connector lines when they are dragged out of their default position (**Figure 46**).

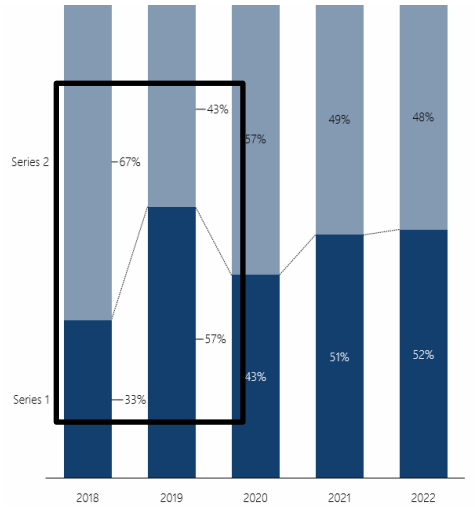


Figure 46: Chart with connector lines

By default, **Auto Connector Lines** is enabled, but can be disabled for the entire chart if necessary **(Figure 47)**.

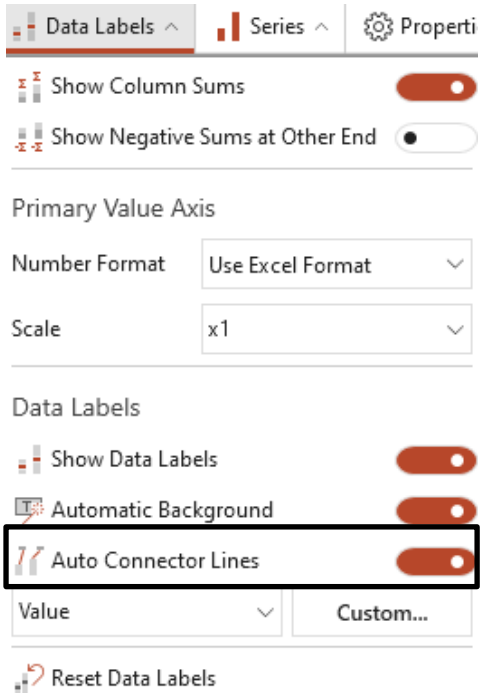


Figure 47: Default setting Connector Lines

If the automatic connector lines are disabled, you can select individually for each data label whether a connector line should be displayed or not. This setting does not have to be applied for an entire chart.

Figure 48: Set connector lines individually for single data labels

When working with column or bar charts, you additionally have the option to display negative column or bar sums at the other end of the column or bar. Just activate **Show negative sums at the other end (Figure 49)**. To do so, you need to activate the option **Show column sums.**

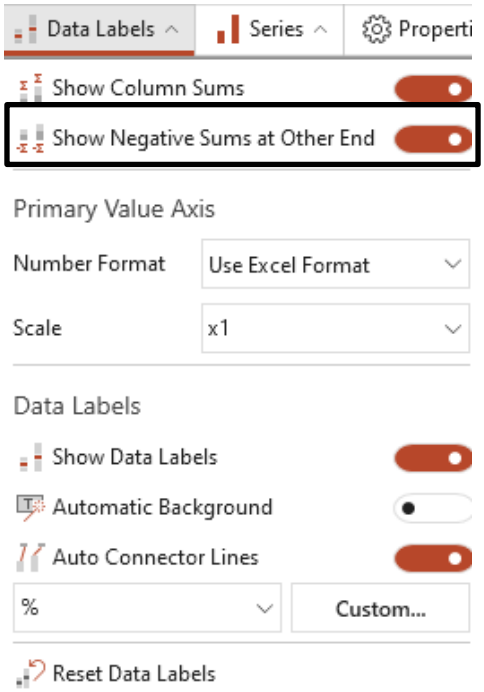


Figure 49: Show negative sums at the other end

By default, the **numeric format** of the chart is based on the Excel chart it is linked to. Using the respective drop-down menu, you can change the numeric format (e.g. to change from a European to an American radix format) **(Figure 50)**.

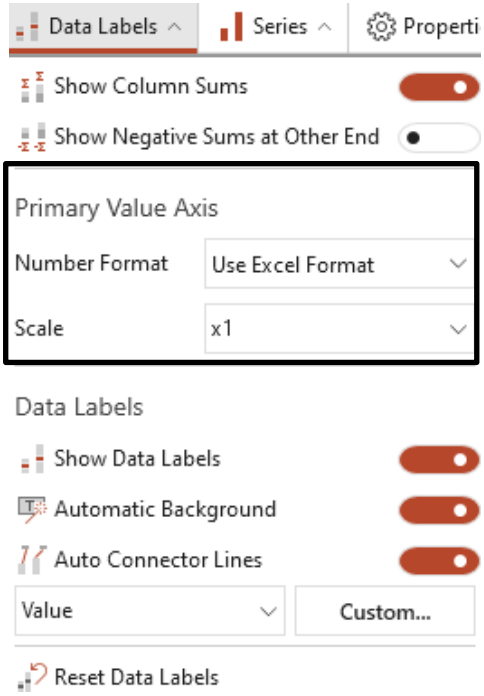


Figure 50: Set number format (1)

You have the option to select predefined formats or create one of your own **(Figure 51)**.

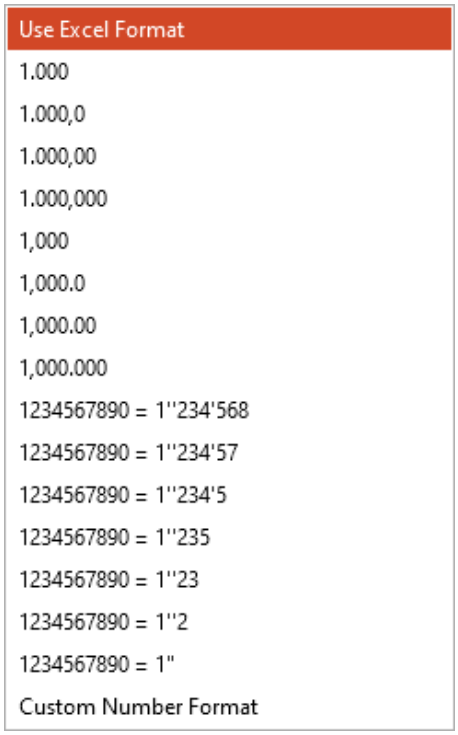


Figure 51: Set number format (2)

If you click on **Custom Number Format** a window will open in which you can select the desired format or define your own in the entry field provided and use e.g. scientific notation (**Figure 52**). Here, you are also able to display a specific percentage of a chart.

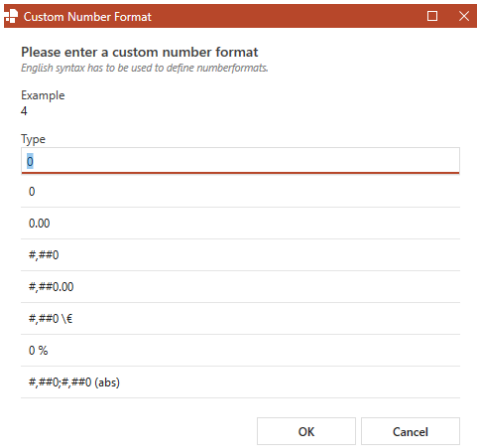


Figure 52: Set custom number format

Finally, you are able to change the scaling of values in order to better display large numbers.

Please note:
If a chart suddenly gets a lot of data labels, e.g. by an Excel link with a lot of data, data labels are automatically switched off.

2.3.2 Custom Data Labels

The entry **Custom Data Labels** in the drop-down list for data labels can be used to set the data label specifically **(Figure 53)**.

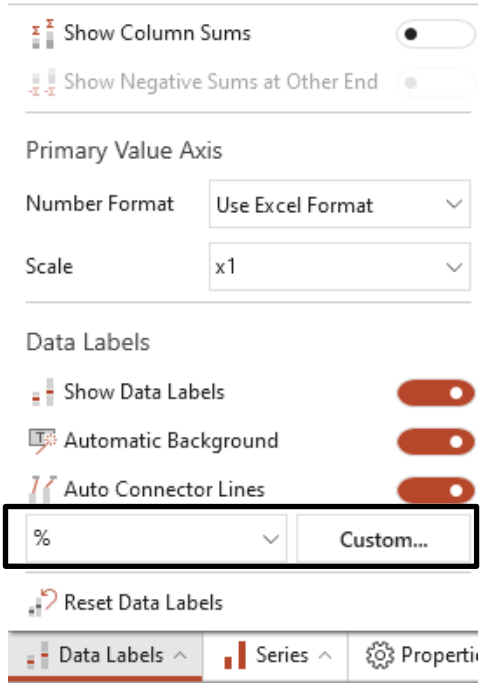


Figure 53: Custom data label

When you select this entry, a window appears in which you can set which information should be displayed in the data labels (value, percent, series name) **(Figure 54)**. Optionally, you can display the value absolutely, and for percentages you can define the number of decimal places.

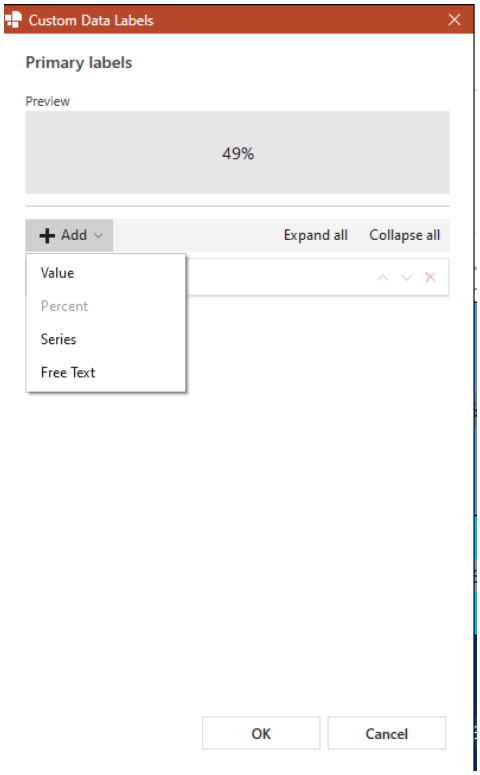


Figure 54:Configuration for custom data labels

For percentages, you can also define the reference for the calculation, which value/series should correspond to 100%. For example, if you want to create a chart that should represent a target-actual comparison, this function is very helpful. You can then set the reference for the percentage calculation to the series that represents the target value. In the example, the line is the reference for the percentage calculation in the bars **(Figure 55)**.

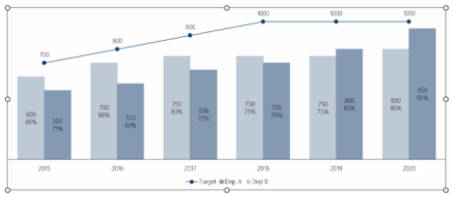


Figure 55: target-actual comparison

For this purpose, the type of the target can be changed to line within the Series function. This line must now be displayed on its own axis, which has the same parameters as the other. The axis can also be selected under Series. The value of the data labels must then be adjusted manually. This is done via data labels (Value - Custom) **(Figure 56).** Here, the percentage value can be determined by adding and selecting the percentage value to what extent the goal has been achieved. All you have to do is adjust the reference. The result is a chart by representing a target-actual comparison.

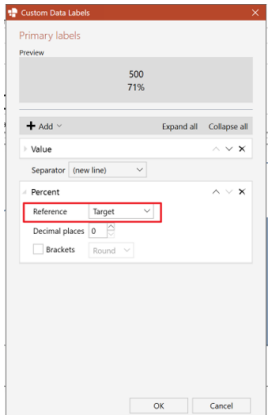


Figure 56: Custom Data Labels

2.3.3 Data Series

Clicking the **Series** button in the Action Bar allows you to either select the axis, type or color of each series of a chart. In the **Axis** section you are then able to set if the series is to orientate itself to the primary of the secondary axis. When using bar charts, you can also click **Type** to set if the data series is to be displayed as a line or a bar. This way a hybrid chart can be compiled using lines as well as bars. In addition, you have the option to activate or deactivate visibility of a series. If you do not wish to display a certain data series in your chart, simply uncheck the option **Visible**. Additionally, you are able to set not only a different **Fill Color** per series but also a different specific color per series when negative figures are used **(Figure 57)**.

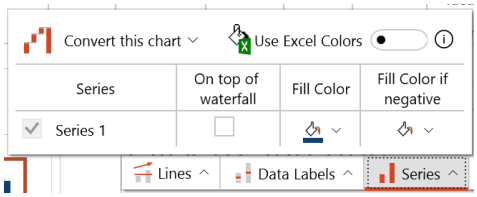


Figure 57: Determine series settings

Moreover, a data chart can be configured so that colors will be adopted from Excel **(Figure 58)**. The closest CD-compliant color of the current empower customizing is used. This also works for any complex conditional formatting in Excel.

