



High-performance data visualization components for **JS, .NET, & Python**

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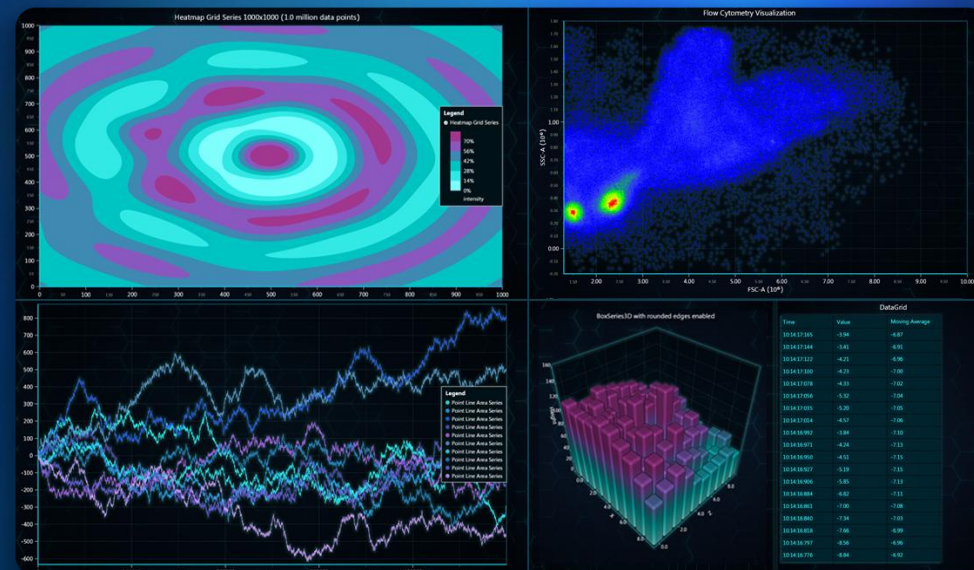
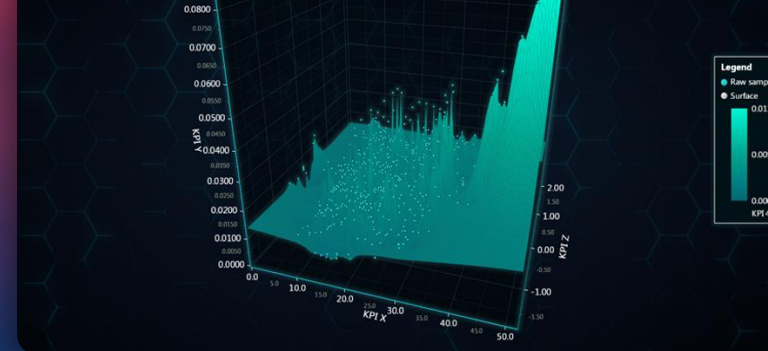
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LightningChart[®] PYTHON

High-performance graphics library featuring 2D & 3D Python charts

Graphs & plots for data science and software development Python applications.



Why LightningChart Python?

• Massive Datasets

Efficiently processes and visualizes massive static datasets containing millions of data points, ensuring smooth performance and rapid rendering without compromising detail or accuracy.

• Smooth Visualizations

Leverages the raw processing power of graphics processors and WebGL rendering supporting smooth visualizations.

• Dashboard Controls

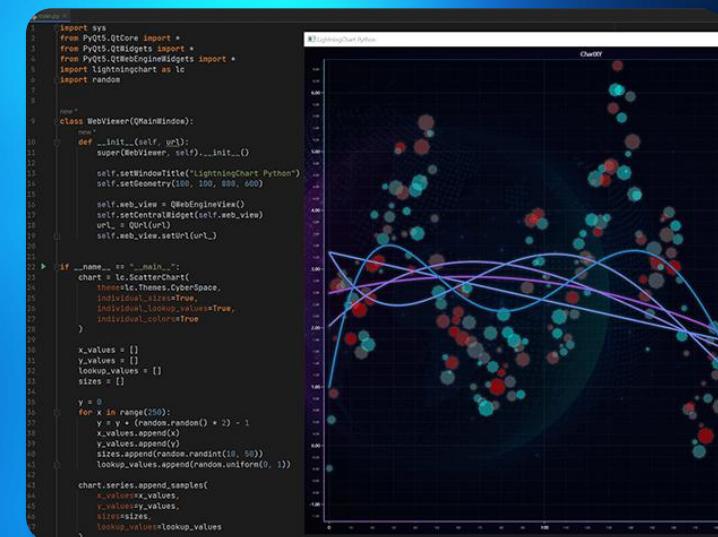
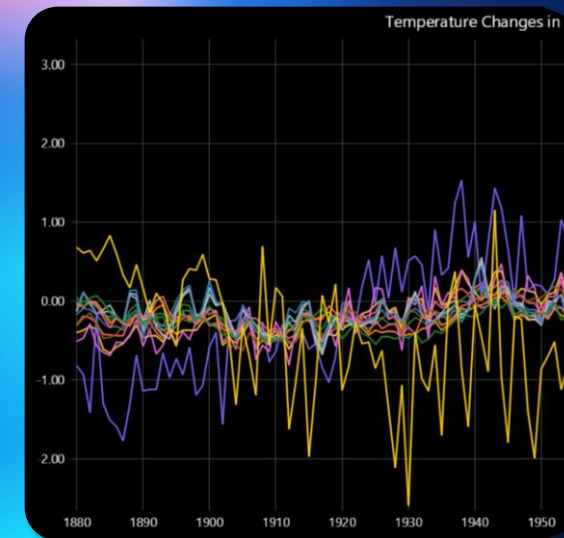
Craft visually stunning and dynamic dashboards with ease, with an extensive collection of different plot types and appearance customization options.

