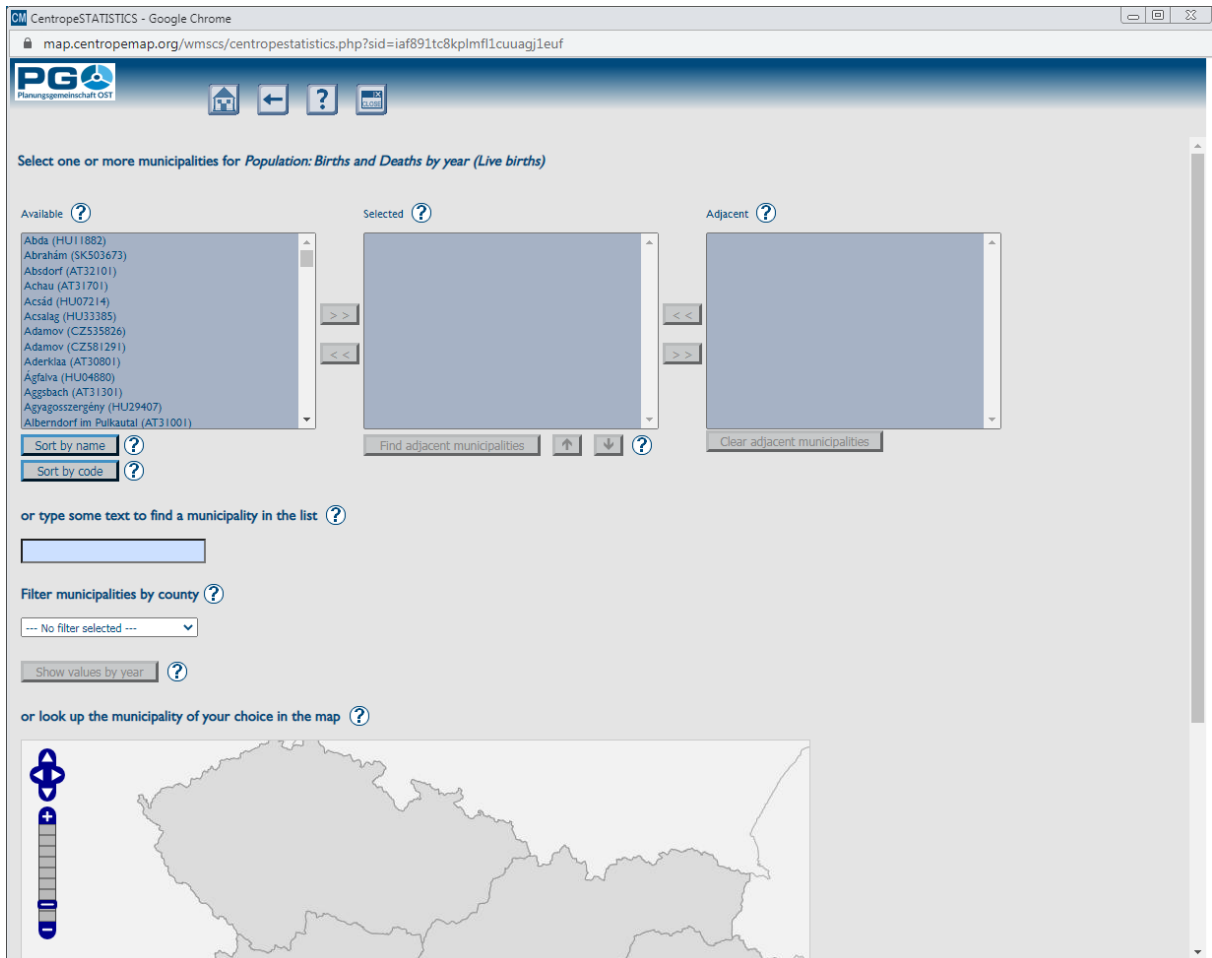
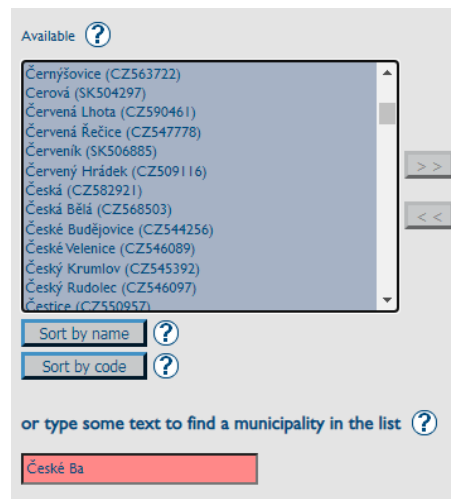