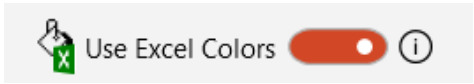


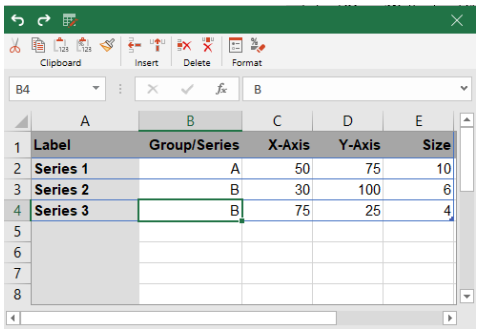
Figure 58: Apply Excel colors

Please note:
If an external link to a PowerPoint table is created, text that is formatted with superscript or subscript is taken over and displayed correctly in the chart.

If an external link to a PowerPoint text is created, text that is formatted with superscript or subscript is not displayed with superscript or subscript in PowerPoint due to a technical limitation in PowerPoint.

For all data charts (except point and bubble charts), a row or column, depending on the series reference corresponds to a series.

For scatter and bubble charts, the series assignment of the points takes place via an extra column (Group/Series). If you click **Edit Data** in such a chart, you can use this column and similar entries to reach a grouping of their data points **(Figure 59)**.



	A	B	C	D	E
1	Label	Group/Series	X-Axis	Y-Axis	Size
2	Series 1	A	50	75	10
3	Series 2	B	30	100	6
4	Series 3	B	75	25	4
5					
6					
7					
8					

Figure 59: Grouping of series

This gives you the opportunity to differentiate the groupings in terms of color and legend **(Figure 60)**.

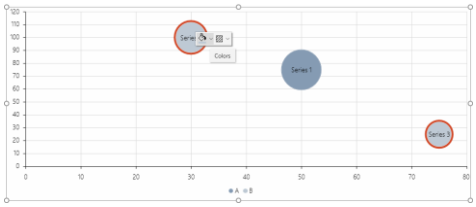


Figure 60: Format grouping

Please note:
If you want to create a mixed chart (bars and lines) and work with two axes, empower Charts automatically ensures that bars are only on one of the two axes. The bars would otherwise overlap and lead to misinterpreted representations.

2.3.4 Data

When opening the function, **Data** you have the possibility to further customize charts in relation to their series or categories **(Figure 61)**.

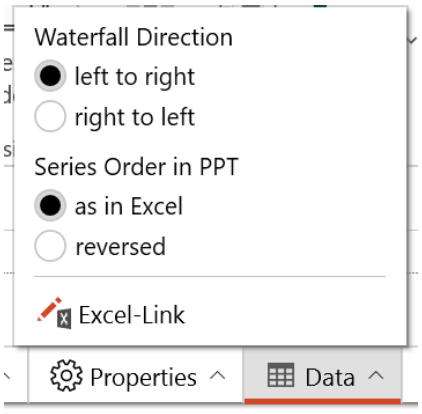


Figure 61: Adjust data

The direction of the waterfall bar can be set up individually. You can choose If the chart should start from the left or right.

Here you can set the serial reference of your chart either by rows or by columns of your Excel data.

empower will automatically apply these adjustments to your chart.

You can also use **Data** to create an **Excel-Link**, which automatically adjusts your chart to the data of an external file. You can also delete an used Excel-Link. If you click on **Excel-Link** you will get to the source of the chart and can adjust the table instead of just adjusting the chart in the presentation.

If you wish to remove the link to the external data source, click on the action point **Break link** in the Action Bar above the chart. If you want to edit the Excel-link, select the option **Edit link (Figure 62)**. With a click on **Open link source** you can directly open the linked source and adjust it for the chart.

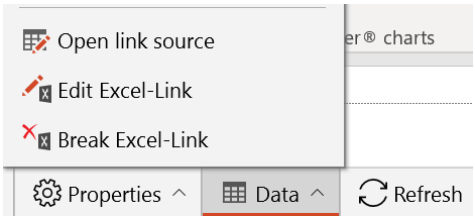


Figure 62: Edit Link

2.3.5 Editing Category Labels

For the category labels, you have the option to customize them **(Figure 63)**.

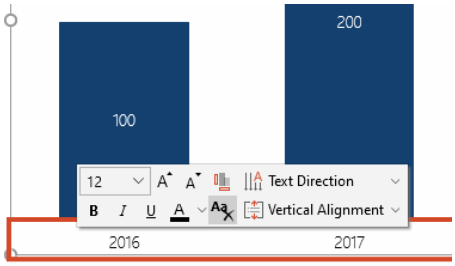


Figure 63: Adjust category label

Long category labels are automatically wrapped **(Figure 64)**. If you want to create text breaks manually, you can do this directly in Excel by pressing **Alt** and **Enter**.

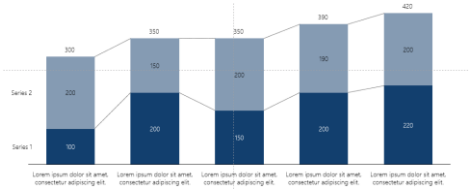


Figure 64: Align text

You can also change the text orientation or the vertical text orientation, so that the text remains manageable and does not overlap even with longer labels. To avoid such behavior, you can align the text at the top, center, or bottom.

2.3.6 Adapting Data Labels

To change the design of data labels in terms of caption or position, please select the desired element.

An overlay will appear in which font size and color may be adapted in accordance to corporate design. You can also select text formatting options such as **Bold**, **Italics**, and **Underlined (Figure 65)**. Multiple elements of data labels can be selected and edited simultaneously. To do so, select the desired elements while holding **Ctrl**.

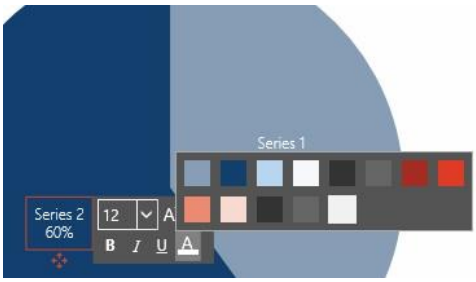


Figure 65: Formatting options

If you wish to change the position of the element, move it via Drag & Drop. The position of data labels automatically adapts to its environment, e.g. when they would otherwise overlap. To deactivate this automation, you are able to

move the data label via Drag & Drop while holding the **Ctrl button** on your keyboard in order to place the element to its desired location. In order to move data labels exclusively horizontally and vertically, hold the **Shift key** while moving the element to the desired location. Even after larger changes to the underlying data displayed by the chart, the relative position of this manually moved data label will remain the same.

You also have the option to add a prefix before or a postfix after the data labels of a chart. Click on a data label, and the click either the **Prefix** or **Postfix** button **(Figure 66)**. You can now enter your text and then click **OK**. For example, should you wish to remove the prefix, you can do so by selecting one of the data labels and after clicking the prefix button select **Clear**. A removal of the postfix is performed in a similar manner.

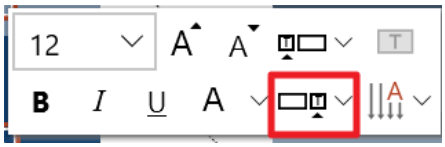


Figure 66: Add prefix or postfix

You can format prefix or postfix texts in superscript or subscript. To do so, use **\sup{text}** for superscript or **\sub{text}** for subscript and replace {text} with your prefix/postfix text you want to format with superscript or subscript. A tooltip also gives information on how to use superscript or subscript (**Figure 67**).

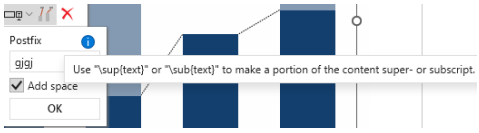


Figure 67: Tooltip on how to format prefix or postfix text

The data labels can also be adjusted in their arrangement. To do this, the labels in the desired empower chart must be selected. By clicking on **Change Text Direction** the orientation of the label can then be adjusted. Individual labels within a chart can also be changed via this function **(Figure 68).**

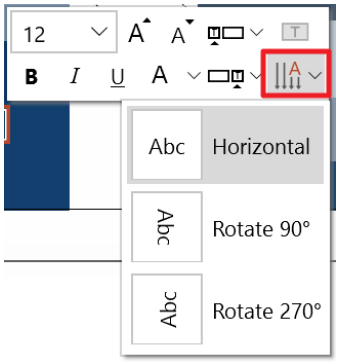


Figure 68: Change text direction

Individual data and arrow labels within a chart can also be changed via this function. The adjustments can be customized in a differentiated way for each individual label, independent of the other labels within a chart.

2.3.7 Coloring Chart Elements

empower allows you to change chart colors of a series as well as of a single element while keeping in line with corporate design. To do so, select the desired element of a series and then click the **Color button** to select a color (**Figure 69**).

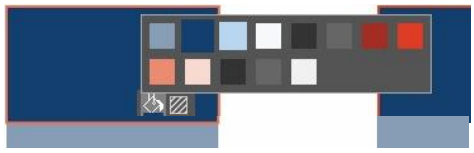


Figure 69: Changing color of series

If the selected element is part of a series, all elements of this series will adapt automatically. If you wish to change just a single element, do so by selecting the element with a double click and then make the desired changes **(Figure 70)**.

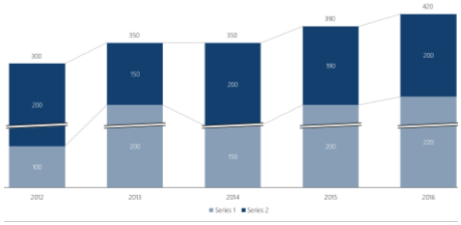


Figure 70: Changing color of series

In addition, you can add shading to empower chart elements by selecting the element and clicking the **Shading button**. Now you can select a pattern **(Figure 71)**.

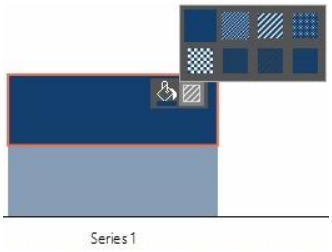


Figure 71: Add or change shading

Additionally, you can set a border color for a selected series or specific series elements (**Figure 72**) **(1)**. If a border color is selected, you can choose a dash style **(2)** and the weight of the lines **(3)**. All changes for your current chart can be revoqued with a click on the button **Reset (4)**.

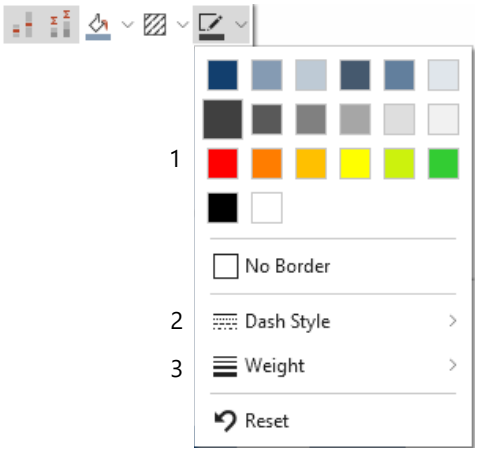


Figure 72: Select border color

Please note:
The default setting for borders is *No border*. Depending on your empower® version, borders might be set for specific chart types by default. In both cases, the border settings can be adjusted according to your needs.

2.3.8 Connector Lines

Data labels on a chart are connected via connector lines when they are dragged out of their default position (**Figure 73**).

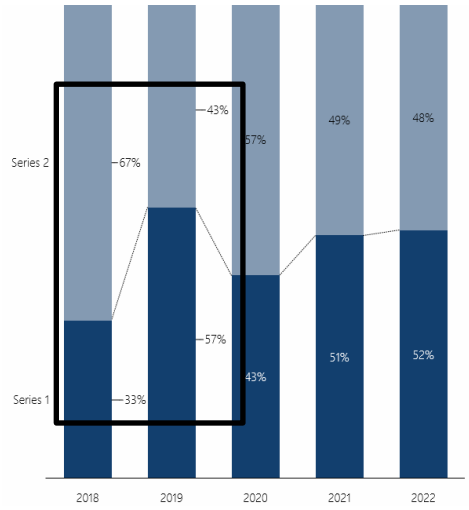


Figure 73: Chart with connector lines

By default, **Auto Connector Lines** is enabled, but can be disabled for the entire chart if necessary **(Figure 74)**.

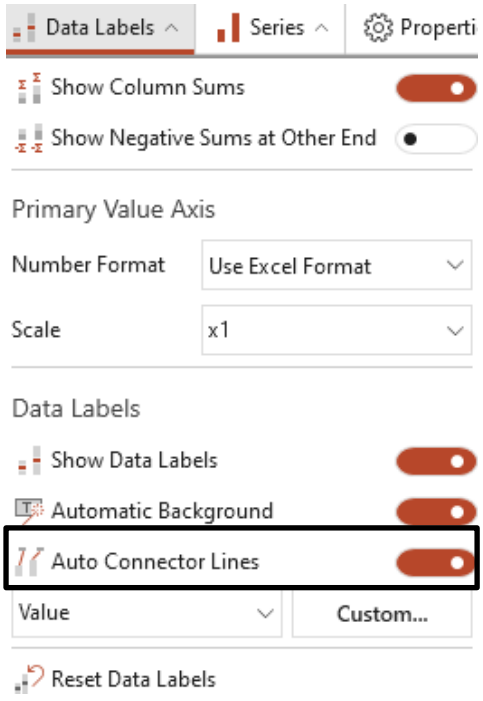


Figure 74: Default setting Connector Lines

If the automatic connector lines are disabled, you can select individually for each data label whether a connector line should be displayed or not **(Figure 75)**. This setting does not have to be applied for an entire chart.