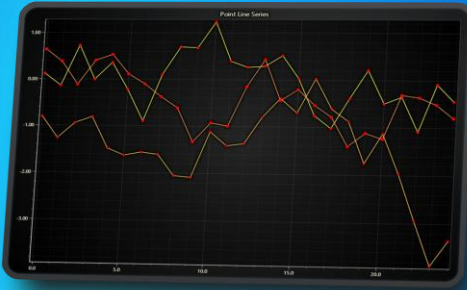
• Real-Time Data Streaming

With dynamic real-time streaming data, it's possible to create fully interactive, responsive charts that ensure smooth performance and seamless user interaction.

• Integrations & Frameworks Support

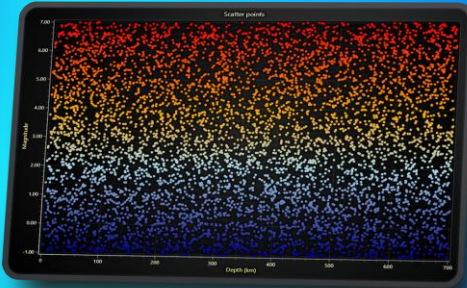
Seamless integration with different Notebook environments, libraries (Pandas, NumPy, etc.), and GUI frameworks (PyQt, PySide, etc.) supporting full adaptability into your workflows.





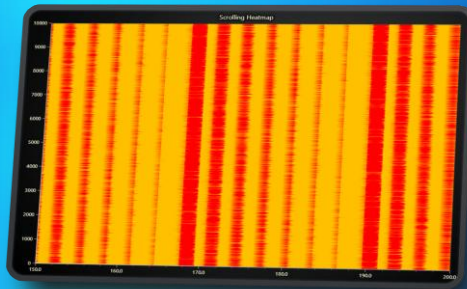
Line Graphs

A series type for visualizing a list of Points (pair of X and Y coordinates), with a continuous stroke. LineSeries is optimized for handling massive amounts of data points.



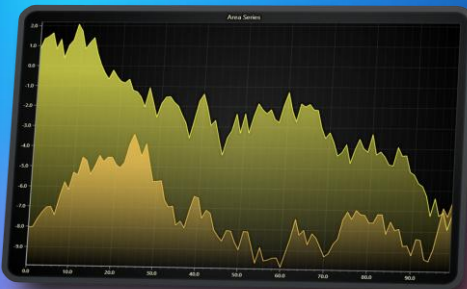
Scatter Plots

Scatter charts can be created using ChartXY and Point Series. Featuring Bubble Charts that can be created using Point Series by specifying unique point size values.



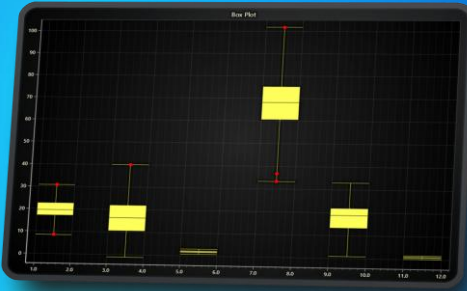
Heatmaps

Heatmaps can be created using ChartXY and Heatmap Grid Series, which is meant for visualizing grid/matrix data with static columns and rows count.



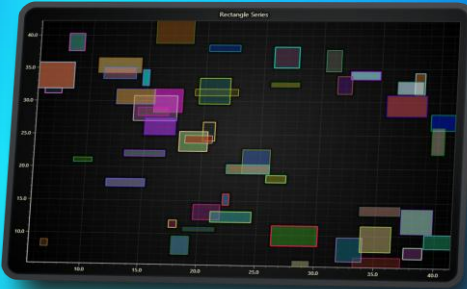
Area Graphs

A collection of charts for visualizing areas including *AreaRangeSeries*, *Positive* and *NegativeAreaSeries*, *BipolarAreaSeries*, and *StackedAreaCharts*.



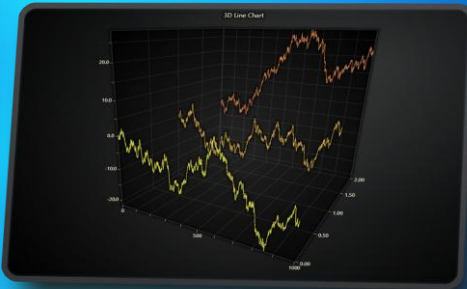
Box Plots

Box plots can be created using ChartXY and Box Series.