## Create column/bar charts (or point or line charts)

Pressing a “Chart” button loads the bar chart municipality selectbox:



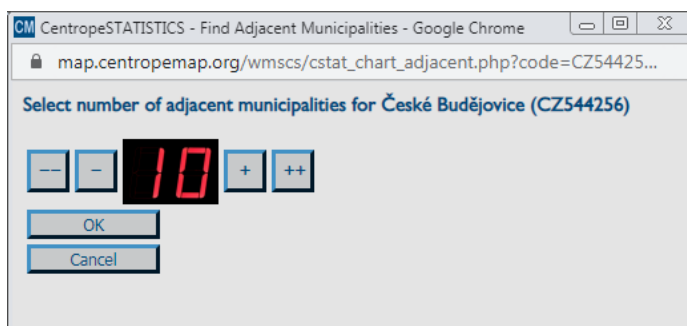
Select one or more municipalities from the left box to create a chart showing data exactly for the chosen municipalities – this is done with a single click on the municipality name (select more than one municipality by holding the CTRL key pressed while clicking) and then another single click on the button labelled “>>”. This method copies the selected municipality to the box in the middle where you can not only see and check your selection, but also reorder the municipalities. To reorder the selected municipalities, choose a municipality with a single click, then hit the arrow buttons below the middle selection box to move the selected municipality up or down. The first municipality in the list will be the first municipality in your chart (beginning from the top or from the left depending on the chart type). You can also search for a municipality by typing some text into the input field at the bottom. The first match with your text input is automatically highlighted in the left selection box, you can directly transfer it with the “>>” button to the middle selection box or continue typing. If no municipality matches your input, the input field turns red. Delete the last character until it turns white, then type some different text.



Another way to find the municipality of your choice is to select from the map below the search fields. Just left click on the map to select or deselect a municipality or drag a rectangle to select many municipalities at once. To select a handful of municipalities, simply single click on them one after the other. All selected municipalities are highlighted in the map and also shown in the search box above. The search boxes and the map are always synchronised and show the same selection.

To delete a municipality from your selection (in the middle box), click on the municipality in the middle box you want to delete, and hit the “<<” button afterwards. The municipality is then removed from the selection box in the middle. Or single click on a highlighted municipality in the map to remove it from your selection. If you zoom deeper into the map, municipality boundaries and municipality names will show up.

To search for adjacent municipalities, make sure that exactly one municipality shows up in the selection box in the middle, then press the “Find adjacent municipalities” button which is located right below the middle box. A pop-up window opens asking you to determine the number of adjacent municipalities you want to be returned.

