We are currently supporting the following charts:-

1.Area Chart
2.Bar Chart
3.Bubble Chart
4.Column Chart
5.Funnel Chart

In the future, we will be supporting additional charts.

Area Chart Docs

An Area Chart displays quantitative data graphically by plotting points and connecting them with a line, filling the area beneath the line. It is useful for showing trends over time or across categories, with the filled area emphasizing the magnitude of change.

Sample HTML code to create an area chart:

```
<fico-area-chart [height]="400" [title]="chart.title"
[data]="charts.data"></fico-area-chart>
```

Property	Description
title: string	Title of the chart.
subTitle: string	Subtitle of the chart.
height: number	Height of the chart in px. Default: 400px.
legendConfig: FicoLegendConfig	Legend configuration for the chart.
showToolbar: boolean	Sets the visibility of chart toolbar. The toolbar is displayed in top right section of the chart.
data: Series | Series[]	The data required for the chart.
showXAxis: boolean	Enable/disable the x-axis. Default: true.
axis: FicoAxisConfig	Axis configuration for the area chart.

tooltip: FicoTooltipConfig	Tooltip configuration for the area chart.
highlightConfig: FicoLineChartHighlight[]	Highlight configuration for the chart.

Interfaces

Series

Property	Description
seriesName: string	Name of the series.
dataPoints: DataPoints[]	collection of data points used to plot the chart.
stack: string	stack name to show the data as a part of.

DataPoints

Property	Description
xPoint: number | string | Date	Value on the xAxis.
yPoint: number	Value on the yAxis.
name: string	Name of the data point.
color: string	Color of the data point.

FicoTooltipConfig

Property	Description
show: boolean	Show/hide the tooltip. Default: true
showSeriesName: boolean	Show/hide the series name in tooltip. Default: true
showDataName: boolean	Show/hide the data name in tooltip. Default: true
dataValueFormat: 'default' | 'percent' | 'decimal'	Determines how the data value displayed in tooltip is formatted. A stacked area charts. Default: 'default'

	default: Uses original value.
	percent: Formats the values as percentage.
	decimal: Formats the values to a decimal representation.

FicoAxisConfig

Property	Description
xAxis: FicoXAxisConfig	X-axis configuration for the chart.
yAxis: FicoYAxisConfig	Y-axis configuration for the chart.

FicoXAxisConfig

Property	Description
xAxisName: string	Name of the x-axis.
showXAxis: boolean	Should the axis be shown or hidden. Default: true
xAxisNameLocation: "start" | "middle" | "end"	Location of the name of the axis. Default: "middle"
xAxisNameGap: number	Space between the x axis & name. This is required else the name of the x-axis will overlap with the xAxis line. Default: 30
xAxisNameColor: string	Color of the name which defines the x-axis.
xAxisPosition: "top" | "bottom"	Position of the x-axis, either on the top of the chart or at the bottom of the chart. Default: "bottom"
xAxisFontStyle: "normal" | "italic" | "oblique"	Font style of the x axis. Default: "normal"
xAxisFontWeight: 'normal' | 'bold' | 'bolder' | 'lighter' | number	CSS font-weight of the a-axis. Default: "normal"
xAxisFontSize: number	The font size of the x-axis. Default: 18
xAxisLineColor: string	Color of the x-axis line.

xAxisNameRotate: number	Rotate the name of the x-axis. Value from -90 to +90.

FicoYAxisConfig

Property	Description
showYAxis: boolean	Should the axis should be shown or hidden. Default: true
yAxisNameLocation: "start" | "middle" | "end"	Location of the name of the axis. Default: "middle"
yAxisNameGap: number	Space between the y-axis & name. This is required else the name of the axis will be overlapped with the y-axis line. Default: 30
yAxisNameColor: string	Color of the name that defines the y-axis.
yAxisPosition: "left" | "right"	Position of the y-axis, either on the top of the chart or at the bottom of the chart. Default: bottom
yAxisFontStyle: "normal" | "italic" | "oblique"	Font style of the y axis. Default: normal
yAxisFontWeight: 'normal' | 'bold' | 'bolder' | 'lighter' | number	CSS font-weight of the y-axis. Default: normal
yAxisFontSize: number	The font size of the x-axis. Default: 18
yAxisLineColor: string	Color of the y-axis line.
yAxisNameRotate: number	Rotate the name of the y-axis. Value from -90 to +90.

