



## VR and AR in financial data visualization

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When people think about VR (Virtual Reality) and AR (Augmented Reality), video games are something that usually first comes to their minds. However, there is another world of VR and AR that is growing – the financial industry. Such organizations and institutions have been trying to incorporate the latest technologies into their services. Thus, Virtual and Augmented Reality has started to make a relevant impact on banking and financial services. VR data visualization, AR data visualization – how do they work? Is VR in financial data a breakthrough?

## VR and AR in financial data

Data has always been a critical resource for institutions and organizations. Businesses need data to both function normally and stave off competition. Data creates the core of the strategies formulated by businesses, including financial institutions, to predict what customers need and what the competitors are up to. In the last few years, rapid technological developments have enhanced the way financial organizations can deliver their services. The financial industry doesn't have to depend largely on human input to collect, manipulate and use data.

And data is something that has been growing in relevance rapidly. All industries, including the financial one, have processed more and more of it, which has been causing disruptions because gathering and analyzing large volumes of data is not enough. Using the insights is crucial, too. And that's where data visualization comes in. Big Data, machine learning, AI – they have become an integral part of our daily lives. Being able to visualize data is a crucial tool financial institutions use to help them make important decisions. Not only is it helping high-level staff in formulating long-term strategies, but also enabling quick responses in everyday operations.

Virtual and Augmented Reality adds to this experience and makes it much easier to visualize and organize amounts of information. AR and **VR in financial data** mean creating an immersive 3D environment to analyze financial information and e.g. stock portfolios with higher-than-ever accuracy. VR and **AR in financial data** is a 3D reality for insights and data immersion. The technology brings multi-dimensional data analysis, new patterns, and better decision-making. **VR data visualization** enables businesses to get a clear, comprehensive picture to perform analyses of high-dimensional statistics.

## VR in financial data – VR data visualization

Thanks to Virtual Reality, the data visualization process can be more interactive and immersive. **VR in financial data** enables users to view data from a completely different perspective. The process is turned into an experience and the user can immerse in a virtual world full of data to gain insights at the macro level, as well as at the micro-level. **VR data visualization** definitely brings innovative benefits to the world of financial technology. 3D data visualization allows users to imagine multiple data sets in immersive experiences that make insights much more intuitive. Financial information, graphs, and charts can take place in a visual space. It is much easier and more intuitive to draw relevant connections and engage with models to anticipate possible outcomes. All you need is a headset to find yourself literally immersed in the financial world. Here are some real-life examples of **VR in financial data**:

- Virtual Reality is used to make sense of the data collected from the supply chain. It accelerates the understanding of what processes relate to each other.

- 3D data manipulation through an AI-driven visualization VR tool that allows companies to get actionable insights quickly.
- Platforms developed for cybersecurity operations. They enable users to step into the command and control of complex networks. This in consequence allows better and faster decisions.
- VR apps that take hundreds of variables to reduce dimensions to a handful of data points. They e.g. collect data of global company valuation as a subset of the entire market or evaluate multiple companies and project the valuation onto a globe.
- Data visualization libraries that can be used in the VR space.

Summing up, **VR data visualization** answers the question of how to view and process large amounts of data at the same time. Anything that can be imagined can be created – Virtual Reality makes it possible for an analyst to have an entire room full of screens and 3D graphs. Instead of traditional presentation, they can immerse in the data, walk into it, and see walls of the information displayed simultaneously. Thus, it is much easier for decision-makers to act on multi-variable relationships. Thanks to **VR data visualization**, financial information can be communicated as effectively and memorably as possible.

## AR in financial data – AR data visualization

Augmented Reality means bringing data out of the screen and overlaying visuals in the 3D space we live in. Thanks to AR, we get a clearer context of the information. Data navigation and gaining insights are much easier and more intuitive even in situations that involve multiple dimensions or attributes. **AR in financial data** allows a computer-generated 3D model to be superimposed onto a real-world environment in real-time. They can be then manipulated or probed interactively, just like they are part of the real world. **AR data visualization** is a more user-friendly way to perceive and analyze financial information. It enables the user to easily uncover important trends, anomalies, gaps, and patterns that would be impossible to spot using traditional charts, graphs, presentations, and spreadsheets.

Here are some real-life examples of **AR in financial data**.

- Wearing AR devices, analysts and decision-makers can walk around in physical space to see the correlation between variables presented in an interactive format. Gestures are a way to interact with visuals.
- AR platforms that have real-time analytics to allow remote teams to work together on certain financial data. Hundreds of financial data points are displayed in the most interactive way. **AR data visualization** enables analysts to predict maintenance, detect and respond to threats and solve decision-making problems.

Summing up, using **AR in financial data** may solve many issues from a narrow visual angle, navigation, scaling, etc. From financial data visualization point of view, multidimensional systems cause many scaling issues as there is a branch of information presented separately. Augmented Reality is a way to increase visualization system usability.

## Why you should use VR and AR in data visualization?

Virtual and Augmented Reality is now one of the biggest and the most relevant trends in financial data analysis and visualization. VR and AR allow users to see all data at once, enabling a holistic vantage of the data. Such accomplishment is impossible with traditional data visualization based on 2D presentations, graphs, and reports. AR and **VR data visualization** makes cognitive processing of the data faster and more efficient. Users can view data from a different standpoint and data visualization turns from a simple activity into a wholesome experience. The financial industry can lessen the gap between theory and practice and the development in performance is speeded up.

AR and **VR data visualization** is a method to work on data visualization scalability. The technology gives analysts and financial sector professionals a chance to view their datasets holistically with a limitless environment. Data can be accessed and analyzed by multiple people at the same time which makes the scale even greater. Increased immersion means increased focus. Multiple positions can be used to communicate data attributes. The 2D barrier is finally broken down and the data can be presented in a multi-dimensional format.

Last but not least, VR and **AR data visualization** is... fun! Users can literally step into the data which makes the process of data visualization interactive and interesting. An exercise of pouring over spreadsheets and reports is now over! Time to start an immersive experience even in the financial industry. You will see the countless benefits really quickly.