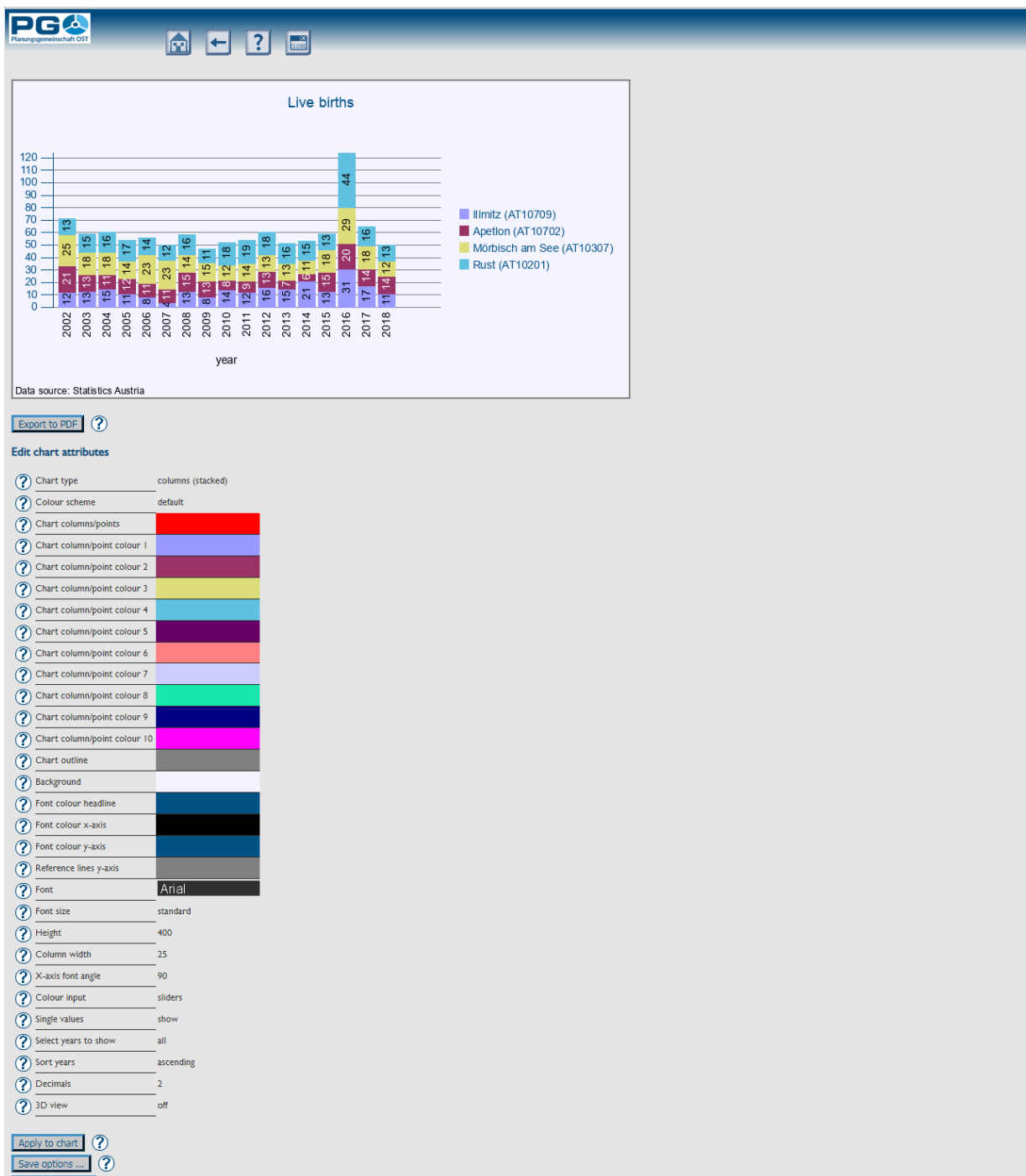


Use the buttons located left and right to the red number display: press “-” to decrease the number by 1, “--” to decrease the number by 10, “+” to increase the number by 1, or “++” to increase the number by 10. The adjacent municipalities are queried from CentropeMAP’s geodatabase by linear distance between the polygon centres of the selected municipality and the adjacent municipalities. The requested number of adjacent municipalities is sorted ascending by distance and then returned to the right selection box of the municipality selection window.

Select one or more adjacent municipalities from the right box and add them to your selection in the middle – this is done with a single click on the municipality name (select more than one municipality by holding the CTRL key pressed while clicking) and then another single click on the button labelled “<<”. This copies the selected municipality to the box in the middle. To delete an adjacent municipality from your selection (in the middle box), make a single click and hit the “>>” button afterwards. The municipality is then removed from the selection box in the middle.

As soon as you are done with municipality selection and sorting, press the “Show values by year” button. According to the selected theme, data for the requested municipalities are now queried from the cross-border statistical database for all available years. In the next step you are taken to the chart output window which offers you the chart and a lot of options to influence its layout. The chart is a graphics file, so you can copy it into your clipboard (single click with the right mouse button, then select “Copy” from the context menu) or save it to your local file system: single click with the right mouse button, then select “Save image as ...” from the context menu. Or hit the “Export to PDF” button directly below the chart.

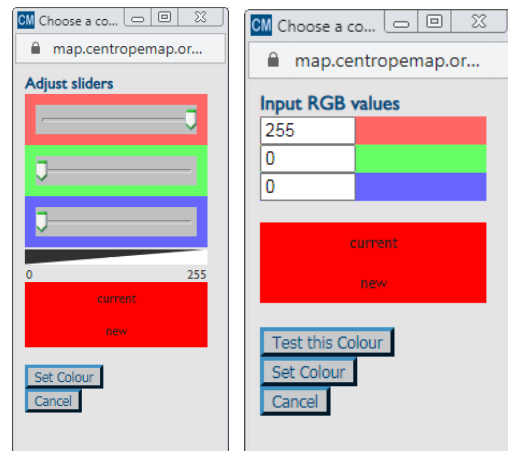
Below there are several attributes you can edit. All attributes are clickable, the options are shown in a small pop-up window.