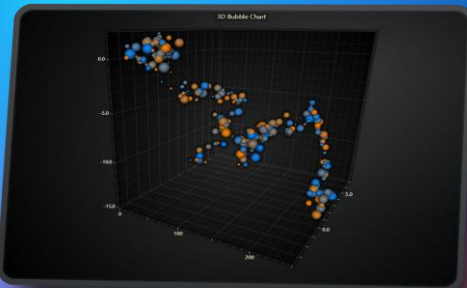
Figures & Shapes

ChartXY has multiple types of figure series to draw 2D shapes within the chart. These shapes including *Polygons*, *Ellipses*, *Rectangles*, and *Segments*.



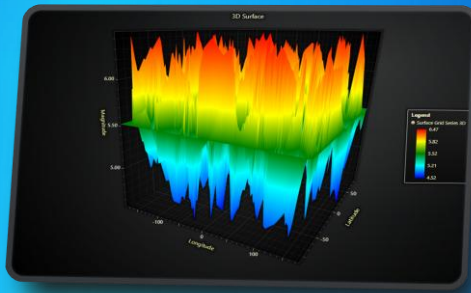
3D Line Graphs

Chart3D has two series types for visualizing 3D lines featuring *LineSeries* and *PointLineSeries*.



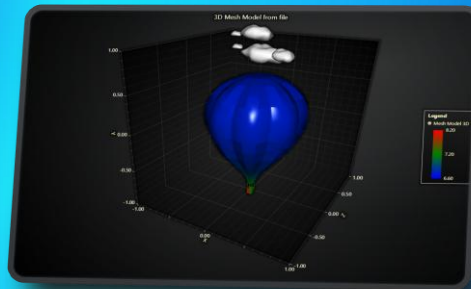
3D Scatter Plots

3D scatter charts can be created using Chart3D and 3D Point Series, meant for visualizing a collection of x-y-z coordinates by different markers, and optimized for massive amounts of data.



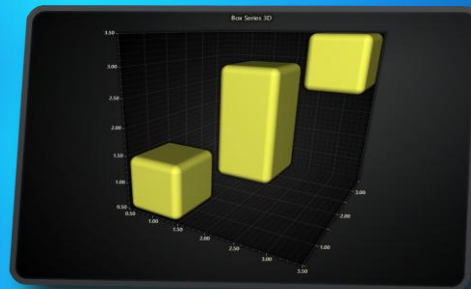
3D Surface Graphs

3D surfaces can be created using Chart3D and Surface Grid Series. This series is optimized for massive amounts of surface grid data.



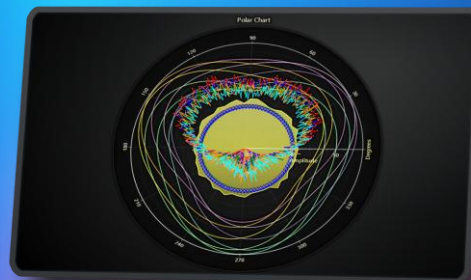
3D Mesh Models

3D Mesh Model is a series for rendering a 3D object model within a Chart3D.



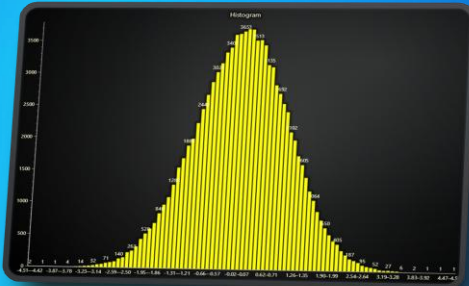
3D Box plots

Chart3D has Box Series for visualization of large sets of individually configurable 3D Boxes.



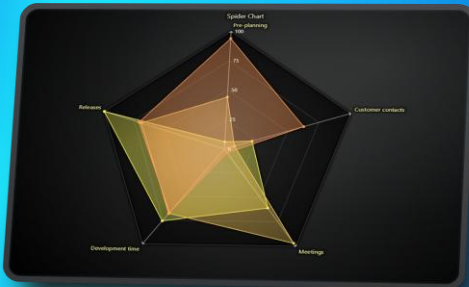
Polar Graphs

Chart for visualizing data in a Polar coordinate system (angle + amplitude). It has various different types of series including *PolarArea*, *PolarHeatmap*, *PolarPolygon*, *PolarPoint*, *PolarLine*, and *PolarSector*.



Bar Charts & Histograms

Chart type for visualizing categorical data as Bars. Supports Positive and Negative data sets (baseline 0), and Bipolar data sets. These are automatically detected. The series supports histograms.



