

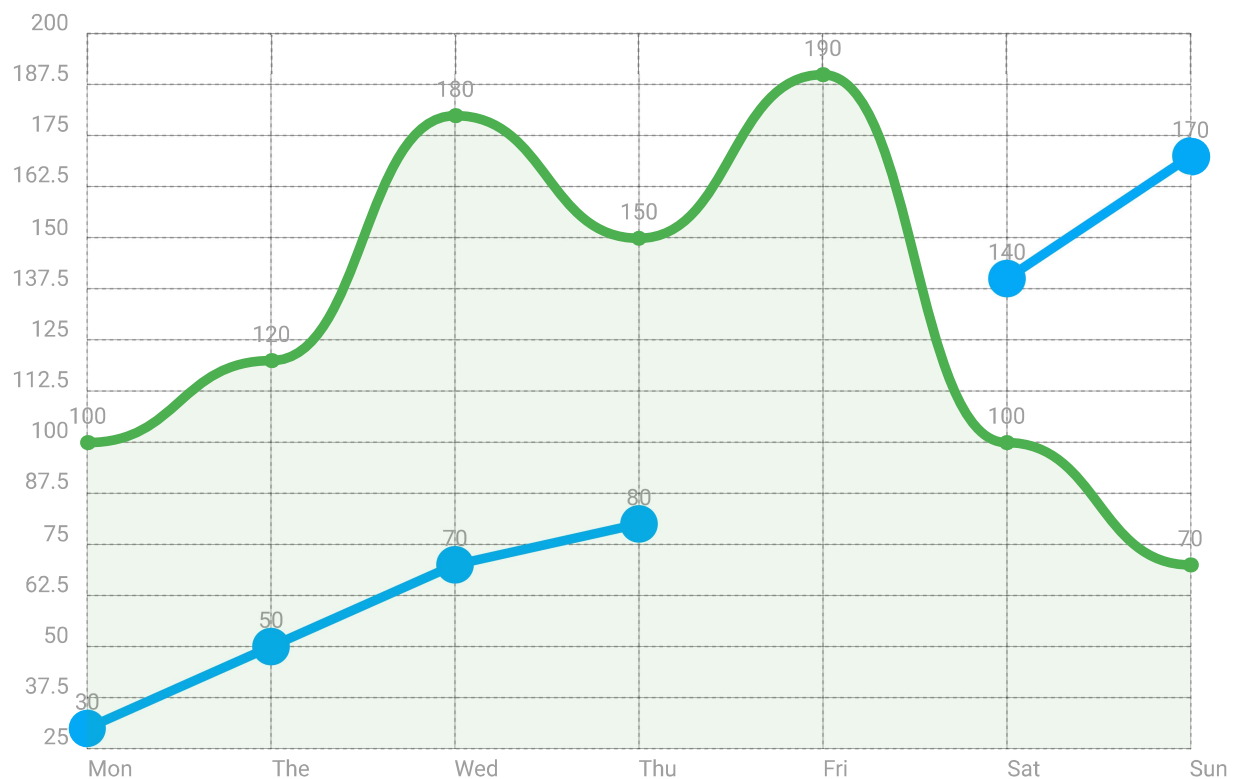
ABMaterial can create several types of charts. Because of the nature of responsive design it's important to understand that blocks in design like images, videos and similar content need to be able to scale and adapt to the media. In order for an element to scale, you need to rely on a certain aspect ratios (like 4:3, 3:2, 16:9 etc.) rather than specifying a fixed width and height.

To designers this Idea is absolutely not new, but to developers this might be at first. However, when a designer talks to a developer about the images being 320x240 on this page and 300x200 on that element, he actually just translated his idea of using 4:3 and 3:2 images into pixels.