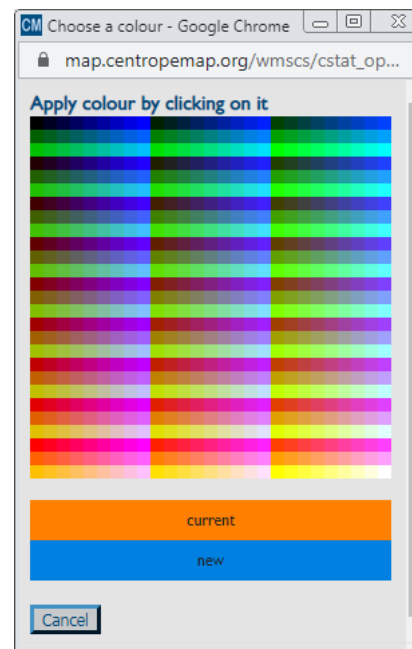
- **Chart type:** columns (bar chart), points, lines, points with lines. With bar charts municipalities are shown next to each other (like in the illustration above), with point and/or line charts they are shown one upon the other.
- **Colour scheme:** select a given colour scheme to match the layout of your document. Below there are numerous fields where you can edit single colours. The colour scheme changes automatically to “custom” then. Note that custom colour selections cannot be restored if you apply a standard colour scheme afterwards.
- **Font, font size:** set font and font size. These fonts are embedded into the chart, you need not have them installed on your system.
- **Height:** define the height of your chart in pixels.

- *Column width*: Define the width of the bars in the chart. With point and/or line charts this setting influences the horizontal space between the single values.
- *X-axis font angle*: set an angle from 0 to 90 degrees
- *Colour input*: There are three ways to select colours (see also illustrations):

- *sliders*: move the slider bars to adjust the RGB values. The old and new colours are shown in the pop-up for comparison.
- *direct RGB input*: type numbers between 0 and 255 into text fields.
- *colour picker*: a colour maze is shown in the pop-up; click on a colour to select it.



- *Single values*: lets you define whether the single values are shown in (or above) the bars. This option works only with bar charts. Point and/or line charts do not show single values.
- *Indexed values*: shows the chart values as indexed values. The user can define for which year the indices are calculated (base index value = 100).
- *Select years to show*: allows to set the range of years to be displayed.
- *Sort years*: The years can be sorted ascending or descending (from left to right).
- *Decimals*: number of decimals to be displayed with single values.
- *3D view*: You can have your chart drawn with flat bars or 3-dimensional blocks.

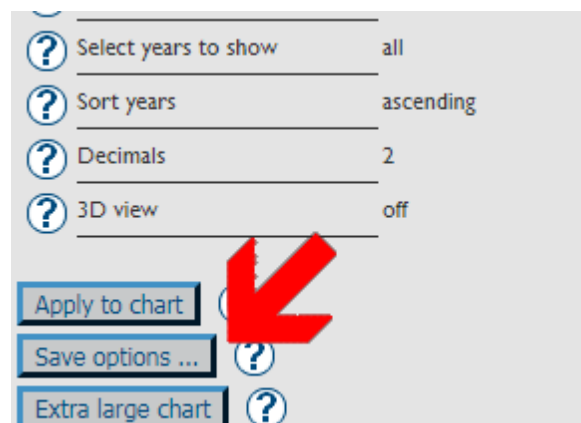


Um Ihre Einstellungen auf das Diagramm anzuwenden, betätigen Sie die Schaltfläche „Apply to chart“. Mit der Schaltfläche „Extra large chart“ aktivieren Sie die Einstellungen für sehgeschwache Personen.