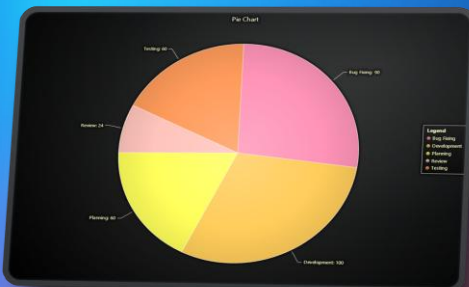
Spider Charts

Chart for visualizing data in a radial form as dissected by named axes. Spider Chart can have any number of Spider Series added to it.



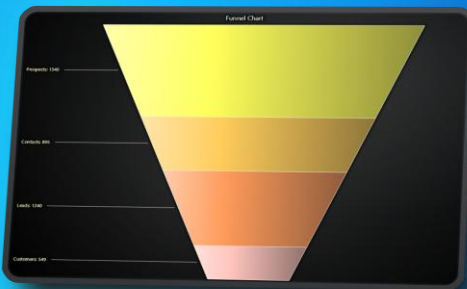
Gauge Charts

Chart for visualizing a single value within a interval. The gauge interval can be adjusted to suit the granularity of the data being visualized.



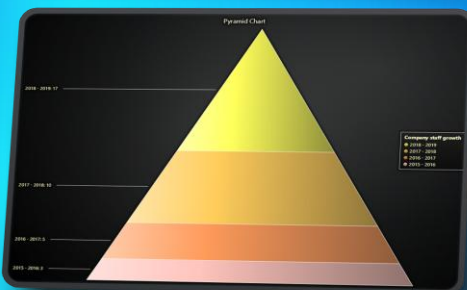
Pie Charts

Visualizes proportions and percentages between categories, by dividing a circle into proportional segments. Features donut charts.



Funnel Plots

Visualizes proportions and percentages between categories, by dividing a funnel into proportional segments.



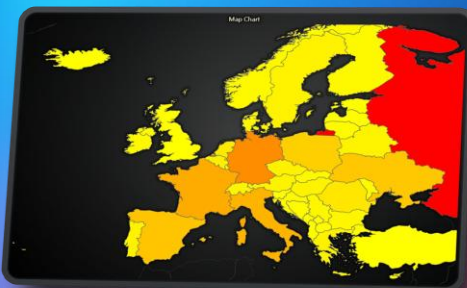
Pyramid Charts

Visualizes proportions and percentages between categories, by dividing a pyramid into proportional segments.



TreeMap charts

Chart type that visualizes hierarchical data using nested rectangles.



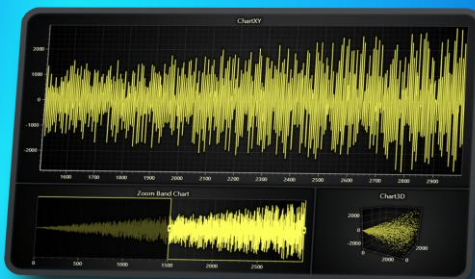
Map Charts

Chart class for visualizing a geographical map of a selected part of the world.



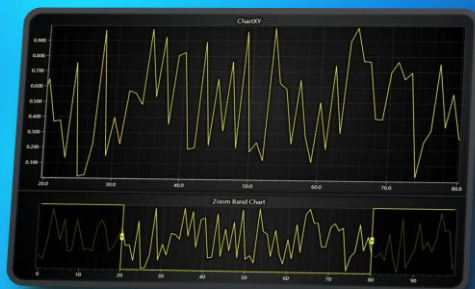
Dashboards

Dashboard is a component for flexible positioning of multiple Charts efficiently in the same rendering view.