Figure 75: Set connector lines individually for single data labels

2.4 Chart Properties

2.4.1 Bar Width and Font Size

Click on **Properties** in the Action Bar in order to adjust bar width and font size **(Figure 76)**.

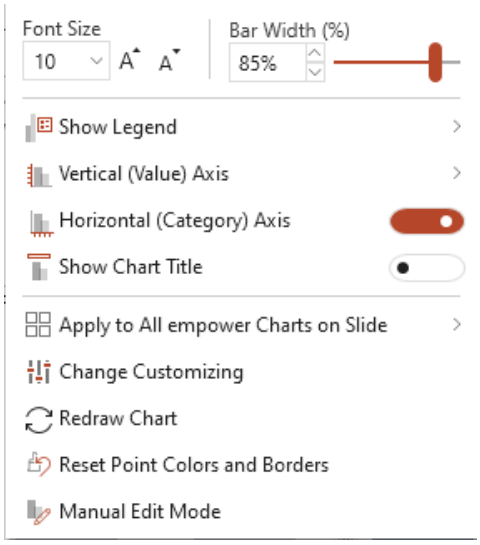


Figure 76: Set bar width and font size

Change the bar width by manipulating the slide bar. Below you have the possibility to change the font size in the same manner. To apply the same font

size settings to all charts contained on the slide click **Apply font size to all charts on slide**.

2.4.2 Legend

In order to display a legend for your chart, click on **Properties** in the Action Bar and then on **Show Legend (Figure 77).**

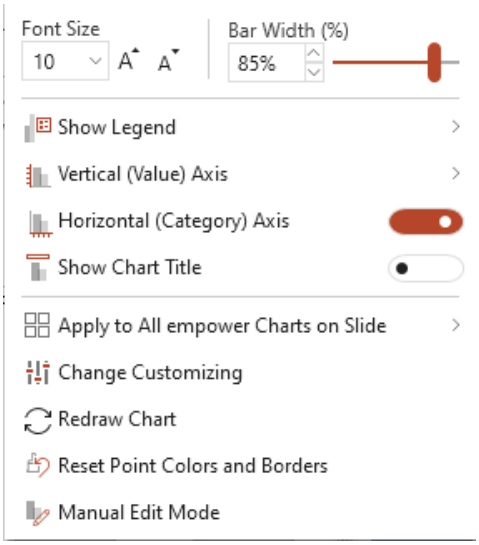


Figure 77: Show legend

Here you can choose if you want the legend to be inserted to the **Right**, **Top**, **Left**, **Bottom**, **In Chart Left**, **In Chart Right** or **Outside Chart (Figure 78)**. Once you have selected a position, the legend will be inserted accordingly.

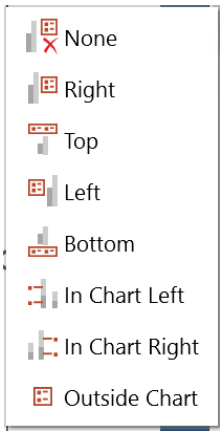


Figure 78: Define position of the legend

A click on the legend allows you to adjust the design (font size, font color, etc.) for a uniform appearance (**Figure 79**).

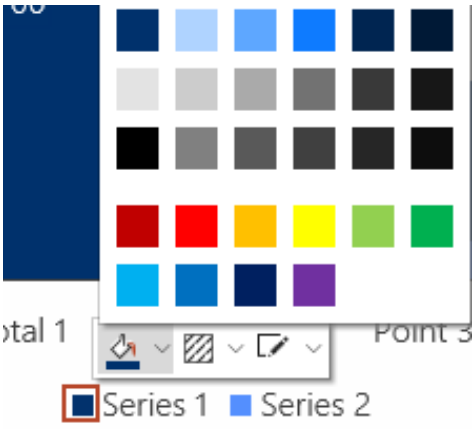


Figure 79: Change series color via legend

To remove the legend, simply open Properties and in **Show Legend** select **None**.

You can move and adjust the legend at any time. You can also change the area where the legend is to be displayed by dragging with the mouse. The legend can also be placed outside the chart. Furthermore, you can extend the legend to show all series in a row or customize, how many series shall be displayed in a row. In addition, you can also change the order of the series items as desired.

To change the horizontal orientation of the texts of the In-Chart legend (left, center, right), you can simply click on the legend and arrange the contents accordingly **(Figure 80)**.

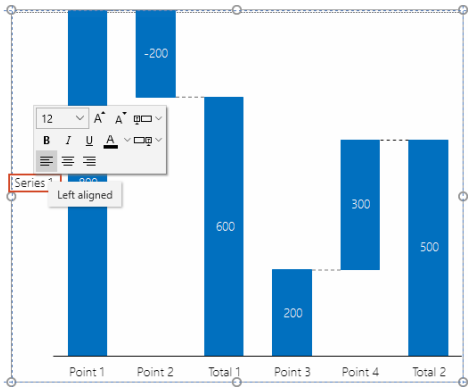


Figure 80: Horizontal alignment

2.4.3 Chart Title

There is the possibility to enter a title to a chart. This can be activated or deactivated individually for each chart as required **(Figure 81).** The keyboard can also be used by pressing the key **Del** to delete the title. If the title is activated for a chart, the default settings of the formatting are used. Nevertheless, the title can be formatted individually. For this purpose, the manual editing mode (see in **2.4.5** Manual Edit Mode) can be used. The editing of the text via the keyboard is possible with the usual key combinations, for example to display the title bold or italic.

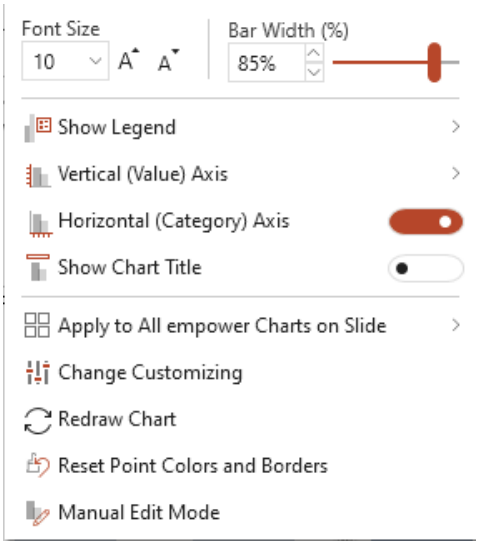


Figure 81: Show Chart Title

Displaying the title in multiple lines is also supported **(Figure 82).** The title can be moved and positioned freely via Drag & Drop. If the selected chart is to receive a legend, it is inserted next to the title, but can be positioned independently as described in **2.4.3** Chart Title.

Figure 82: Chart Title longer than one row

The setting to give the chart a title is supported by all chart types.

Subscript or superscript can be used in chart titles. To do so, use **\sup{text}** for superscript or **\sub{text}** for subscript and replace {text} with your text you want to format with superscript or subscript.

2.4.4 Performance Mode

Basically, when working with empower Charts, a good performance is ensured, so that the user can efficiently create and edit charts. The performance mode is therefore only triggered if individual data charts have a lot of content or if the loading of the data chart takes longer for technical reasons. The message to be able to switch to performance mode therefore only appears in some data charts. Excluded from this are data charts that are located on the first slide of a presentation. By clicking on **Switch to performance mode** in the navigation bar you can switch to the same **(Figure 83).** In this mode, individual data is then scaled down, which means, for example, that oblique texts can be distorted.

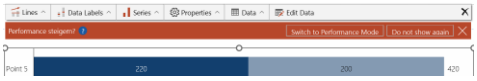


Figure 83: Performance Mode

If you do not want to switch to performance mode and do not want to be asked for it for this data chart in the future, click **Do not show again**. The performance mode is used for better and faster processing of these data charts. After editing the data chart in this mode, however, it should be left again. This works via the **properties** in the action bar by clicking **Leave Performance Mode** (**Figure 84**).

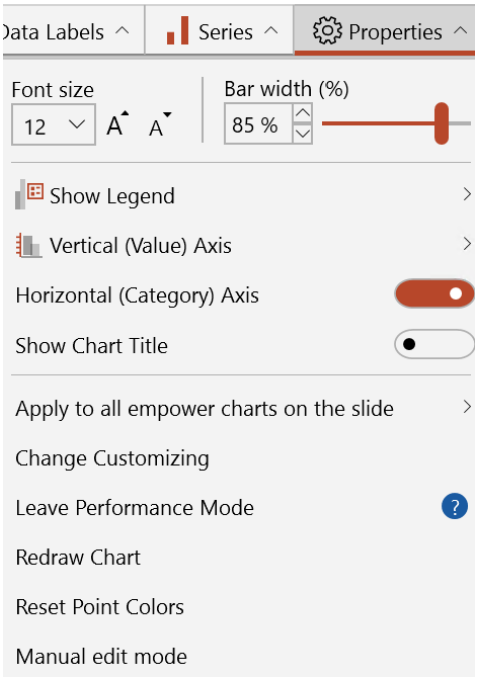


Figure 84: Leave Performance mode

2.4.5 Manual Edit Mode

Once you are content with the design of your chart, you can still make manual changes at a later stage if absolutely necessary. To do so, activate **Manual edit Mode (Figure 85)**. In doing so all empower Charts functions are deactivated and you can now implement all manual changes to your chart.

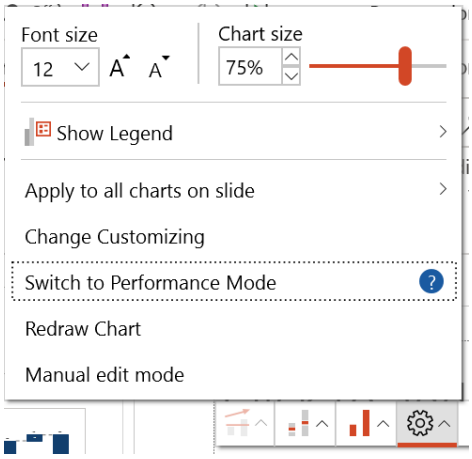


Figure 85: Manual edit mode

Please note:
Some formatting may be lost in the process after you have deactivated Manual edit mode.

Manual edit mode should not be used for manipulation of the chart in normal use as almost all changes made so far will be reverted; more fundamental changes may lead to empower Charts no longer working correctly for this chart.

In order to gain an overview of the different changes that occur when leaving Manual edit mode, it is necessary to distinguish between Gantt charts and data charts:

Gantt charts

After leaving Manual edit mode (almost) all changes made by the user are reverted.

Data charts

After leaving Manual edit mode all changes made by the user are reverted apart from the following exceptions:

- Changes to color of data points (e.g. a section of a bar)
- Changes to shading of data points
- Any changes to the category axis
- Changes to axis settings (the PPT axis will need to be inserted in Manual edit mode, later the EC axis will need to be toggled on and off in charts mode)
- Changes to gridlines in the chart.

2.4.6 Configuring Axis

In **Properties** you can insert a primary axis (as well as a secondary axis). Once you have selected an axis, you can either scale it automatically, or enter a value manually for a minimum as well as a maximum for the axis scale **(Figure 86)**.

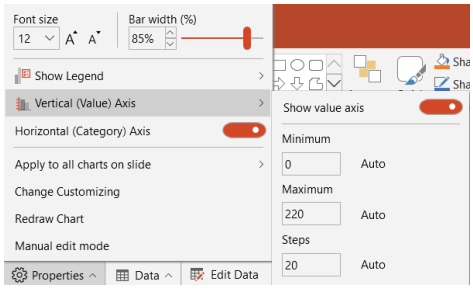


Figure 86: Axis configuration

In addition, you can adjust the text formatting of the axis labelling by clicking on the respective axis. You also have the possibility to change the scaling of the axis. The labelling can be shown in multi lines. **(Figure 87)**.

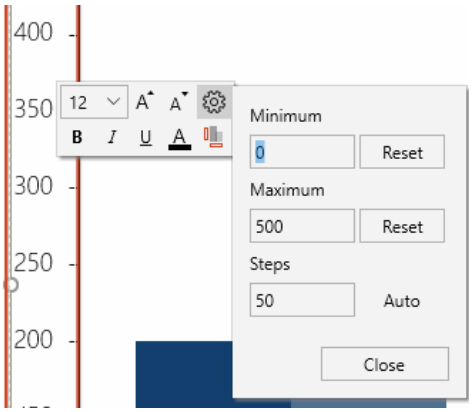


Figure 87: Configuring scaling of axis

With empower Charts, axes can also be designed flexibly. To flip the axis direction, you can simply click **Properties** and **Vertical (Value) Axis**. Here you can set the option **Reverse Axis Direction (Figure 88)**.