## Diagrammoptionen speichern und laden

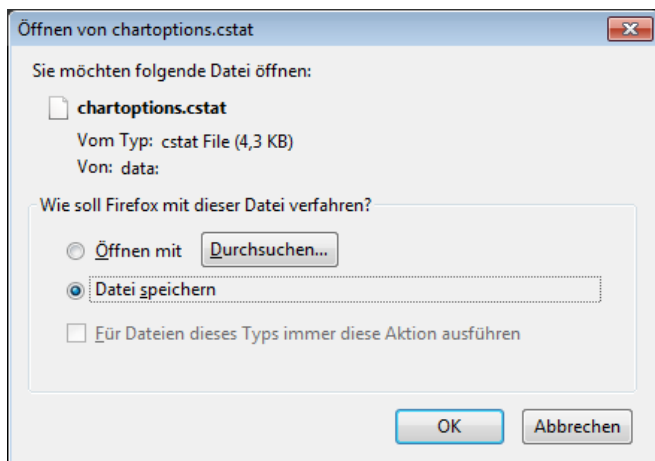
Having created a chart, you can save all chart options (contents, colours, layout settings, ...) to your local filesystem to be able to recreate this chart at any later time from any computer.

To save your chart options, click on the “Save options ...” button which is located directly below the “Apply to chart” button in the lower left corner of the

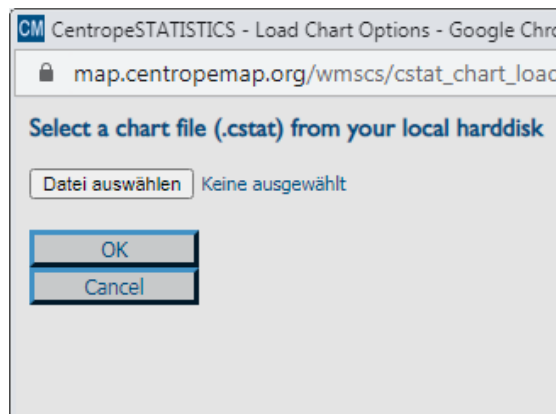


CentropeSTATISTICS window. You are then prompted to save a file to your local filesystem (see illustrations).

Save this file (which is named “chartoptions.cstat” by default but may of course be renamed), then click on “OK” below the “Export completed” message.



To load chart options during a CentropeSTATISTICS session, you first of all need to go to the start page of CentropeSTATISTICS. You can do this with a click on the “Home” button in the header area. A pop-up window opens where you can select a file from your local filesystem. Upload this file to the CentropeSTATISTICS server with a click on “OK”. The file is then checked for integrity. If it passes the integrity test, you are forwarded directly to the chart page where your chart will be displayed with all settings as saved before. If it fails to pass the integrity test, CentropeSTATISTICS will display an error message saying “Invalid contents in uploaded file. Data not processed.”



## Create pie charts

Pressing a “Pie chart” button loads the pie chart selectbox: (see illustration on next page). In addition to the selection of municipalities (like with bar charts) there are a few more options available:

- *Values to be displayed:* Select the combination of values to be displayed. These combinations are pre-defined and cannot be changed. (Other combinations of the values available in the selected table would not produce meaningful charts.)
- *Year to be displayed:* Select the year to be displayed. A pie chart always combines two or more values from one table for one municipality and one year, so there is no possibility to select more than one year at once.
- *Select one or more municipalities:* A pie chart can be created only for one municipality. Nevertheless, you can compare values for more than one municipality. If you select two or more municipalities, the chart creation engine automatically switches to bar chart mode. These bar charts combine the selected values in stacked horizontal bars which sum up to 100 % individually, so the length of the bar segments refers to the percentage like the parts of a pie chart.

The screenshot displays the configuration interface for creating a pie chart. At the top left is the PGO logo. Below it are navigation icons: home, back, help, and print. The main configuration area includes:

- Values to be displayed:** Two radio button options: "births, deaths" (selected) and "birthsper1000inh, deathsper1000inh".
- Year to be displayed:** A row of radio buttons for years from 2002 to 2018, with 2018 selected.
- Select one or more municipalities for Population: Births and Deaths by year:** A hint states: "Selecting a single municipality will create a pie chart. Selecting two or more municipalities will create a bar chart." Below this is a "Show chart" button.
- Municipality Selection:** Three columns: "Available", "Selected", and "Adjacent".
  - Available:** A list of municipalities with their codes, including Abda (HU11882), Abraham (SK503673), Absdorf (AT32101), Achau (AT31701), Acscád (HU07214), Acsalag (HU33385), Adamov (CZ535826), Adamov (CZ581291), Aderkíza (AT30801), Ágfalva (HU04880), Aggsbach (AT31301), Ágyagoszsergény (HU29407), and Álberndorf im Pulkautal (AT31001). Below the list are "Sort by name" and "Sort by code" buttons.
  - Selected:** An empty box with "Find adjacent municipalities" and up/down arrow buttons below it.
  - Adjacent:** An empty box with "Clear adjacent municipalities" button below it.
- Search:** A text input field with the prompt "or type some text to find a municipality in the list".
- Filter:** A dropdown menu labeled "Filter municipalities by county" with the option "No filter selected".