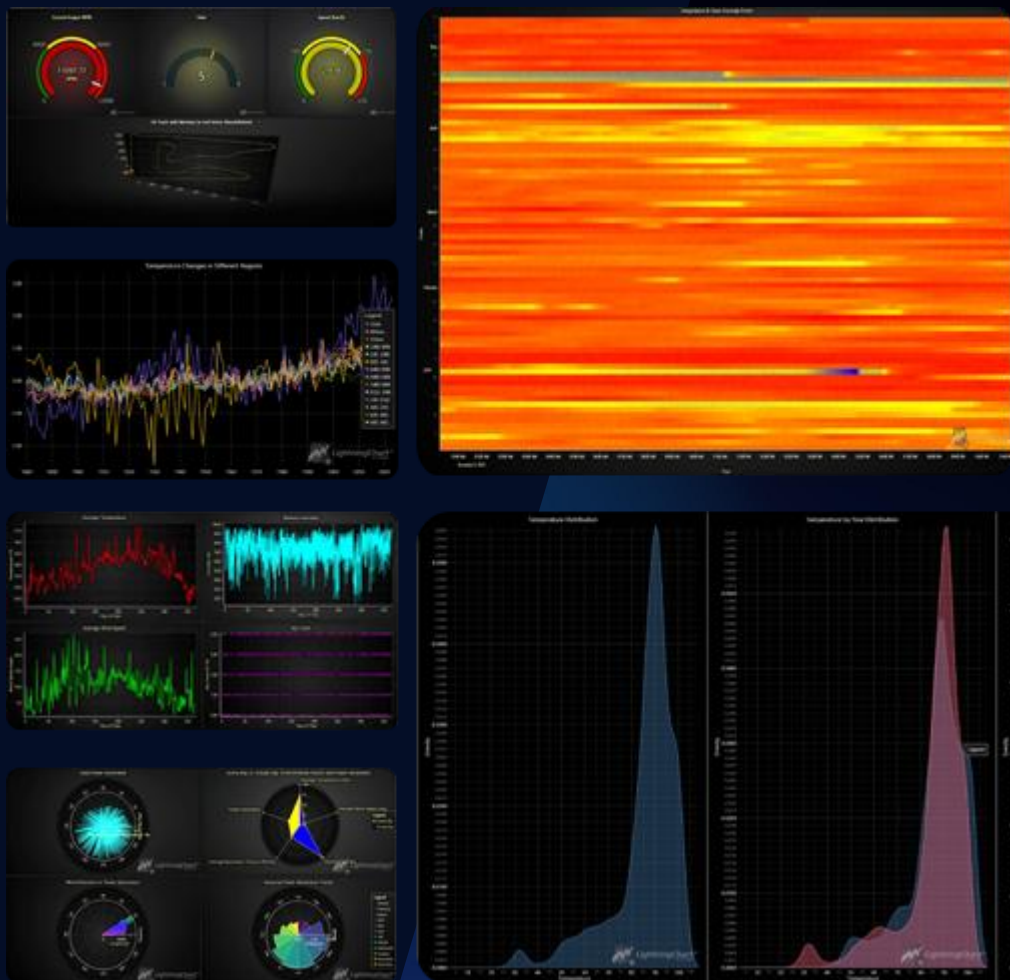
Dashboards with Real-Time Data

Dashboards support processing data in real-time.



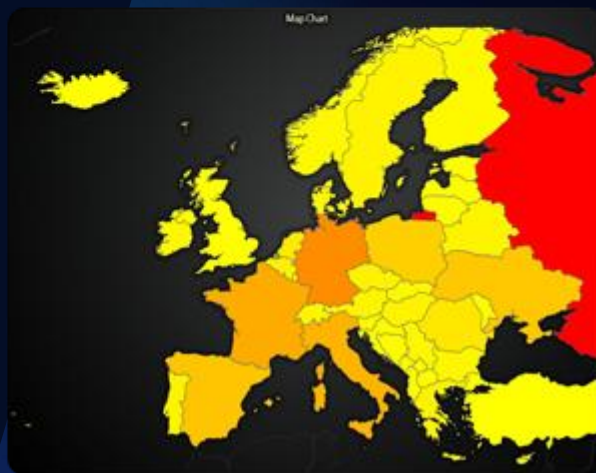
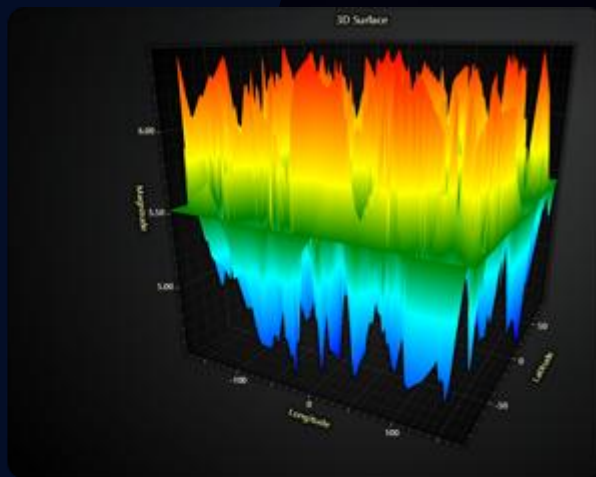
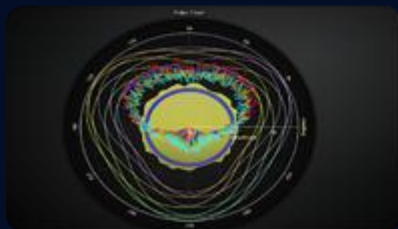
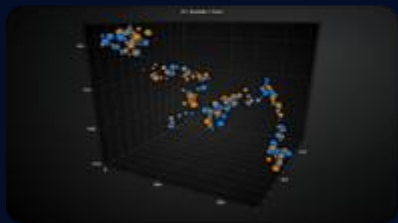
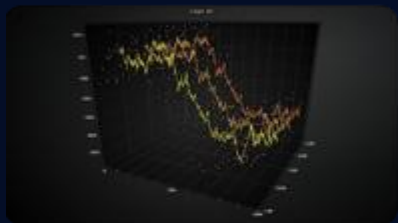
Zoom Band Chart

Zoom Band Chart is a Dashboard component, which can be linked to any amount of Series. It shows a compilation of all data from all Series that are attached to it, and allows the user to configure the view of the attached Axis easily by interacting with a Band on the Zoom Band Chart.