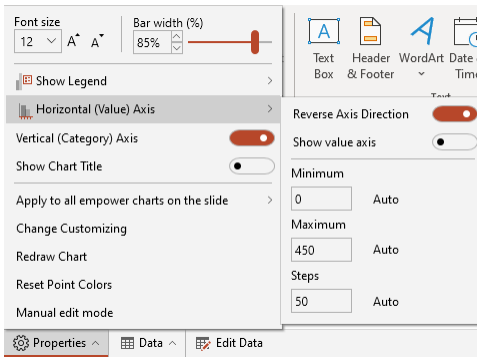


Figure 88: Reverse axis direction

This automatically reverses the axis direction of the chart **(Figure 89)**.

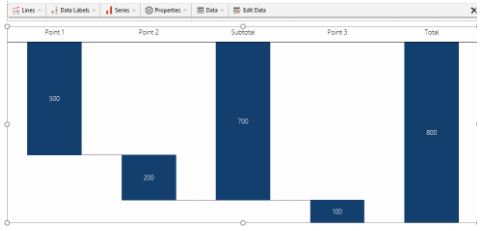


Figure 89: Adjustment of chart

Conversely, the same behavior applies to bar charts and their **Horizontal (Value) Axis**.

empower Charts also allows the use of a date axis. If you aim to use one, select the desired chart and click on **Data** in the Action Bar and then on **Edit Data.** In the Excel table that opens you will then have the ability to enter the date values into the corresponding cells for the axis of your choice. It is important that these values have the same date format as Excel (e.g. *07/01/2018*) and that this date does not function as a table header **(Figure 90)**.

	A	B
1		Series 1
2	01.01.2012	100
3	01.01.2013	200
4	01.01.2014	250
5	01.01.2015	200
6	01.01.2016	150
7		

Figure 90: Excel date format

Once you have changed the values of the axis to a date format in the Excel, you can close the Excel table. Once you click on the axis labels, you will be provided with further options in **Properties**. You can set the time frame to be displayed on the axis by setting the start and end dates manually or by selecting the dates using the date picker. In addition, select if you want the time steps as days, months, or years. Lastly, you can change the **Date Format** using the relevant dropdown menu **(Figure 91)**.

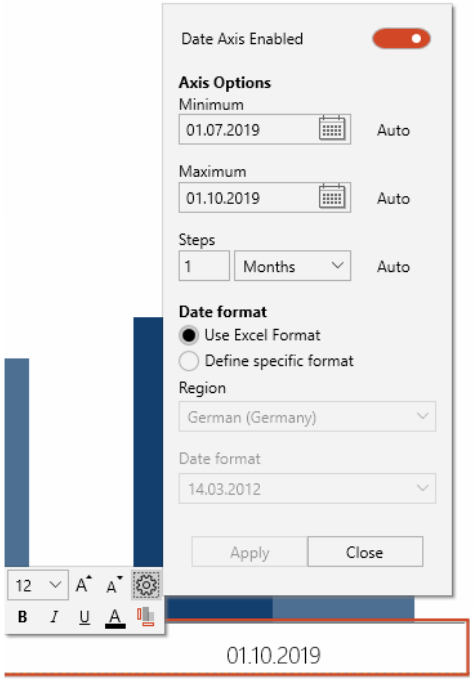


Figure 91: Configuring date axis

2.4.7 Same Scale and Size for all Charts

In order to aid comparison of charts on the same slide, it is possible to match the scale and size of the charts. To do so, select a chart on the slide and click **Properties**. Afterward click **Apply to all charts on slide**. You can then choose between applying the **font size** of the selected charts for all the charts on the slide or applying the **scale and size** of the selected chart for all the charts on the slide **(Figure 92)**. The matching to height orients itself to the highest chart on the slide.

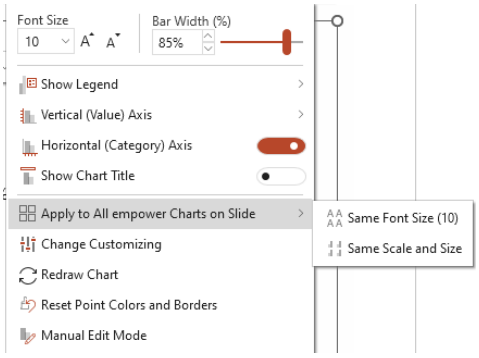


Figure 92: Chart scale settings

Charts with breaks can be matched to other charts with the function **same scaling and size (Figure 93)**. This ensures that the scales of the axes are identical and the charts appear more uniform.

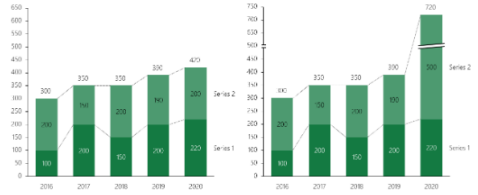


Figure 93: Adjustment of charts with breaks

Tip: Always apply the **same scale and size** function to the chart, which has the smallest scale, i.e. where a certain reference value (e.g. 100) is displayed the smallest.

2.4.8 Change Customizing

If there are multiple customizations set up in empower Charts, it is possible to change to a different design or convert individual charts. A customization contains information such as fonts, colors, or even axis settings.

To change to a different customization, click on the chart and then on the button **Properties** and then on **Change Customizing.** A new window will open which will provide all available customizations. Select the desired customization and confirm your selection by clicking **OK (Figure 94)**.

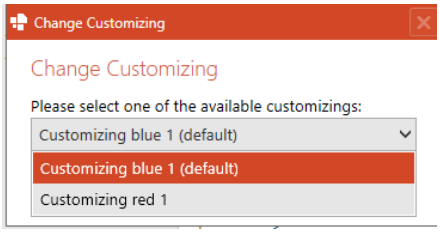


Figure 94: Change customizing

To change the whole customization of empower Charts, e.g. to change the appearance of every newly created charts, click on the button **More** in the menu ribbon and then on **User Settings (Figure 95)**. A new window with a dropdown menu will open in which you can set the new customization. Confirm your change by clicking **OK**.

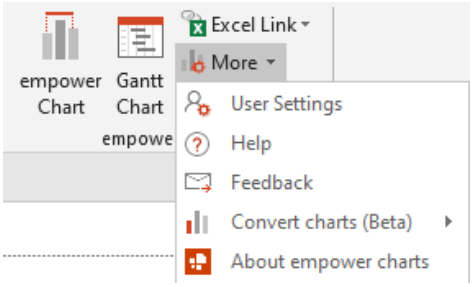


Figure 95: User Settings

2.4.9 Reset Point Color and Borders

Under the **Properties**, the **Reset Point Color and Borders** function can be selected (Figure 96). If you select this function, the colors and borders of the current chart are reset to the default set in the customizing.

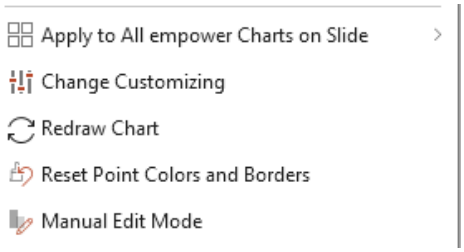


Figure 96: Button **Reset Point Colors and Borders**

2.5 Chart Features

2.5.1 Growth Arrow

A growth arrow displays the growth between two data points. In order to set up a growth arrow, click on **Lines** in the Action Bar and select **Growth Arrow (Figure 97)**.

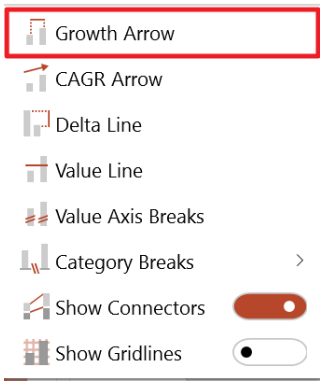


Figure 97: Growth Arrow

In addition, an extra window opens with a mouse click on the growth arrow, **(Figure 98),** by displaying and changing additional settings. These settings can be made and adjusted at any time. In addition, you can decide, which labelling type you prefer (percentage, absolute, or both) and if an ellipsis is to be placed around the value. You can also drag and drop the growth arrow to the desired data points. Via **Esc**, you can exit and close the arrow settings windows at any time.

Figure 98: Growth Arrow

If you would like to make adjustments at a later stage, simply go to the settings and click on the growth arrow. The selection area is now displayed again, where you can change the settings of the growth arrow. If you want to delete the arrow from the presentation, select the arrow here as well and use the key **Del** or click **Delete.**

You can also influence the height of the arrows by holding and moving the desired arrows with the mouse. As a result, two overarching growth arrows can also be fused into each other **(Figure 99).**

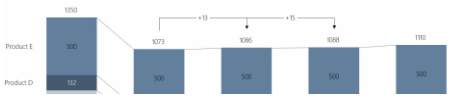


Figure 99: Overarching growth arrows

2.5.2 CAGR Arrow

A CAGR (Compound Annual Growth Rate) arrow displays the annual average growth rate of the time period between two data points. To add a CAGR arrow click on **Lines** in the Action Bar and then select **CAGR Arrow**. Now a selection window opens again where settings can be made and you can simultaneously select the two desired data points via Drag & Drop **(Figure 100)**. Similar to the growth arrow you can make changes or delete the CAGR arrow by clicking on the element.

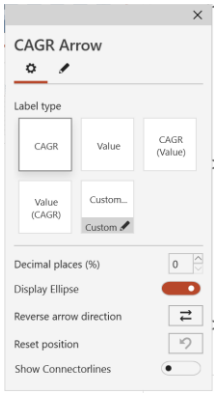


Figure 100: CAGR arrow settings

2.5.3 Delta Line

The delta line shows the percentage or absolute difference between two data points. To add a delta line, click on **Lines** in the Action Bar and select **Delta Line (Figure 101)**. Now a selection window opens again where settings can be made and you can simultaneously select the two desired data points via Drag & Drop. In addition, you can decide, which labelling type you prefer (percentage, absolute, or both). And if an ellipsis is to be placed around the value. In order to delete the delta line, simply select it and click the Delete button.

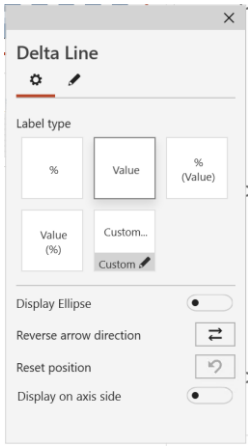


Figure 101: Delta line

2.5.4 Value Line

This feature displays a horizontal value line into your chart (**Figure 102**).

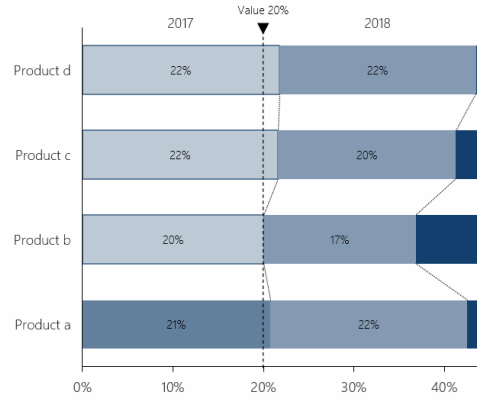


Figure 102: Value line in a chart

In order to set up a value line, click on **Lines** in the Action Bar and select **Value Line (Figure 103)**. Now a selection window opens again where settings can be made. In addition, you can use the average of all values, insert a value manually or hide the value via a ticked checkbox **(1)** and label the value line **(2)**. You can add an ellipse to frame the label and value by enabling the toggle button **Display Ellipse (3)**. Or display the value line on the axis side **(4).** To adjust or delete the value line, simply select it make the appropriate changes or click the **Delete** button to remove the line from the chart.

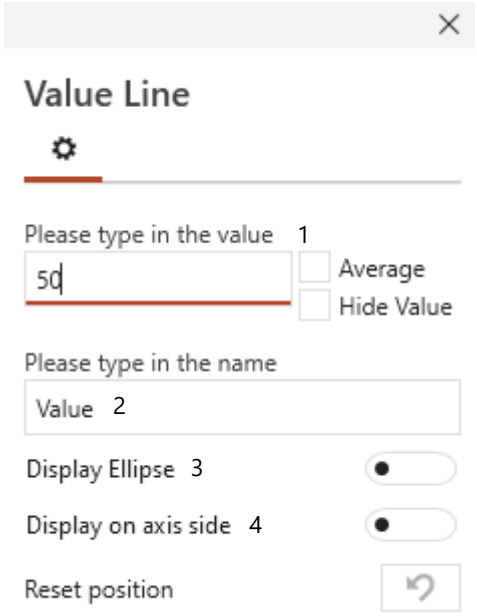


Figure 103: Value line

Right-click the inserted value line to further format it (**Figure 104**).

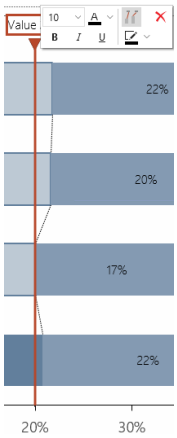


Figure 104: Format value line

2.5.5 Insert Breaks

Breaks allow you to truncate data segments, e.g. to be able to better display smaller columns.

To add breaks, click on **Lines** in the Action Bar and select **Value Axis** or **Category Break (Figure 105)**.