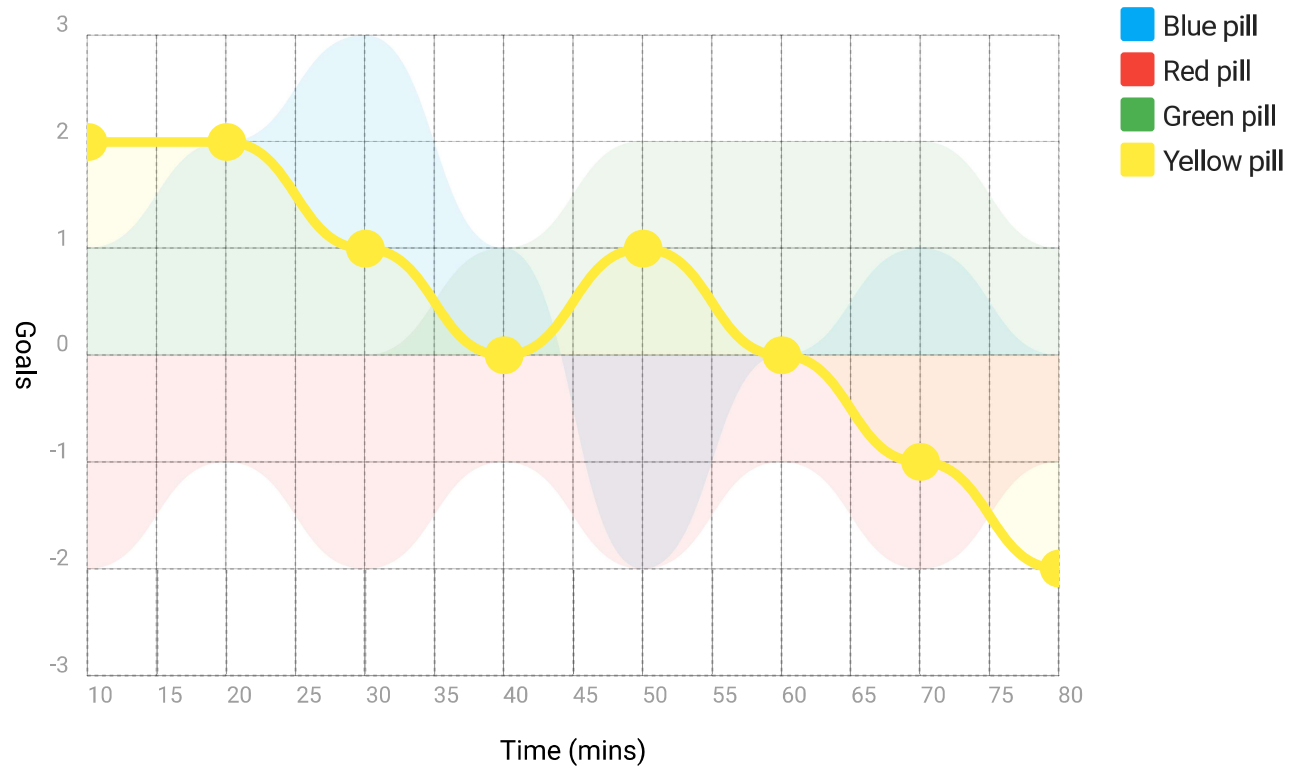
With ABMaterial you can specify those ratios directly on charts without the need To calculate any fixed dimensions. In order To create a chart that Is using the aspect ratio of a golden section you can just use the constant `ABM.CHART_RATIO_GOLDENSECTION` in the Initialize.

## Line Charts

The ABMaterial line chart can be used to draw Line or Scatter charts. Use the constant `ABM.CHART_NULLVALUE` when you want to make holes in the data.