For Data Science

- Seamlessly integrate LightningChart Python into your workflow, perfect for data scientists, researchers, and educators looking to enhance their data analysis capabilities.
- Effortlessly use it in both standalone scripts and Notebook environments, empowering you to perform exploratory data analysis with ease.
- Leverage LightningChart® Python alongside popular data science modules like NumPy and Pandas to extract valuable insights from your datasets.
- Create visually stunning and dynamic dashboards with an extensive collection of chart types and appearance customization options, giving you full control over your visualizations.



For Software Developers

- LightningChart® Python charts can be easily embedded within popular **GUI frameworks** such as **PyQt** and **PySide** to add interactive and dynamic visuals to your Python software.
- When building desktop applications for business analytics, monitoring, scientific simulations, or any other field, LightningChart Python library simplifies the **integration of stunning visualizations**.
- Transform your applications with the **versatile capabilities of LightningChart® Python**.

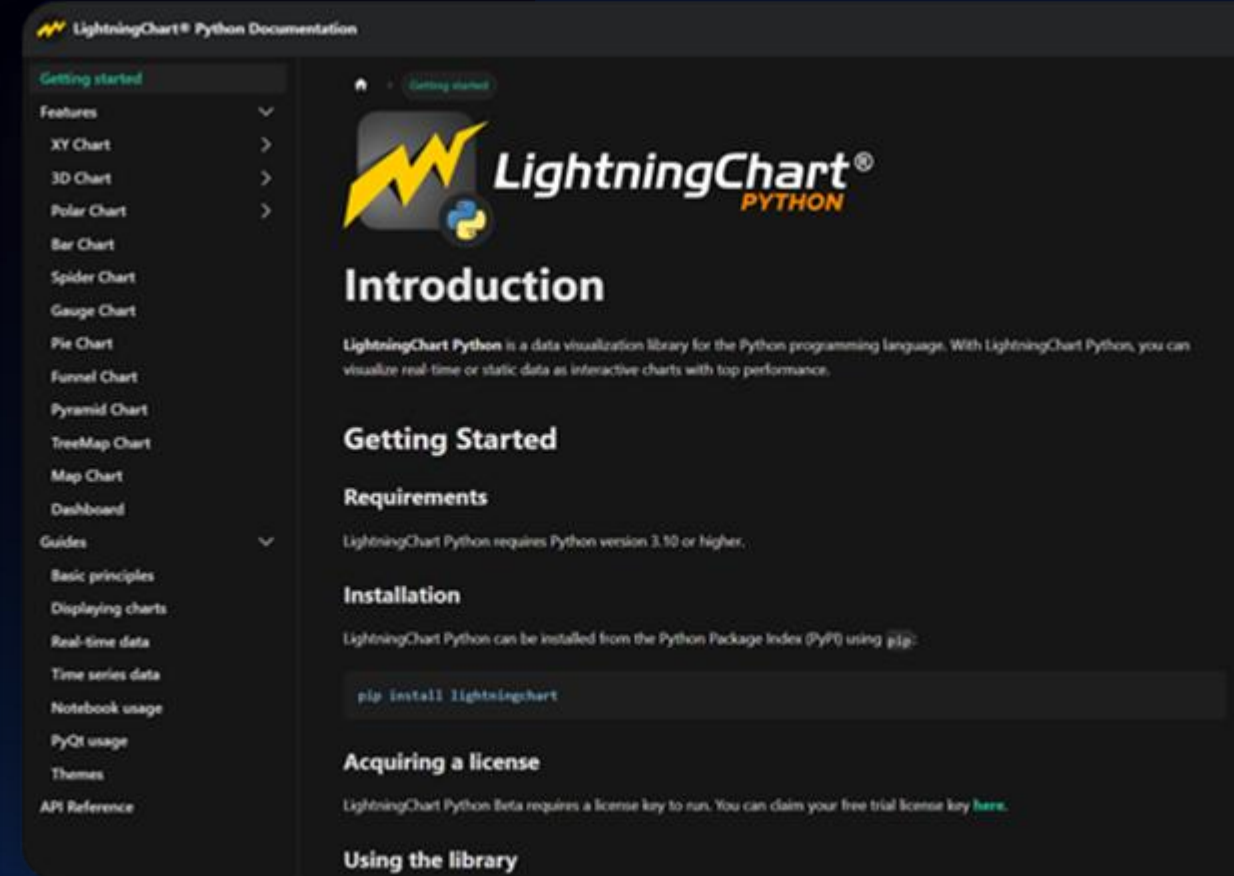
Developer Experience

Full API reference:

[LightningChart Python API documentation](#)

We have prepared valuable resources for developers to get to know LightningChart Python better.