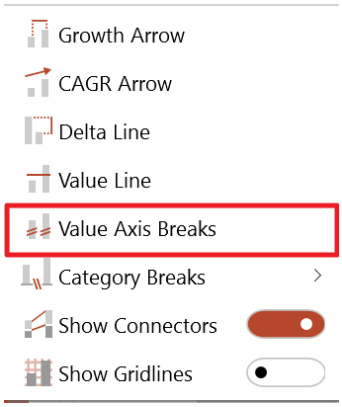


Figure 105: Select Break

A further window will open in which you can set new breaks **(Figure 106)**. The width (the hidden value section) of the break can be adjusted automatically or manually.

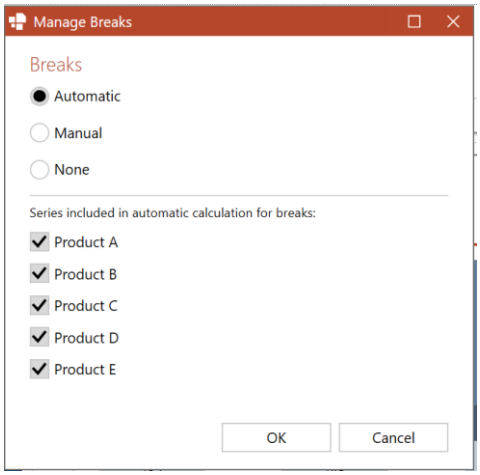


Figure 106: Inserting breaks

If you click on **Automatic**, automatic break logic will be used, which calculates the size of a break so that the expressiveness of the chart is optimally balanced. Individual series can also be explicitly excluded **(Figure 107)**.

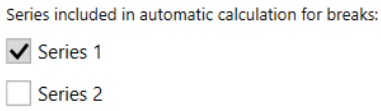
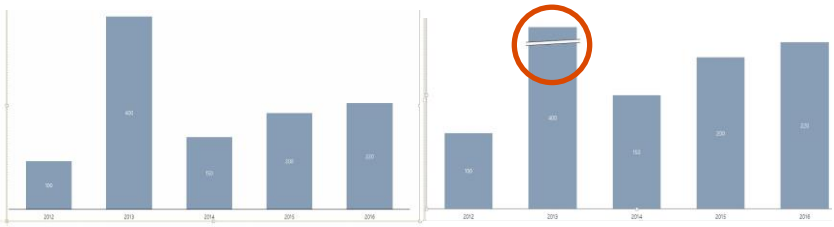


Figure 107: Insert series automatically

Sometimes you may use data in a chart that differs strongly in size. This may result in columns with lower values to be displayed next to columns with a high value which can result in a confusing chart. Breaks can help to maintain readability.

To the left is an example of a chart without a break, while the right chart has a break inserted:



Also, when selecting category break, a popup window will open, where you can set appropriate breaks **(Figure 108)**.

Figure 108: Set category break

2.5.6 Gridlines

The editing of the gridlines is only possible in Manual edit mode. This can be activated as described in 2.4.6. If the Manual edit mode is activated, all settings of the lines, such as color or width, can be set manually. When you exit Manual edit mode, all settings are applied. However, if the gridlines are disabled and re-enabled, the settings are reset to Default **(Figure 109).**

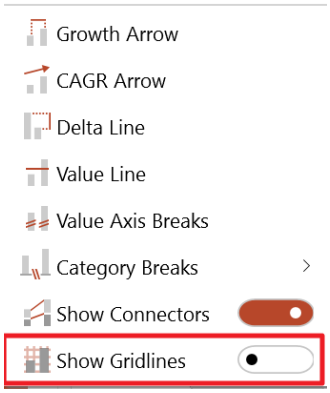


Figure 109: Show Gridlines

The manual editing of the gridlines does only work for charts which have value axes.

The gridlines can also be set manually in Flex-Customizing. This is where the PowerPoint logic regarding light background and dark font applies, and the other way around.

2.6 Converting Charts

There is a possibility to convert a native PowerPoint chart or a chart created with the software think-cell® to an empower chart.

If you have installed empower® Slides additionally, you can also convert a chart by using the **Apply** function if an empower Chart is saved in the chart templates folder of the library. To apply the format of an empower Chart to a regular chart, simply select the chart on the slide, and the select the empower Chart in the library folder. Now click **Apply (Figure 110).**

Figure 110: Converting with empower® via Quick Access pane

The same method can be used to convert existing empower Charts to other empower Chart types. Please note that only charts that use a similar data structure in their underlying Excel tables can be converted. A column chart, for example, can be converted to a stacked bar chart. A stacked column chart, however, cannot be converted to a waterfall chart.

2.6.1 Native PowerPoint Charts

To convert a native PowerPoint chart, simply select the chart you wish to convert, and click on **empower Chart**, the same way you would when inserting an empower Chart. Select the desired chart type, and the chart will convert accordingly **(Figure 111)**. The previous chart type is stressed through a border.

Figure 111: Convert chart

Alternatively, you have the possibility to convert a native PowerPoint chart into an empower chart by clicking on the empower Icon which appears in the upper left corner **(Figure 112)**.

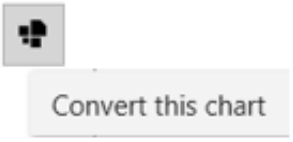


Figure 112: Convert to empower chart

2.6.2 think-cell® Charts

To convert a chart created with think-cell®[1], you have multiple options. Firstly, you can select a think-cell® chart and convert it like native PPT charts, provided that the software think-cell® is not activated **(Figure 113)**. The transfer of **colors, percentage values, hatches** and **broken Excel-Links** etc. is possible.

Figure 113: Convert think-cell® chart

It should be noted that the function for converting think-cell® charts is still in a beta phase and will be further optimized over the next versions.

2.6.3 Converting Multiple Charts

Clicking on **More** and then **Convert charts** you also have the option to convert all the charts on the slide or in the entire presentation at once **(Figure 114)**.

Figure 114: Convert multiple charts

When you convert a slide, it is duplicated first, then the first copy performs the conversion. You have the second copy as a backup to compare whether the conversion worked well. When you convert a presentation, an unsaved

[1] think-cell® is a registered trademark of think-cell Software GmbH.

copy of the presentation is created and the conversions are performed on that copy. Thus, you have the possibility to check the result and do not have to change the original.

This feature is in a permanent beta phase (because this feature is dependent on a different Software) and results should be checked manually and optimized if necessary.

Please note:
If it comes to problems within the converting process, a warning box will appear next to the converted chart.

2.7 DeepL Translation

If empower® Slides is installed and the empower® Slides function is activated for DeepL[2] translations, the translation will also translate empower charts accordingly. However, no data in linked Excel files is changed.

To translate charts, you can simply click on the **Translate** option in the empower Ribbon, which translates the corresponding slide **(Figure 115)**.

Figure 115: Translate empower charts

[2] DeepL is a registered trademark of DeepL GmbH.

Special Charts

3.1 Waterfall Chart

Adding a waterfall chart is performed similar to other empower charts, however its data entry differs slightly.

In an Excel table a **x** is entered into the column that is to correspond to the sum of data of the previous data (in previous columns). To indicate a column sum, the value of one or more series has to be set to **x** for this column. If only one series value is set to **x**, the overall sum (over all series) is calculated.

Two or more series values set to **x** indicate that the per series sums are calculated and displayed. If any row of a column contains the keyword **<new>**, a new waterfall starts with the upcoming column. Sum columns are calculated separately for each new waterfall.

In addition, it is also possible to change the direction of your waterfall chart. This way waterfall charts can also be set up in reverse. To change the direction of your chart, simply click in the button **Data** in the Action Bar and select **Left to right** or **Right to left (Figure 116)** For laying waterfalls, you can choose between **Bottom to top** or **Top to bottom**.

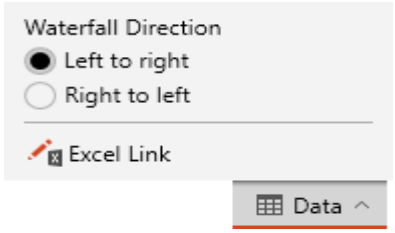


Figure 116: Edit waterfall direction

You can also display multiple waterfalls after one another. To add a new waterfall within a chart, click **Data** in the Action Bar and select **Edit Data**. In the corresponding cell of the Excel table enter the keyword **<new>**. The new waterfall chart will then begin at the next column while the sum starts at zero.

By default, a waterfall is created with a start value of 0. To display special waterfall scenarios, this value can be changed. Click on **Data** in the Action bar and select **Edit Data**. Add an auxiliary column before the Start column and type in the keyword **<new>** with the new start value as the column name, e.g. **<new>100** (**Figure 117**). The start value for a new waterfall in a chart with multiple waterfalls can be changed the same way.

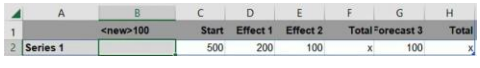


Figure 117: Auxiliary column with new start value

In waterfall charts, series can be set to or below the regular waterfall levels (e.g. to indicate a possible deviation or in order to take out not yet final numbers of a sum). To set this, a check mark can be set under the item **Series** in the Action Bar at on the waterfall **(Figure 118).** The corresponding chart is thus directly adjusted.

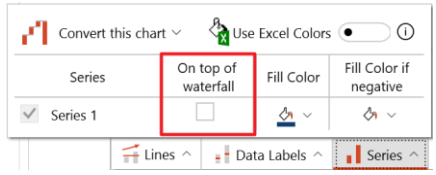


Figure 118: On top of waterfall

There is also the possibility to adjust the orientation of the label, e.g. a horizontal chart **(Figure 119).** This can make reading easier, especially for multi-line labels.

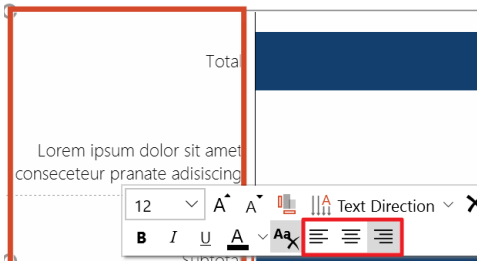


Figure 119: Text orientation

3.2 Circle Charts

Insert a circle chart in the same manners as you would insert any other empower chart. What makes a circle chart different is that its user is unable to use chart features such as Lines; also, other settings such as Data Labels are not possible.

Click on **Data Labels** in the Action Bar in order to activate data labels of the chart. In **Value label** you can activate the value of the circle chart by toggling the **Show Value** slider. You can also set the number format as well as display the percentage of the value. You also have the possibility to set the decimal place of your percentage. Finally, you have the option to display the category names by activating **Show Series Name (Figure 120)**.

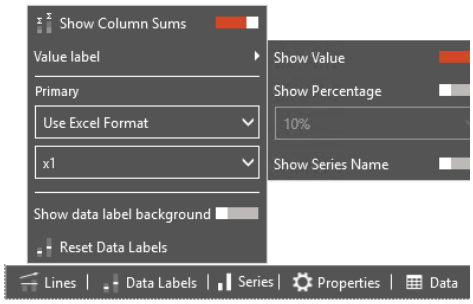


Figure 120: Data label settings

In order to improve legibility of data labels of a background using the same color, you can insert transparent backgrounds for labels by activating **Show data label background**. In addition, you can reset the data labels to their original formatting by clicking **Reset Data Labels (Figure 121)**.

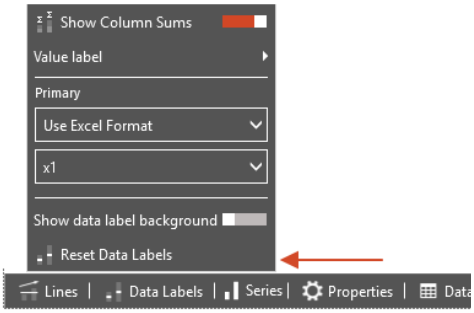


Figure 121: Data label settings

Pie charts can be rotated. This is done by moving the rotation symbol **(Figure 122)**, which appears independently in a created chart. The chart can be rotated in any direction.

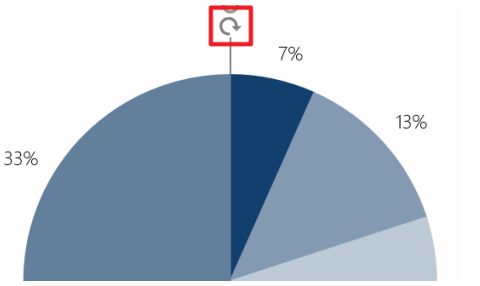


Figure 122: Pie chart rotation

In addition, individual pieces can be pulled out of the pie chart **(Figure 123)**. This works by clicking and dragging with a mouse.

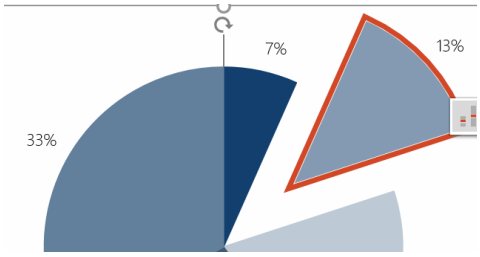


Figure 123: Pull out a piece

3.3 Line Charts

The line charts can be inserted analogously to the other charts from empower®. Their difference lies in their ability to allow additional adjustments for lines and markers.