Having done your selection, click on “Show chart” to proceed.

The pie chart is shown in the chart creation window (see following illustration). Below there are several attributes you can edit. All attributes are clickable, the options are shown in a small pop-up window.

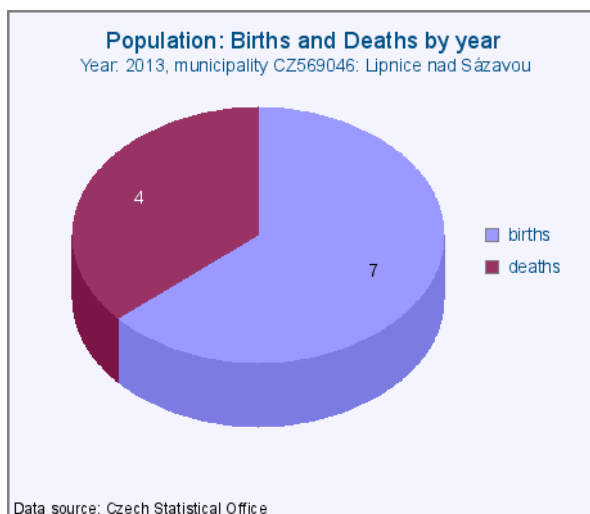
The screenshot shows the CentropeSTATISTICS web interface. At the top, there is a browser window with the URL `map.centropemap.org/wmscs/centropestatistics.php?sid=iaf891tc8kplmf1cuuagj`. Below the browser window, the main content area displays a pie chart titled "Population: Births and Deaths by year" for the year 2018 in municipality HU25584: Győr. The pie chart has two segments: a blue segment representing "births" with a value of 1269, and a red segment representing "deaths" with a value of 1521. Below the chart, there is a "Data source: Hungarian Central Statistical Office" label. To the right of the chart, there is a legend with "births" in blue and "deaths" in red. Below the chart, there is a button "Export to PDF" and a section titled "Edit chart attributes". This section contains a list of attributes with their current values and a question mark icon next to each: "Colour scheme" (custom), "Chart column colour 1" (blue), "Chart column colour 2" (red), "Chart outline" (grey), "Background" (white), "Font colour headline" (dark blue), "Font colour x-axis" (black), "Font colour y-axis" (dark blue), "Reference lines y-axis" (grey), "Font" (Arial), "Font size" (standard), "Height" (400), "Start angle" (0), "3D view" (off), "Colour input" (predefined colours), "Single values" (show in chart), "Sort values" (default), and "Decimals" (2). At the bottom of the "Edit chart attributes" section, there are two buttons: "Apply to chart" and "Extra large chart".

- **Colour scheme:** select a given colour scheme to match the layout of your document. Below there are numerous fields where you can edit single colours. The colour scheme changes automatically to “custom” then. Note that custom colour selections cannot be restored if you apply a standard colour scheme afterwards.

- **Font, font size:** set font and font size.
- **Height:** define the height of your chart in pixels.

- **Start angle:** The values of the pie chart are drawn clockwise from the start angle which is 0 degrees (12 o'clock) by default. 90 degrees are equal to 3 o'clock, 180 to 6 o'clock etc. A full circle has 360 degrees, so the value can be chosen between 0 and 359.

- **3D view:** You can have your pie chart drawn as flat circle or as 3-dimensional cake (see example).



- **Colour input:** There are three ways to select colours (see also illustrations):
  - **sliders:** move the slider bars to adjust the RGB values. The old and new colours are shown in the pop-up for comparison.
  - **direct RGB input:** type numbers between 0 and 255 into text fields.
  - **colour picker:** a colour maze is shown in the pop-up; click on a colour to select it.

- *Single values*: lets you define whether the single values are shown directly in the pie, next to the pie within the legend, in both places or not at all.
- *Sort values*: define the sequence of values. They can be ordered ascending or descending by value, alphabetically ascending or by default (which is the order in which the values are stored in the database).
- *Decimals*: number of decimals to be displayed with single values.