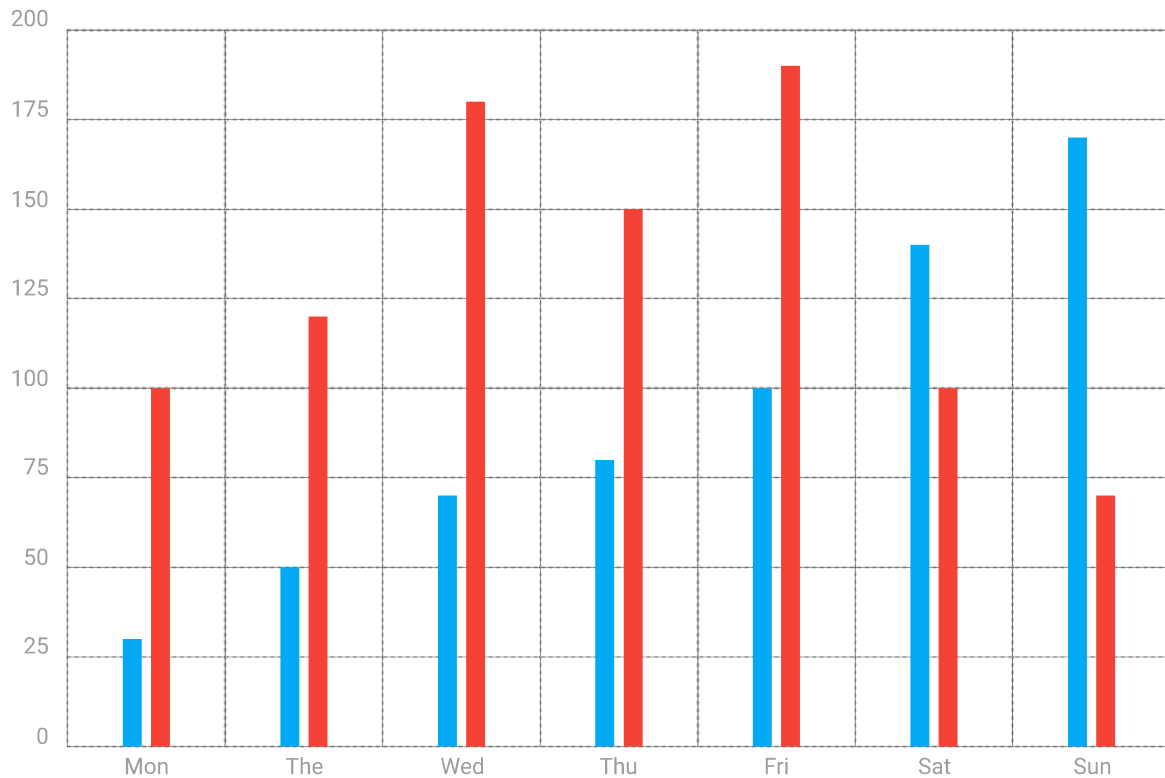


Line Charts are very tunable through Theme and OptionsLine. You can modify the look and feel on the chart and on individual lines. Charts can use up to 15 'Series' of data values. A line chart is the only one where you can pick a 'Serie'. This is due to a hack in the underlying Chartist.js library which does not provide this option.