With a single click on the line, you can set a line's color, thickness, and type **(Figure 124)**.

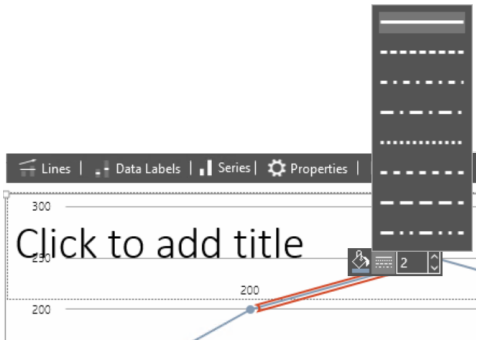


Figure 124: Line formatting

You can also smooth the lines of your charts. To do so, select the line and then click **Properties** in the Action Bar above the chart, then click **Smooth Line (Figure 125)**.

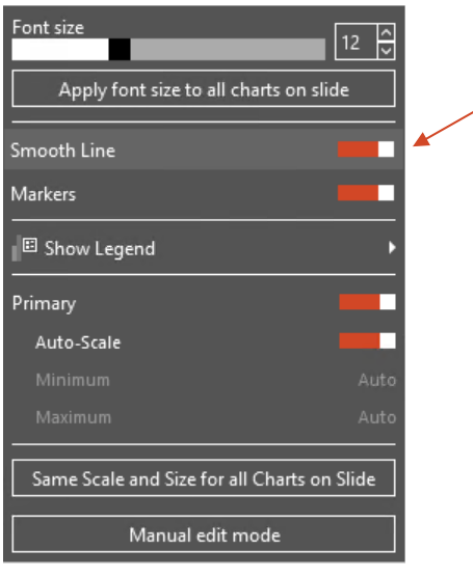


Figure 125: Smooth line setting

In order to edit the markers of data points, simply select a marker. In the overly that opens you can now select from fill colors, type, as well as size of the element **(Figure 126)**.

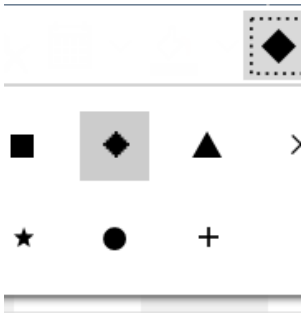


Figure 126: Marker editing options

For visualization reasons, you also have the option to freeze the line chart labels below the point **(Figure 127)**. To do this, you can simply select the labels by pressing **Shift** and drag them to the position below.

Figure 127: Freeze labels

3.4 Butterfly Chart

To visually contrast two series, you can use the Butterfly chart **(Figure 128)**. To do so, complete the following steps.

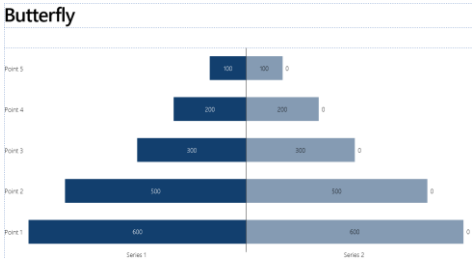


Figure 128: Butterfly chart

First, click **empower Chart** and select as a base **Stacked Bars** for a vertical Butterfly chart **(Figure 129)**.

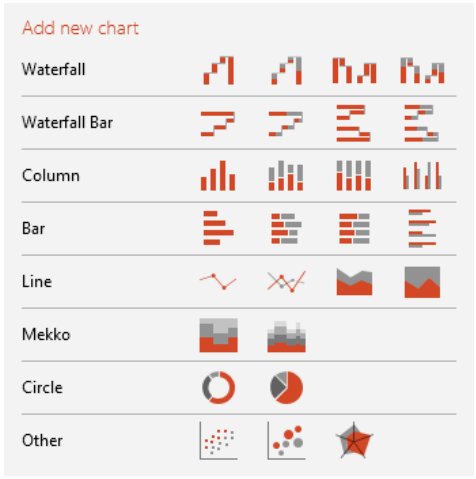


Figure 129: Select the chart

Here, it is important that you enter negative values in the series that you want on the left to achieve the desired shape of the chart **(Figure 130)**.

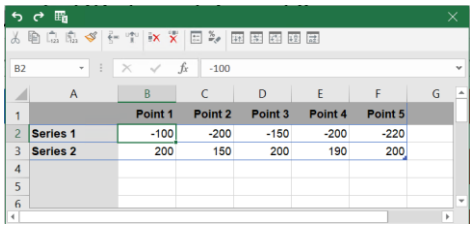


Figure 130: Edit Excel data

Then go to **Labels**, select the option **Show Absolute Values** and hide **Show Column Sum (Figure 131)**.

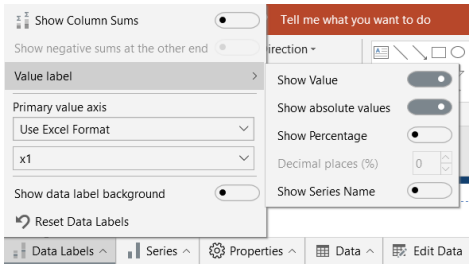


Figure 131: Adjust settings

3.5 Mekko Chart

To illustrate a numerical value depending on at least two dimensions, Mekko charts are particularly suitable.

A distinction is made between two variants.

The **Marimekko** chart is to be understood as a two-axis stacked bar chart in which both axes represent 100% **(Figure 132)**.

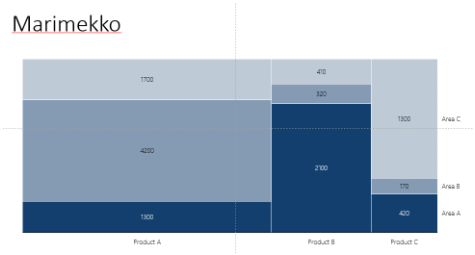


Figure 132: Marimekko chart

The **Column Mekko**, on the other hand is to be understood as a two-axis stacked bar chart, in which, however, the axes do not represent 100% in contrast to the Marimekko **(Figure 133)**.

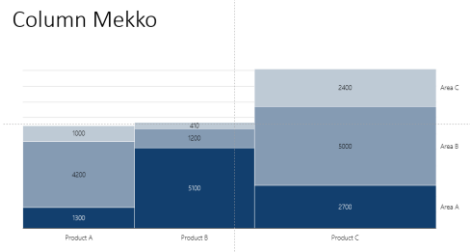


Figure 133: Column Mekko

To create such a chart, follow these steps.

Open **empower Chart** and select one of the two Mekko charts **(Figure 134)**.

Figure 134: Select Mekko chart

You can then customize the data under **Edit Data (Figure 135)**. The data structure initially corresponds to that of a normal 100% or normal column chart, but with the difference of the additional *width row*, which determines the relative width of the individual columns. It is often technically desired that the width is equal to the sum of the column values, so this is already preset.

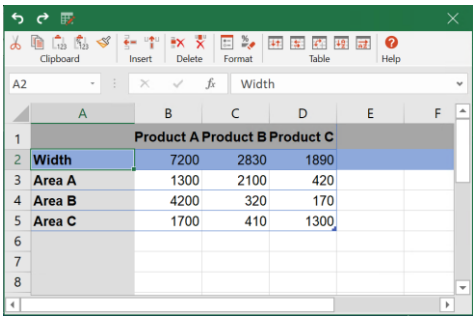


Figure 135: Edit data

When using the button **Transpose**, you have the option to swap rows and columns **(Figure 136)**. Note that the Width line is immutable.

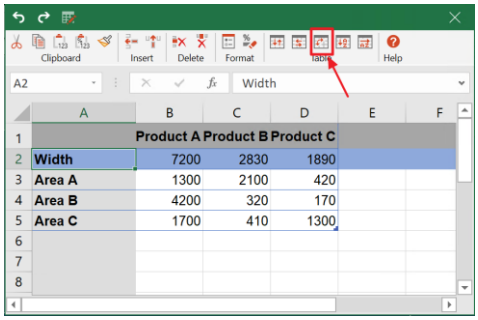


Figure 136: Specifics of the chart

Alternatively, you can link the chart to an Excel file under **Data** and **Excel-Link (Figure 137)**.

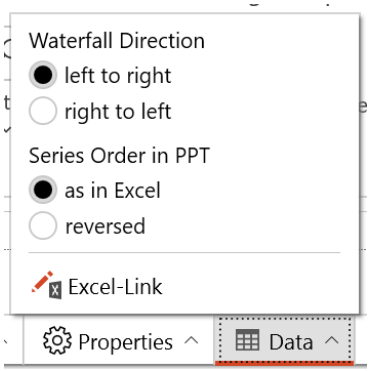


Figure 137: Create Excel-Link

More information can be found in Chapter 2.2.3 External Excel Data.

In both Marimekko and column Mekko charts, horizontal value axes are supported (**Figure 138**).

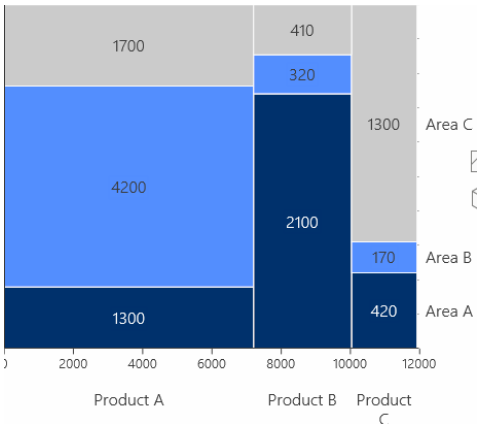


Figure 138: Value axis in a Mekko chart

Right-click the value axis to adjust the settings (**Figure 139**).

Figure 139: Value axis settings

In both Marimekko and column Mekko charts, Data points can be formatted individually by selecting a data point and changing the formatting in the settings menu (**Figure 140**).

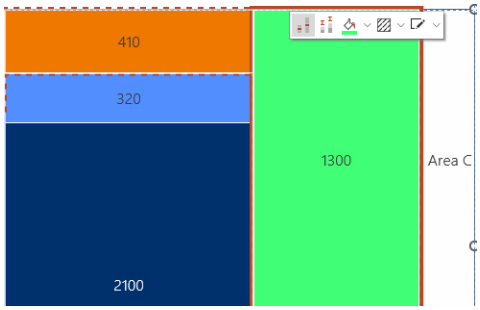


Figure 140: Change formatting of single data point

In column Mekko charts, negative values and breaks are supported (**Figure 141**).

More information regarding breaks can be found in **Chapter 2.5.5** Insert Breaks.

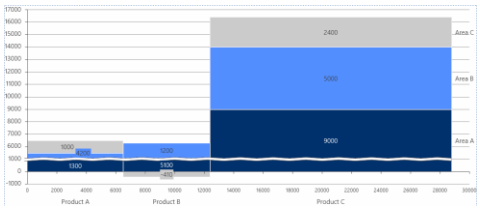


Figure 141: Mekko chart with negative value and a break

Here, it is important that you enter negative values in the series that you want to achieve the desired shape of the chart (**Figure 142**).

	A	B	C	D	E	F
2	**Width**	6500	5890	10100		
3	**Area A**	1300	5100	2700		
4	**Area B**	4200	1200	5000		
5	**Area C**	1000	-410	2400		
6						
7						

Figure 142: Negative value in Mini-Excel

Gantt chart

4.1 Inserting Gantt charts

To insert a Gantt chart, click on the **Insert** Tab in the PowerPoint menu, navigate to the empower Charts section and click on the button **Gantt chart** (**Figure 143**). You can now define the area in you want to insert the Gantt chart by clicking and drawing the cursor across the slide. This step can be interrupted by clicking **Esc**.

If you wish to insert a Gantt chart directly into a placeholder on the slide, select the respective content or chart placeholder and click the button **Gantt chart**.