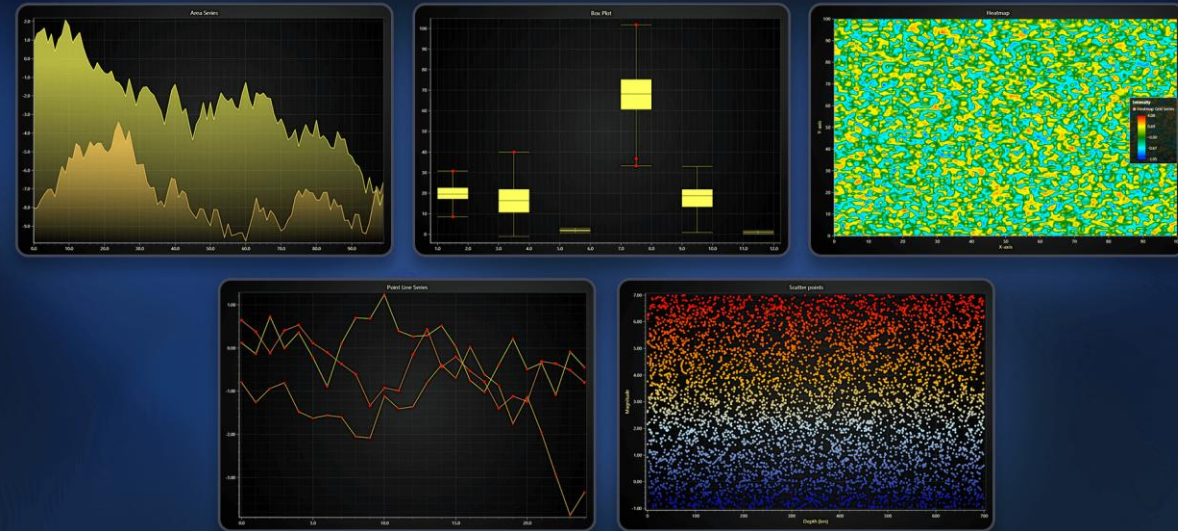
From the [Get Started guide](#), you will find more information about installation, requirements, chart types, guides, and more.



2D Plots

LC Python introduces 2D line graphs, scatter plots, heatmaps, area plots, and box plots. There are several types of charts available within each series.

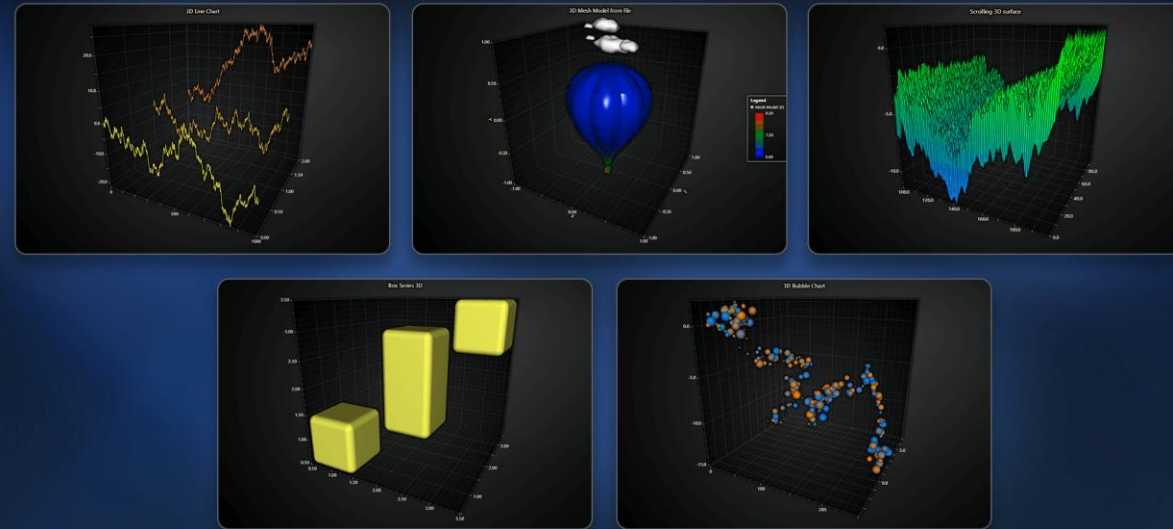
[See all the 2D plots available](#)



3D Plots

LC Python introduces 3D line graphs, scatter plots, surface plots, Mesh models, and 3D box plots. Each series contains several chart types.