FicoLineChartHighlight

Property	Description
name: string	name of the highlight condition.
description: string	description to show in the highlight legend tooltip.
color: string	It will be used to highlight the series which satisfies
condition1: 'GT' | 'LT' | 'GTE' | 'LTE'	operator used to define interval for highlight conditi
condition2: 'GT' | 'LT' | 'GTE' | 'LTE'	operator used to define interval for highlight conditi

Property	Description
showHighlightCondition: boolean	show/hide the chart condition
showSeriesName: boolean	show/hide the chart series leg
legendPosition: 'none'	'top'	'left'	'right'	'bottom'	'bottomLeft'	'bottomRight'	Sets the position of the chart others. Default: bottom.

Bar Chart Docs

A Bar chart is a graphical representation of data where individual categories are displayed as rectangular bars. The length (or height) of each bar is proportional to the value it represents. Bar charts are used to compare quantities across different categories and are commonly used in business, education, and data analysis. Variations include grouped bar charts for comparing multiple datasets and stacked bar charts for visualizing part-to-whole relationships.

Sample HTML code to create an Bar chart:
`<fico-bar-chart [height]="500" [title]="chart.title" [data]="chart.data"></fico-bar-chart>`

Property	Description
title: string	Title of the chart.
subTitle: string	Subtitle of the chart.
height: number	Height of the chart in px. Default: 400px.
legendConfig: FicoLegendConfig	Legend configuration for the chart.
showToolbar: boolean	Sets the visibility of chart toolbar. The toolbar is displayed
data: Series	Series[]	The data required for the chart.
axis: FicoAxisConfig	Axis configuration for the chart.
tooltip: FicoTooltipConfig	Tooltip configuration for the chart.

highlightConfig: FicoChartHighlight[]	Highlight configuration for the chart.

Interface

Series

Property	Description
seriesName: string	Name of the series.
dataPoints: DataPoints[]	collection of data points used to plot the chart.
stack: string	stack name to show the data as a part of.

DataPoints

Property	Description
xPoint: number | string | Date	Value on the xAxis.
yPoint: number	Value on the yAxis.
name: string	Name of the data point.
color: string	Color of the data point.

FicoTooltipConfig

Property	Description
show: boolean	Show/hide the tooltip. Default: true
showSeriesName: boolean	Show/hide the series name in tooltip. Default: tru
showDataName: boolean	Show/hide the data name in tooltip. Default: true
dataValueFormat: 'default' | 'percent' | 'decimal'	Determines how the data value displayed in toolt **default:** Uses original value. **percent:** Formats the values as percentage. **decimal:** Formats the values to a decimal represe

FicoAxisConfig

Property	Description
xAxis: FicoXAxisConfig	X-axis configuration for the chart.
yAxis: FicoYAxisConfig	Y-axis configuration for the chart.

FicoXAxisConfig

Property	Description
xAxisName: string	Name of the x-axis.
showXAxis: boolean	Should the axis be shown or hidden. Default: true
xAxisNameLocation: "start" | "middle" | "end"	Location of the name of the axis. Default: "middle"
xAxisNameGap: number	Space between the x axis & name. This is required else the name of the x-axis will overlap with the xAxis line. Default: 30
xAxisNameColor: string	Color of the name which defines the x-axis.
xAxisPosition: "top" | "bottom"	Position of the x-axis, either on the top of the chart or at the bottom of the chart. Default: "bottom"
xAxisFontStyle: "normal" | "italic" | "oblique"	Font style of the x axis. Default: "normal"
xAxisFontWeight: 'normal' | 'bold' | 'bolder' | 'lighter' | number	CSS font-weight of the a-axis. Default: "normal"
xAxisFontSize: number	The font size of the x-axis. Default: 18
xAxisLineColor: string	Color of the x-axis line.
xAxisNameRotate: number	Rotate the name of the x-axis. Value from -90 to +90.

FicoYAxisConfig

Property	Description
showYAxis: boolean	Should the axis should be shown or hidden. Default: true
yAxisNameLocation: "start"	"middle"	"end"	Location of the name of the axis. Default: "middle"
yAxisNameGap: number	Space between the y-axis & name. This is required else t overlapped with the y-axis line. Default: 30
yAxisNameColor: string	Color of the name that defines the y-axis.
yAxisPosition: "left"	"right"	Position of the y-axis, either on the top of the chart or at Default: bottom
yAxisFontStyle: "normal"	"italic"	"oblique"	Font style of the y axis. Default: normal
yAxisFontWeight: 'normal'	'bold'	'bolder'	'lighter'	number	CSS font-weight of the y-axis. Default: normal
yAxisFontSize: number	The font size of the x-axis. Default: 18
yAxisLineColor: string	Color of the y-axis line.
yAxisNameRotate: number	Rotate the name of the y-axis. Value from -90 to +90.