Once you have set the area in which you wish to insert the Gantt chart, a settings window will open (**Figure 144**). Here you can set the length of time to be displayed by the chart, as well as header settings and date format, if it is to differ from the default settings **(1).**

For more details on user settings, please refer to **Chapter 1.4 User Settings.**

In addition, you can also set how many phases and rows are to be displayed in the chart. Further phases and rows can be inserted directly in the chart upon requirement **(2).** In addition, up to 2 note columns are available on the right side. In these, you can insert text as well as interactive symbols (traffic lights, Harvey balls, etc.) **(2).**

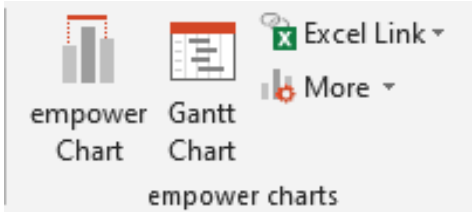


Figure 143: Insert Gantt chart

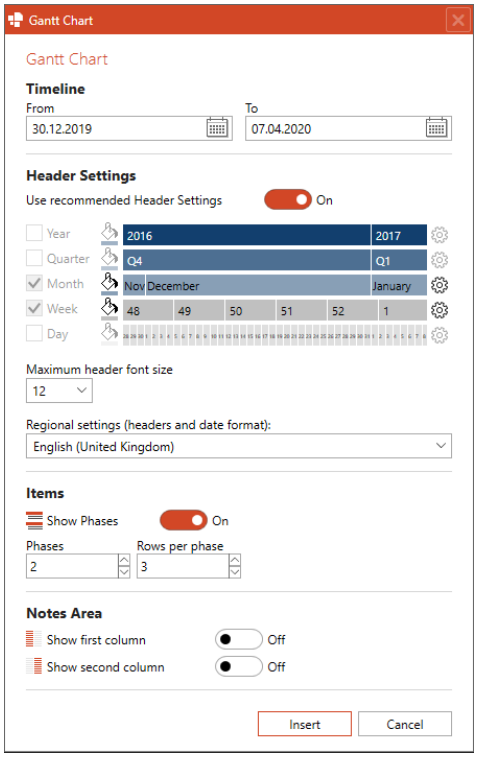


Figure 144: Gantt chart settings

To change the size of the Gantt chart at a later date, select the chart and the click and draw the endpoints to the desired size. Alternatively, you can alter the size via the native PowerPoint function. To do so, select the chart and navigate to the **Format** tab in the PowerPoint menu then change the chart's height and width. Once you reduce the size of the Gantt chart you may receive a notification that the font size has been automatically adjusted. If this was not desired, you have the option to simply click on **Undo changes**.

4.2 Adjusting the date section

By default, the Gantt chart displays a period with the current date. To adjust the time period, click on the date above the Gantt chart (**Figure 145**).

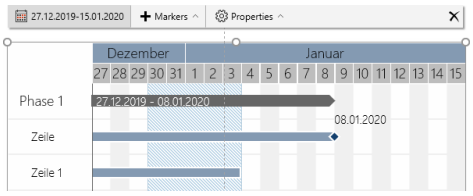


Figure 145: Adjusting date section

An integrated selection window will open in which you can adjust the dates for start and end, either by selecting an item in the calendar or by directly entering a specific date (**Figure 146**). Here you can change the date range as desired without losing any data.

Figure 146: Calendar view

In addition, you have the possibility to change **Header Settings** on the right. Here you can either use the recommended header settings or define the formatting of the header yourself. Here you have the possibility to activate or deactivate the time specification (day, week, month, year) as well as adapt the settings of the labelling of your Gantt chart individually (**Figure 147**).

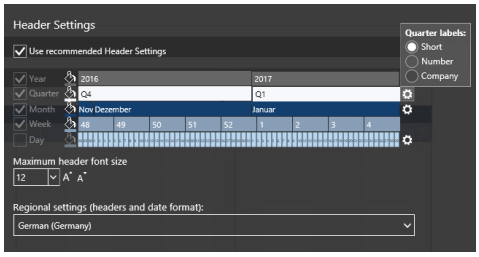


Figure 147: Adjusting header settings

You can choose between **Numbers** and **Week days** to display days in the header, as well as display just the work week (Mo.-Fri.). The labelling of the months can be displayed completely or in truncated form, in either **Letters** or **Numbers**. Setting the labeling option to **Automatic** will choose **long**, **short** or **letters** depending on the size of your Gantt chart. It is possible to display quarters as **Short**, **Number** or **Company**. The latter option is a setting to display the time specification of quarters as defined by your company. It is also possible to display each time unit as vertical lines in the Gantt chart, which are automatically inserted. To do so, simply select **Show vertical lines**.

You can further change the minimal font size of the Gantt chart, the language of the header as well as the date format **(Figure 148)**. A click on **OK** will take you back to your Gantt chart that will then have adapted in accordance to your settings.

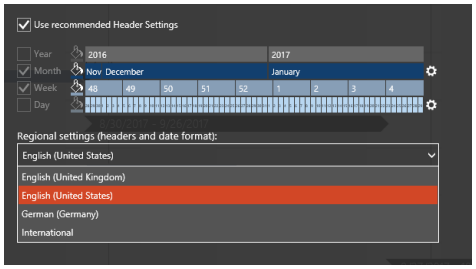


Figure 148: Setting language and date format

4.3 Edit Scale

A Gantt chart displays phases on the line level that are divided up into rows. These rows contain **Tasks** or **Milestones**.

Phases and rows can be renamed, moved according to requirement, and phase arrows can be hidden, revealed or deleted. You can add a new task or milestone to every row. To do so, hover over the row until a **plus** symbol (add) appears and then select either to add a **Task** or a **Milestone**. Your project plan will then update in accordance to your settings **(Figure 149)**.

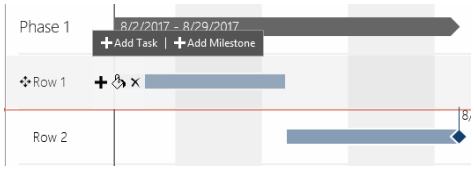


Figure 149: Adding task or milestone

The height of the task blocks, as well as milestones, is set automatically. However, changes can be always done via the action item **Properties (Figure 150)**.

In addition, you are able to enlarge or shrink the region in which phase and line labels are displayed. To do so, move your cursor to the right of the region until a bilateral arrow. You can then adjust the width of this section while holding the left mouse button.

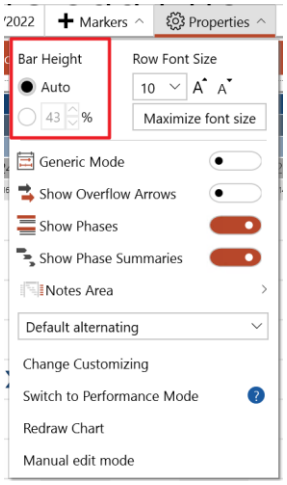


Figure 150: Task blocks height

4.4 Adding phases or rows

A pop-up menu will appear if you hover the cursor over the bottom end of a phase or row. In doing so you will be able to add a further phase or row to your project plan **(Figure 151)**.

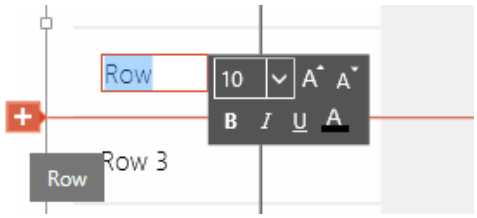


Figure 151: Adding a new row

4.5 Embedded Excel table

As with empower Charts, you can edit the data of a Gantt chart using an Excel table embedded in the chart.

To do so, click on **Edit Data** on the Action Bar above the Gantt chart. As usual, the built-in Excel table opens and you can edit, add, remove and select the respective ranges **(Figure 152)**. If you have a **Notes Area** in PowerPoint displayed under **Properties** in the empower Action Bar, you can edit it from Excel.

In the Excel table of Gantt charts are datalables of phases, bars, milestones as well as highlights and datelines organized. If the inserted task should have a text and date, it will be visible in the Excel table **(Figure 153).** The Date can also be generated automatically, if you enter **<date>** to the related field in the Excel. The beginning and end date of the task are also shown in the Excel table.

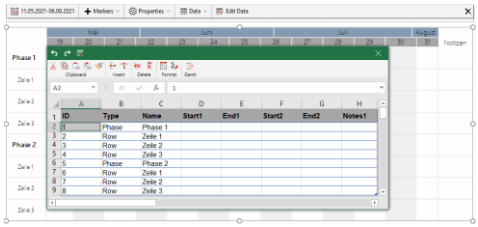


Figure 152: Edit data

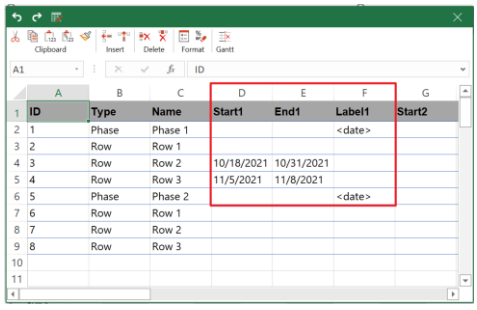


Figure 153: New Excel Format

4.6 Excel-Link

In addition to using integrated data, you can also use external Excel data sources. To do so, click **Excel-Link (Figure 154).**

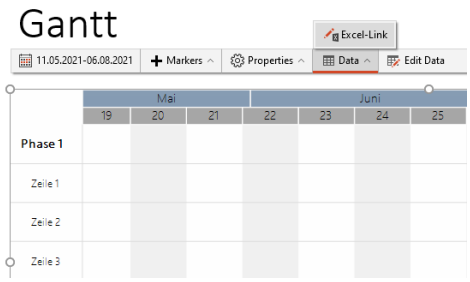


Figure 154: Create Excel-Link

A new window opens where you can open data either from an Excel file (on-premises or on a network drive) or from an Excel file from your SharePoint/OneDrive **(Figure 155).** Here you can select the desired area that you want to display in the Gantt chart. The easiest way is if you already have the Excel file open. Open files are always offered as the first option in the window.

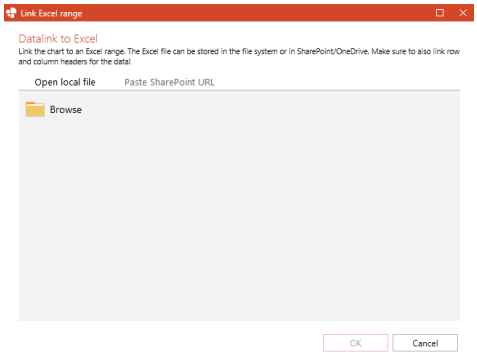


Figure 155: Connect Excel file

After selecting a file, you can select the desired area that you want to display in the Gantt chart **(Figure 156).** You can then make further settings in the window for linking.

As with the other charts, the Gantt chart also offers the possibility to copy and paste selected areas of the Excel table.

For more details on how the Copy & Paste function works, see **Chapter 2.2.2 External Excel Data**.

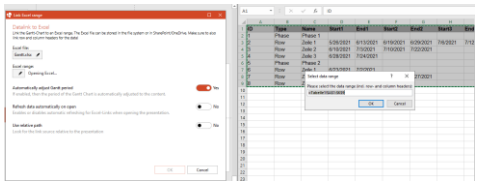


Figure 156: Select data range

Here you can also select the option **Automatically adjust Gantt period**. When this setting is enabled, the Gantt chart period is automatically adjusted to the earliest and latest dates from the data range **(Figure 157).**

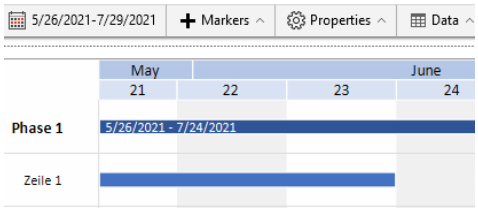


Figure 157: Adjust Gantt period automatically

For more details on Excel-Links, see **Chapter 2.2.2 External Excel Data**.

4.7 Multi-Columnity

In the areas left and right within a Gantt chart (task description and notes) tab stops can be used to achieve multi-columnity. The heading line for the task column can be used to define column titles **(Figure 158)**. The concept of multi-columnity with tab stops can be used in the text columns to the left and to the right of the Gantt chart.

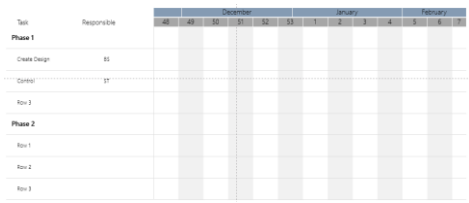


Figure 158: Create multi-columnity

The header textboxes of these columns need to be set to left-aligned.

You can create multi-columnity by dragging the left column wider, then define the column headings, and then add the corresponding content within the rows. The tabs must be created using the **Tab key**.

The text alignment in the notes columns can be changed (**Figure 159**).

The set text alignment always applies to the whole notes column.

The column heading can be configured separately.

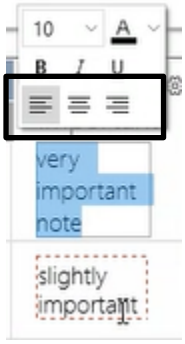


Figure 159: Text alignment in columns

4.8 Editing Phase Arrows, Task Bars and Milestones

Hover your cursor over a task arrow in order to edit its color or font **(Figure 160)**. Several tasks and milestones can also be marked and moved together. When drawing task blocks, the details of the current block (start, end, duration) are displayed. It is also possible to move labels of multiple tasks at the same time. If a task extends beyond the displayed data area, the item **Show overflow arrows** can be selected under **Properties**.

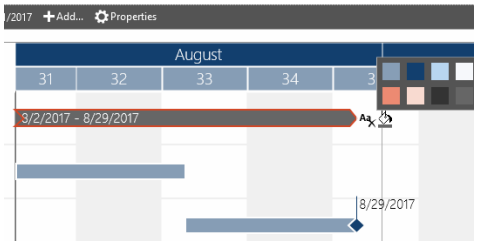


Figure 160: Editing phase arrow

Objects in the Gantt chart can be copied and moved individually (**Figure 161**). Tasks and milestones can also be copied and moved together, even if they are not on the same row. If you press Shift on the first and last object you want to move, all objects in between will be moved and the margins between all objects are kept. Alternatively, you can also select multiple objects while holding the **Ctrl key**. You can move them Right-Angled by pressing **Shift**. In addition, objects dock to each other when moving by default, unless you press **Alt**. Objects can be moved freely by pressing **Alt** or using the cursor keys.