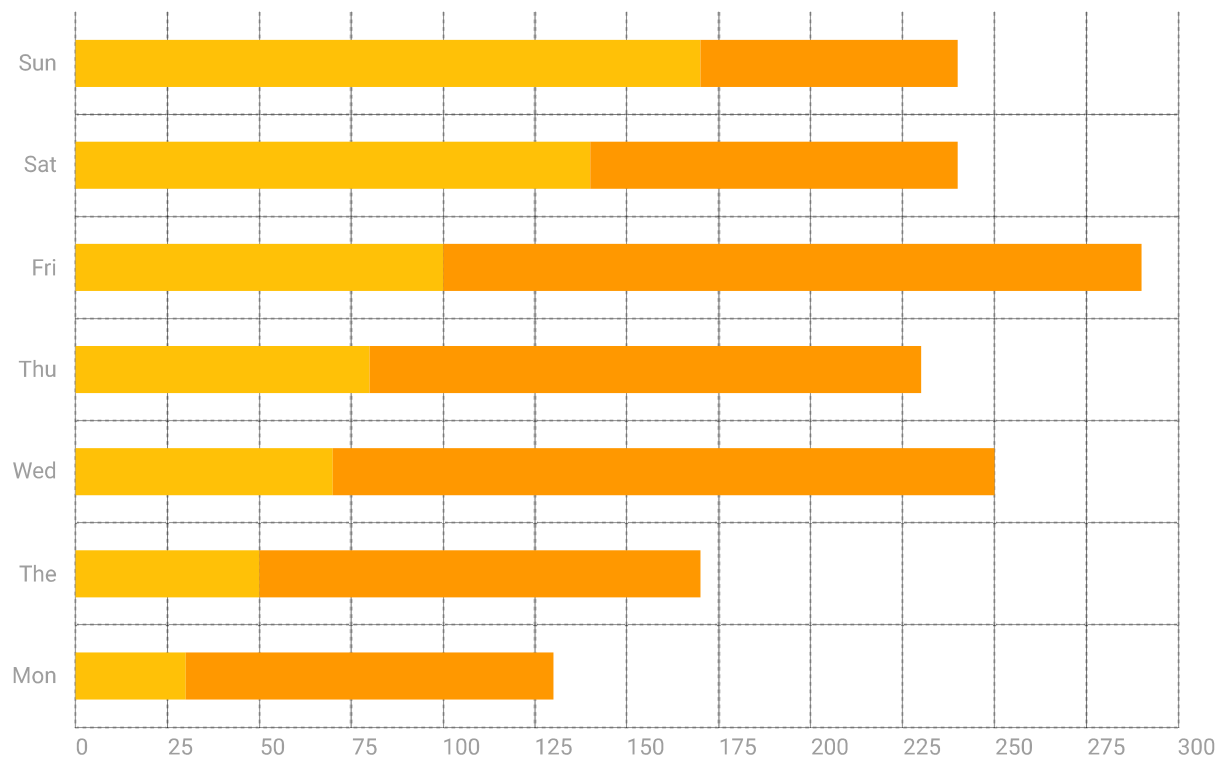


## Bar Charts

A bar chart or bar graph is a chart that presents Grouped data with rectangular bars with lengths proportional to the values that they represent. The bars can be plotted vertically or horizontally. A vertical bar chart is sometimes called a column bar chart.

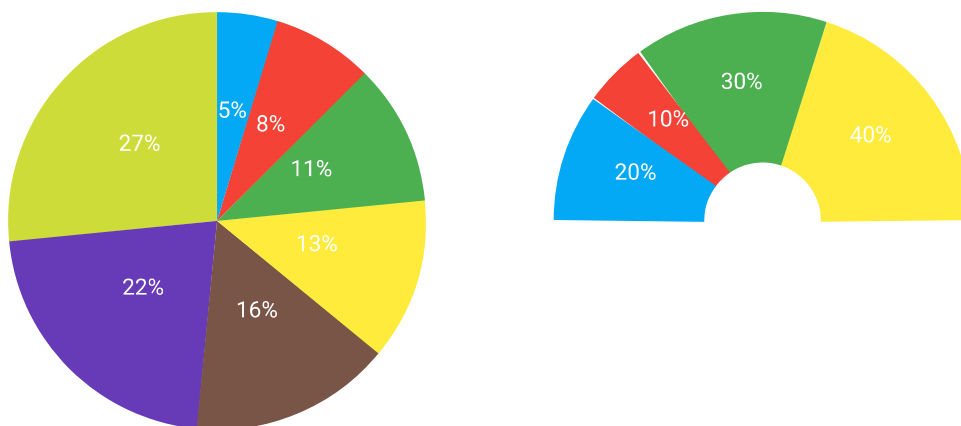


Bar Charts can also be tuned using Theme and OptionsBar.



## Pie and Donut Charts

A pie chart (or a circle chart) is a circular statistical graphic, which is divided into slices to illustrate numerical proportion. In a pie chart, the arc length of each slice (and consequently its central angle and area), is proportional to the quantity it represents. While it is named for its resemblance to a pie which has been sliced, there are variations on the way it can be presented. Pie Charts be transformed to Donut charts through the Theme and OptionsPie.



## Update chart with new values

You can update the charts with new values. E.g. you can use this to update the chart with real-time telemetry data, like the temperature of a machine.