FicoChartHighlight

Property	Description
Property	Description
conditions: FicoConditions[]	Condition for highlighting the respective series of the chart.
color: string	It will be used to highlight the series which satisfies the con
description: string	description to show in the highlight legend tooltip.

FicoConditions

Property	Description
type: 'GT'	'LT'	'EQ'	'NEQ'	'GTE'	'LTE'	Type of the condition.
value: number	value that can be used in condition.

FicoLegendConfig

Property	Description
showHighlightCondition: boolean	show/hide the chart condition
showSeriesName: boolean	show/hide the chart series leg
legendPosition: 'none' | 'top' | 'left' | 'right' | 'bottom' | 'bottomLeft' | 'bottomRight'	Sets the position of the chart others. Default: bottom.

Bubble Chart Docs

A bubble chart is a type of data visualization that displays three dimensions of data in a two-dimensional chart. Each bubble represents a data point with three distinct values: the x-axis position, the y-axis position, and the size of the bubble, which usually represents a third variable.

Sample HTML code to create an Bubble chart:

A **bubble chart** is a type of data visualization that displays three dimensions of data in a two-dimensional chart. Each point in the chart represents a data item, with its position determined by two numeric values (usually on the X and Y axes), while the size of the bubble represents a third numeric value. This makes bubble charts particularly useful for visualizing relationships and comparisons between data points across multiple dimensions.

Key Features of Bubble Charts

    1. Three Dimensions:
-
  - The **X-axis** represents one variable.
  - The **Y-axis** represents another variable.
  - The **size of the bubble** represents a third variable, often reflecting magnitude or importance.

    2. Visualization of Relationships:
-

- o   Bubble charts help to identify trends, correlations, and clusters within the data.
- o   They can reveal how different categories relate to each other based on the values represented by the bubbles.

3. Use of Colors:

- •
    - o   Colors can be used to differentiate categories or to represent additional data dimensions, enhancing visual distinction.

Types of Bubble Charts

1. **Simple Bubble Chart**:

   Displays a standard set of data points with varying sizes, showing the relationship between two variables while indicating a third dimension through the size of the bubbles.

2. Categorized Bubble Chart:

   Groups bubbles based on categorical data. Different categories can be represented with distinct colors or shapes, allowing for easy comparison among groups.

3. Packed Bubble Chart:

   Bubbles are arranged without overlaps, packed tightly within a defined area. This chart type is useful for representing hierarchical data where the size of each bubble indicates its significance.

4. Bubble Map:

   Combines geographic mapping with bubble charts. Bubbles are plotted on a map based on geographical coordinates, with their sizes representing data values (e.g., population density or sales volume).

6. Time Series Bubble Chart:

   Plots data points over time, allowing users to see how relationships between variables change over a specified period.

Advantages of Bubble Charts

- **Visual Complexity**: Effectively communicates complex relationships in a single view, making it easier to spot patterns and correlations.
- **Interactivity**: Many charting libraries allow for interactive features (hovering, clicking), providing more in-depth data insights.
- **Space Efficiency**: Utilizes space effectively, allowing for the display of multiple data dimensions in a compact format.

Domain Model

type **FicoBubbleModel**

Property	Value
title	string
subTitle	string
legendPosition	'none' | 'top' | 'left' | 'right' | 'bottom' | 'bottomLeft' | 'bottomRight'
showToolbar	boolean
tooltip	FicoTooltipConfig
data	Series | Series[]
axis	FicoAxisConfig
height	number
crumbs	string[]

Interface

Series

Property	Description
seriesName: string	Name of the series.
dataPoints: DataPoints[]	collection of data points used to plot the chart.
stack: string	stack name to show the data as a part of.

DataPoints

Property	Description
xPoint: number | string | Date	Value on the xAxis.
yPoint: number	Value on the yAxis.
name: string	Name of the data point.
color: string	Color of the data point.

FicoTooltipConfig

Property	Description
show: boolean	Show/hide the tooltip. Default: true
showSeriesName: boolean	Show/hide the series name in tooltip. Default: tru
showDataName: boolean	Show/hide the data name in tooltip. Default: true
dataValueFormat: 'default' | 'percent' | 'decimal'	Determines how the data value displayed in toolt **default:** Uses original value. **percent:** Formats the values as percentage. **decimal:** Formats the values to a decimal represe

FicoLegendConfig

Property	Description
showHighlightCondition: boolean	show/hide the chart condition
showSeriesName: boolean	show/hide the chart series leg
legendPosition: 'none' | 'top' | 'left' | 'right' | 'bottom' | 'bottomLeft' | 'bottomRight'	Sets the position of the chart others. Default: bottom.