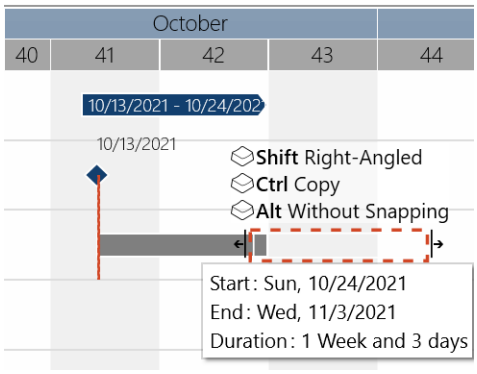


Figure 161: Move Objects

When editing a task or milestone you also have the ability to display the bar as a dashed frame without filling, you can completely delete, move it, as well as change its size. In addition, you can choose between different shapes **(Figure 162)**.

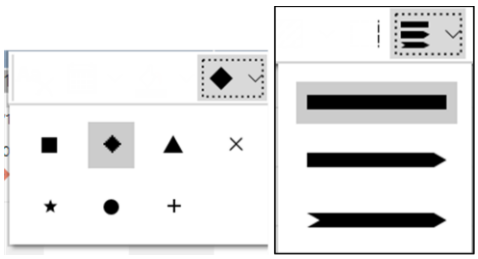


Figure 162: Editing task/milestone

Finally, you have the option to change the shape and color of the symbol used to represent the milestone (**Figure 163**). The labelling of this milestone can be moved with the help of snapping points. To do so, simply click on the milestone to make a snapping point appear. Select it and move it to the desired location while holding the mouse button.

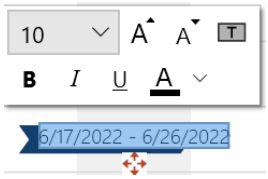


Figure 163: Changing milestone shape

If the labeling of the phase goes beyond the limitation of the Gantt chart, it may be that the legibility is impaired. For this purpose, the background of the label can be adjusted by means of the button **Show label background (Figure 164).**

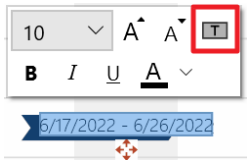


Figure 164: Background of the label

4.9 Add Data to the Scale Indicator

In the calendar view of the Gantt chart you can select different display options. To do so, click **Add** in the Action Bar above the Gantt chart. A drop-down menu will appear offering you different options to choose from **(Figure 165)**:

- Holidays
- Date Line
- Highlight
- Delay
- Connector.

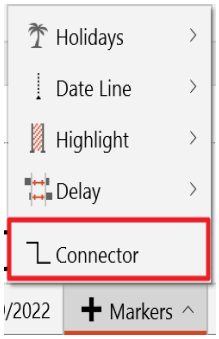


Figure 165: Markers

4.10 Adding visualizations

4.10.1 Holidays

If you wish to display school holidays in your calendar click **Add...** in the Action Bar and select **Holiday**. A window will open in which you can select the desired holiday. Clicking **OK** will add the dates of the holiday to the calendar of your project plan which will then be highlighted in color.

In addition, you can add, edit or delete personalized holiday categories and calendars via the menu bar at the bottom left **(Figure 166)**. You have the possibility to export the data as an XML file as well as import data of other users.

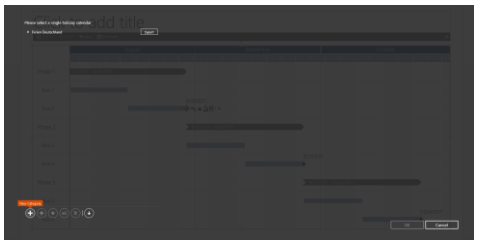


Figure 166: Setting holiday category

4.10.1 Date line

A further feature of the Gantt chart is the **Date Line**. It can be placed at any location within the project calendar in order to signify that a certain phase, task or milestone needs to be reached or completed by a specific date. In order to add a Date Line, click **Add...** in the Action Bar and select **Date Line**. A vertical dotted line will be inserted into your calendar, which can be moved to any date **(Figure 167)**.

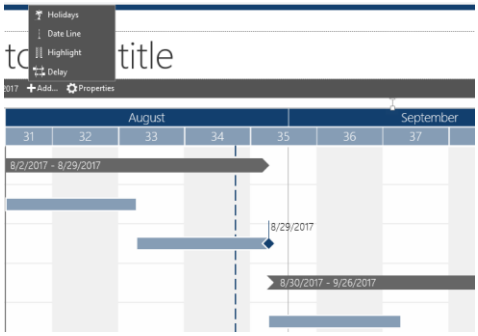


Figure 167: Date line

A text box is located at the bottom of the line, which contains the word **Date (Figure 168)**. Click it to change the word to your requirements. Furthermore, the appearance of this text can be changed in terms of font color and size.

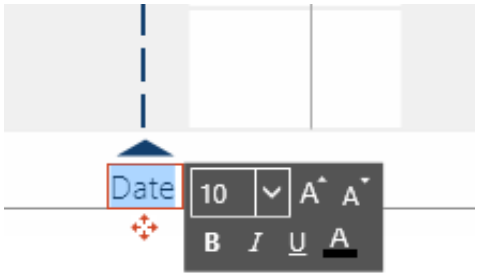


Figure 168: Changing date line label

4.10.1 Highlights

In addition to the options of **Holidays** and **Date Line** empower Charts allows you to **add highlights** to your calendar, e.g. for a specific time period of a project or vacation **(Figure 169)**.

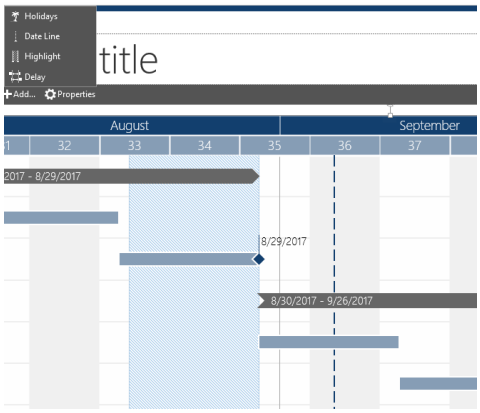


Figure 169: Inserting highlight

Below the highlight is a text box which provides the same editing options as that of the Date Line. In addition, you can move or extend the highlight manually to any date. To do so, move your cursor below the highlighted section in order to display the context menu that allows you to do so.

4.10.2 Delays

Sometimes a project encounters delay. empower® Charts allows you to add delays to your project calendar. Click **Add...** in the Action Bar and select **Delay** to add a delay to your calendar. An entry field will appear in which you can specify the begin and end of a period, alternatively you can enter these dates via the calendar view. Confirm the changes by clicking **OK** (**Figure 170**).

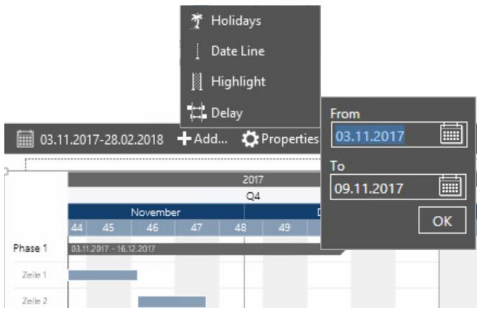


Figure 170: Entering delay dates

The delay in your project plan will be automatically inserted into your Gantt chart. A click on the enlargement arrow allows you to hide or display the hatched area as well as any labelling (**Figure 171**). Here, you also have the ability to change the color as well as completely remove the enlargement from the Gantt chart.

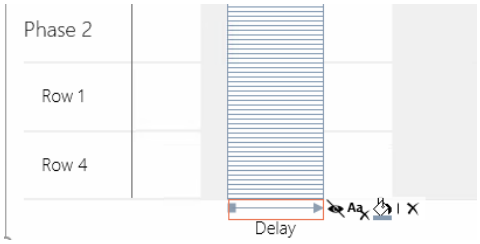


Figure 171: Adapting appearance of the delay

4.10.1 Connector

Various tasks can be connected using the connector. Select this feature via **Add** in the action bar **(Figure 172).**

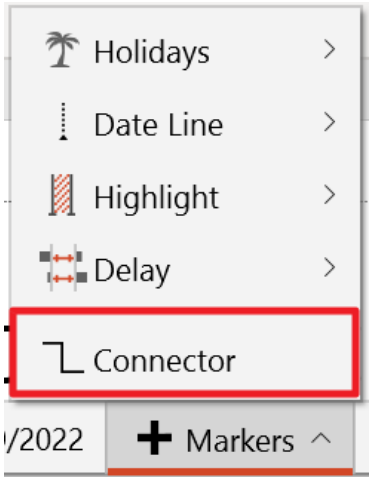


Figure 172: Create Connector

This will cause circles to appear at the start & end points of each task you have already inserted **(Figure 173).** You can then choose which tasks you want to connect. Multiple connection of tasks is also possible.

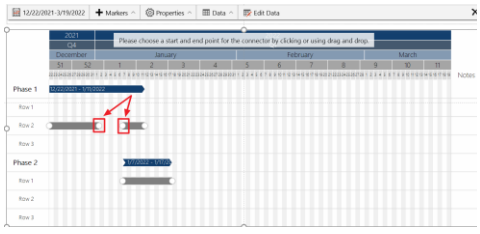


Figure 173: Place Connector

If you have inserted a Connector, you can adjust it as you like. The connection can be secured via **lock connector (Figure 174).** This also moves the tasks that are connected by lock connectors when you move a task. Also, the color, as well as the dash style of the connector can be adjusted.

Figure 174: Lock Connector

4.11 Properties

In addition to the **Date Range** and the **Add... button**, you can also click on **Properties** in the Action Bar. Doing so will open a drop-down menu which allows you to change a number of settings of your Gantt chart **(Figure 175)**. You can change the font size as well as the height of the bars. A click on **Maximize font size** will automatically select the largest possible font for your Gantt chart. In some cases, it may be necessary to enlarge the bar width of your Gantt chart in order to display larger font sizes.

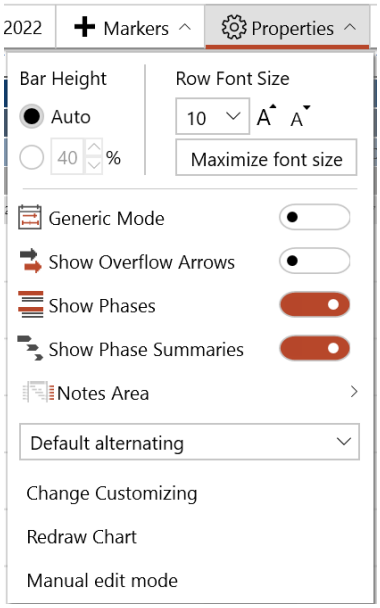


Figure 175: Gantt chart properties

You can set a **Generic Mode** in order to display days or weeks in the Gantt chart without connection to a specific date format. You can also select **Show Overflow Arrows** and the task fields that go beyond the set range are supplemented by an arrow on the applicable task fields. You also have the option to display the individual **phases**, **phase arrows** or the **Note Area** individually as well as change to **Manual edit mode**. The width of the notes area can be adjusted in the region that displays the phase and line labels. To do so, simply move your cursor to the right until it turns into a bilateral arrow. Change the size of the region while holding the left mouse button. If you want to make manual changes to the Gantt chart, you can switch to **Manual edit mode**. Please note, however, that such manual modifications are usually lost when returning from manual mode.

Finally, you have the option to set that the background is colored in alternating colors (alternating colors are set by default) or to highlight weekends in color **(Figure 176)**.

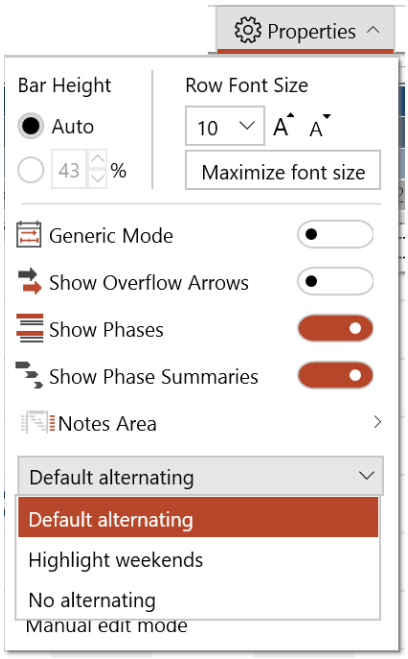


Figure 176: Setting Gantt chart alternation

Gantt charts are fully translated when a translation is initiated via empower® Slides. (e.g. headings like month names).

Please note:
All manual changes to a Gantt chart will be lost as soon as you close Manual edit mode. This function should rather be used as a last step in editing a Gantt chart.