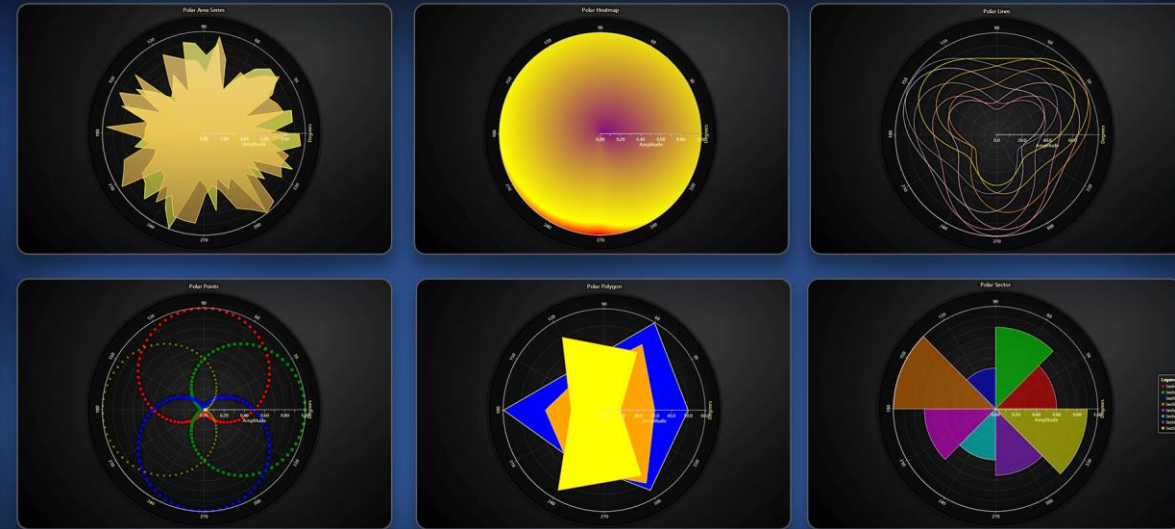
[See all the 3D plots available](#)



Polar Plots

LC Python introduces different types of polar charts including *Polar Area*, *Polar Heatmap*, *Polar Polygon*, *Polar Point*, *Polar Line*, and *Polar Sector*,

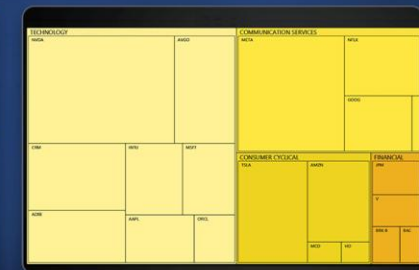
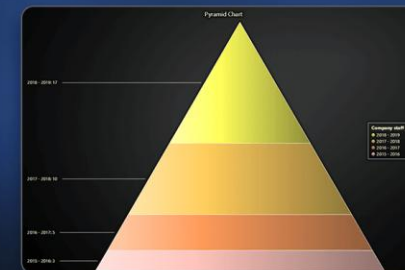
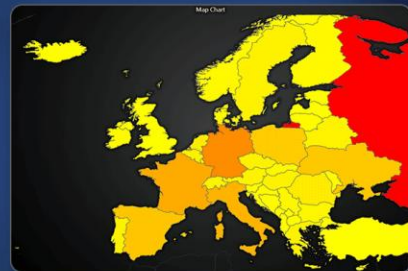
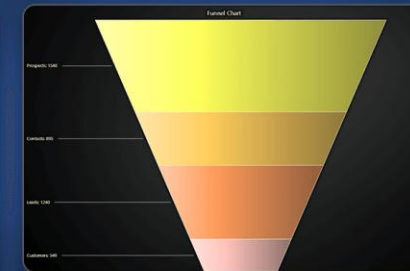
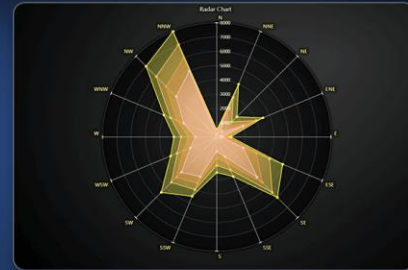
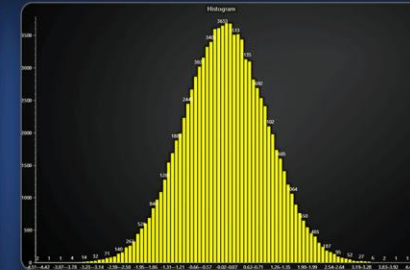
[See all the Polar plots available](#)



More Plot Types

LC Python features several types of graphs including bar plots, spider charts, gauge charts, pie charts, funnel graphs, and more.

[See all the all the plots available](#)

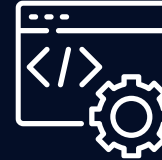


Licensing Models



Data Scientist License

A personal subscription-based license, empowers data enthusiasts with an extensive feature set for personal projects, including Python notebooks.



Software Developer License

A perpetual license, sold per-seat, for developers integrating LightningChart® Python in distributable software applications.



LightningChart

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LightningChart® customization services

We offer the LightningChart® components customization of any complexity level. Please contact sales@lightningchart.com for detailed information.

Happy Coding!



LightningChart Ltd. is an ISO/IEC 27001:2022 Certified Company

The Information Security Management Systems of LightningChart Ltd. have successfully achieved the ISO/IEC 27001:2022 certification.

This certification applies to infrastructure, applications, website, and systems that ensure the delivery of delivery of our products and services to our customers. It also includes activities that hold, obtain, share, or manage customer and business data; and the business functions of HR, Engineering & Product Development, Customer Support, Sales & Marketing, and Finance.



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