FicoAxisConfig

Property	Description

xAxis: FicoXAxisConfig	X-axis configuration for the chart.
yAxis: FicoYAxisConfig	Y-axis configuration for the chart.

FicoXAxisConfig

Property	Description
xAxisName: string	Name of the x-axis.
showXAxis: boolean	Should the axis be shown or hidden. Default: true
xAxisNameLocation: "start" | "middle" | "end"	Location of the name of the axis. Default: "middle"
xAxisNameGap: number	Space between the x axis & name. This is required else the name of the x-axis will overlap with the xAxis line. Default: 30
xAxisNameColor: string	Color of the name which defines the x-axis.
xAxisPosition: "top" | "bottom"	Position of the x-axis, either on the top of the chart or at the bottom of the chart. Default: "bottom"
xAxisFontStyle: "normal" | "italic" | "oblique"	Font style of the x axis. Default: "normal"
xAxisFontWeight: 'normal' | 'bold' | 'bolder' | 'lighter' | number	CSS font-weight of the a-axis. Default: "normal"
xAxisFontSize: number	The font size of the x-axis. Default: 18
xAxisLineColor: string	Color of the x-axis line.
xAxisNameRotate: number	Rotate the name of the x-axis. Value from -90 to +90.

FicoYAxisConfig

Property	Description
showYAxis: boolean	Should the axis should be shown or hidden. Default: tru
yAxisNameLocation: "start" | "middle" | "end"	Location of the name of the axis. Default: "middle"

yAxisNameGap: number	Space between the y-axis & name. This is required else overlapped with the y-axis line. Default: 30
yAxisNameColor: string	Color of the name that defines the y-axis.
yAxisPosition: "left" | "right"	Position of the y-axis, either on the top of the chart or a bottom
yAxisFontStyle: "normal" | "italic" | "oblique"	Font style of the y axis. Default: normal
yAxisFontWeight: 'normal' | 'bold' | 'bolder' | 'lighter' | number	CSS font-weight of the y-axis. Default: normal
yAxisFontSize: number	The font size of the x-axis. Default: 18
yAxisLineColor: string	Color of the y-axis line.
yAxisNameRotate: number	Rotate the name of the y-axis. Value from -90 to +90.

Coulmn Chart Docs

A Column Chart is a type of bar chart that displays data in vertical bars. Each bar represents a category, with the height of the bar corresponding to the value. It's commonly used to compare different categories or show changes over time.

Sample HTML code to create an Coulmn chart:

```
<fico-column-chart [height]="500" [title]="chart.title"
[data]="chart.data"></fico-column-chart>
```

Property	Description
title: string	Title of the chart.
subTitle: string	Subtitle of the chart.
height: number	Height of the chart in px. Default: 400px.
legendConfig: FicoLegendConfig	Legend configuration for the chart.
showToolbar: boolean	Sets the visibility of chart toolbar. The toolbar is displayed in top right section of the chart.

data: Series | Series[]	The data required for the chart.
axis: FicoAxisConfig	Axis configuration for the area chart.
tooltip: FicoTooltipConfig	Tooltip configuration for the column chart.
highlightConfig: FicoChartHighlight[]	Highlight configuration for the chart.

Interfaces

Series

Property	Description
seriesName: string	Name of the series.
dataPoints: DataPoints[]	collection of data points used to plot the chart.
stack: string	stack name to show the data as a part of.

DataPoints

Property	Description
xPoint: number | string | Date	Value on the xAxis.
yPoint: number	Value on the yAxis.
name: string	Name of the data point.
color: string	Color of the data point.

FicoTooltipConfig

Property	Description
show: boolean	Show/hide the tooltip. Default: true
showSeriesName: boolean	Show/hide the series name in tooltip. Default: true

showDataName: boolean	Show/hide the data name in tooltip. Default: true
dataValueFormat: 'default' | 'percent' | 'decimal'	Determines how the data value displayed in tooltip **default:** Uses original value. **percent:** Formats the values as percentage. **decimal:** Formats the values to a decimal represen

FicoAxisConfig

Property	Description
xAxis: FicoXAxisConfig	X-axis configuration for the chart.
yAxis: FicoYAxisConfig	Y-axis configuration for the chart.

