

Biological Data Visualization Market Size, Share & Trends Analysis Report By Technique (Sequencing, MRI), By Application, By Platform (Windows, Mac OS), By End-use, By Region, And Segment Forecasts, 2025 - 2030

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Abstracts

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Biological Data Visualization Market Growth & Trends

The global biological data visualization market size is estimated to reach USD 1.03 billion by 2030, registering a CAGR of 8.52% from 2025 to 2030, according to a new report by Grand View Research, Inc. The growing research in genomics and proteomics is one of the major market drivers. Major companies in the market are focusing on strategic initiatives such as new product launches, mergers and acquisitions, and technological collaborations, to increase their share in the biological data visualization market. For instance, in August 2021, DNAnexus, Inc. announced that the standards of the biomedical informatics platform outperformed the online security policy objectives outlined in the U.S. Government's recent executive order. This helped build confidence in the product among NGS end-users and assisted in managing large biomedical information with high security.

The life-science researchers and practitioners rely on visualization techniques for solving a wide range of challenges in understanding and interpreting biological information. Rapid advancements in raw computing power and graphics processing power make visualization of biological information easier on commodity desktop platforms. Besides, the increase in the adoption of Next-Generation Sequencing (NGS) techniques and other biological data-acquisition approaches, which generate new types

and sets of data, necessitates the demand for visualization tools among researchers and scientists.

For instance, Spain has become an attractive and competitive market for NGS data analysis. In September 2020, the Government of Spain allocated USD 29.5 million for precision and genomic medicine, and data science. This investment aims to enhance the capacity of the regional health system and use scientific knowledge as a tool to embrace economic competitiveness by contributing to innovation. The total funds allocated for 2 years (2020-22) is USD 89.33 million. The segment of investment includes genomic medicine, big data health, predictive medicine, advanced and personalized therapy, and precision medicine training.

The COVID-19 pandemic resulted in increased usage of sequencing information analysis platform plays a crucial role in the detection and tracing of the virus and support the growth of the biological data visualization market. Various sequencing surveillance platforms and solutions are being deployed for the effective diagnosis of infection. Furthermore, key stakeholders are undertaking various strategic initiatives, such as collaborations and licensing for collaborative efforts, to combat the disease. For instance, in February 2021, the Canadian government invested USD 53 million to implement a multilayered approach to the diagnosis of COVID-19. The Canadian government will utilize genome sequencing and analysis technologies to achieve desired outcomes.

Technological advancements in analytical and business intelligence solutions coupled with rapid growth in big data and the rise in the need for faster decision-making are a few other drivers boosting the demand for visualization tools in the bioinformatics field. The sheer amount of high-dimensional biological information needs machine learning and advanced data visualization approaches so that it can be easily understandable by human experts.

On the other hand, the biological data visualization market is fragmented in nature with a substantial number of companies ranging from large global players to small mid-sized local or regional players. Some of the public key vendors operating in the market include QIAGEN, ThermoFisher Scientific Inc., Agilent Technologies, Inc., Becton-Dickinson and Company, and 3M.

Biological Data Visualization Market Report Highlights

By technique, sequencing is estimated to have a major market share in

2024. The large amount of information generated through sequencing needs data management solutions and platforms, resulting in high demand for tools & algorithms for biological research.

By application, the genomic analysis segment is anticipated to have a significant share of the biological data visualization market in 2024. Certain factors such as increasing investment for the development of new platforms, a positive approach toward the adoption of analytical solutions, and technological innovations are leveraging new product launches in this application.

By platform, Mac OS is anticipated to be the fastest-growing segment in the biological data visualization market. Since the operating system has a user-friendly and simple design with better in-built security features for protecting information.

By end-user, the academic research segment is estimated to have a majority of the market share in 2024. This is attributed to the use of next-generation sequencing (NGS), and X-ray crystallography methods during their research to implement data visualization tools. Thus, an increase in the implementation of such techniques in these facilities drives the demand for visualization tools to precisely observe their research findings in biological research.

North America is considered to be a dominating regional market for biological data visualization in 2024 owing to the local presence of key players in the region and a significant number of research projects related to genomic analysis and systems biology.

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