FicoXAxisConfig

Property	Description
xAxisName: string	Name of the x-axis.
showXAxis: boolean	Should the axis be shown or hidden. Default: true
xAxisNameLocation: "start" | "middle" | "end"	Location of the name of the axis. Default: "middle"
xAxisNameGap: number	Space between the x axis & name. This is required else the name of the x-axis will overlap with the xAxis line. Default: 30
xAxisNameColor: string	Color of the name which defines the x-axis.
xAxisPosition: "top" | "bottom"	Position of the x-axis, either on the top of the chart or at the bottom of the chart. Default: "bottom"
xAxisFontStyle: "normal" | "italic" | "oblique"	Font style of the x axis. Default: "normal"
xAxisFontWeight: 'normal' | 'bold' | 'bolder' | 'lighter' | number	CSS font-weight of the a-axis. Default: "normal"
xAxisFontSize: number	The font size of the x-axis. Default: 18

xAxisLineColor: string	Color of the x-axis line.
xAxisNameRotate: number	Rotate the name of the x-axis. Value from -90 to +90.

FicoYAxisConfig

Property	Description
showYAxis: boolean	Should the axis should be shown or hidden. Default: true
yAxisNameLocation: "start" | "middle" | "end"	Location of the name of the axis. Default: "middle"
yAxisNameGap: number	Space between the y-axis & name. This is required else the name of the axis will be overlapped with the y-axis line. Default: 30
yAxisNameColor: string	Color of the name that defines the y-axis.
yAxisPosition: "left" | "right"	Position of the y-axis, either on the top of the chart or at the bottom of the chart. Default: bottom
yAxisFontStyle: "normal" | "italic" | "oblique"	Font style of the y axis. Default: normal
yAxisFontWeight: 'normal' | 'bold' | 'bolder' | 'lighter' | number	CSS font-weight of the y-axis. Default: normal
yAxisFontSize: number	The font size of the x-axis. Default: 18
yAxisLineColor: string	Color of the y-axis line.
yAxisNameRotate: number	Rotate the name of the y-axis. Value from -90 to +90.

FicoChartHighlight

Property	Description
Property	Description
conditions: FicoConditions[]	Condition for highlighting the respective series of the chart.
color: string	It will be used to highlight the series which satisfies the con
description: string	description to show in the highlight legend tooltip.

FicoConditions

Property	Description
type: 'GT' | 'LT' | 'EQ' | 'NEQ' | 'GTE' | 'LTE'	Type of the condition.
value: number	value that can be used in condition.

FicoLegendConfig

Property	Description
showHighlightCondition: boolean	show/hide the chart condition
showSeriesName: boolean	show/hide the chart series leg
legendPosition: 'none' | 'top' | 'left' | 'right' | 'bottom' | 'bottomLeft' | 'bottomRight'	Sets the position of the chart others. Default: bottom.

Funnel Chart Docs

A funnel chart is often used to visualise data from stages of a process. Readers can quickly identify bottlenecks in the process by comparing the area size variation of each stage. They're often used in sales, marketing, or conversion tracking to illustrate how opportunities or tasks are filtered or drop off through a process.

The minimum recommended height is *175* pixels.

Types of funnel charts:

1. Standard:
   a. The basic form of a funnel chart. It visually represents the stages of a process or pipeline, with each successive stage having a smaller width, illustrating the decrease or filtering of data.
   b. The chart can be oriented horizontally or vertically.
   c. Funnel charts can be colored based on data or series.
   d. Multi series funnel charts indicate different series of data overlapping over other series.
   e. Below is an example of a funnel chart indicating the process of a user subscribing to a product:

Sample HTML code to create an Funnel chart:

```html
<fico-funnel
  [title]="chart.title"
  [data]="chart.data"
  [height]="400"
  minSize="20%"
  maxSize="50%"
  (segmentClick)="onSegmentClick($event)"
></fico-funnel>
```

Domain Model:

type **FicoFunnelChartDataPoint**
Schema of the datapoint

Property	Value
yPoint	number
name	string

type **FicoFunnelChartModel**

Property	Value
title	string
subTitle	string
legendPosition	'none'	'top'	'left'	'right'	'bottom'	'bottomLeft'	'bottomRight'
showToolbar	boolean
tooltip	FicoTooltipConfig
data	FicoFunnelChartDataPoint[]
funnelOptions	FicoFunnelOptions

type **FicoFunnelOptions**

Property	Value
type	'funnel'
orient	'horizontal' | 'vertical'
sort	'ascending' | 'descending'
colorBy	'series' | 'data'
align	'left' | 'center' | 'right'
labelOptions	FicoFunnelLabelOptions
height	number
minSize	number
maxSize	number

type **FicoFunnelLabelOptions**

Property	Value
show	boolean
color	string
align	'left' | 'center' | 'right'
verticalAlign	'top' | 'middle' | 'bottom'
position	'inside' | 'outside' | 'top' | 'left' | 'bottom' | 'right'
formatter	'name' | 'value' | 'percent'
padding	number []