

Bioinformatics Market Size, Growth, Trends, Market Analysis Report, 2024-2031

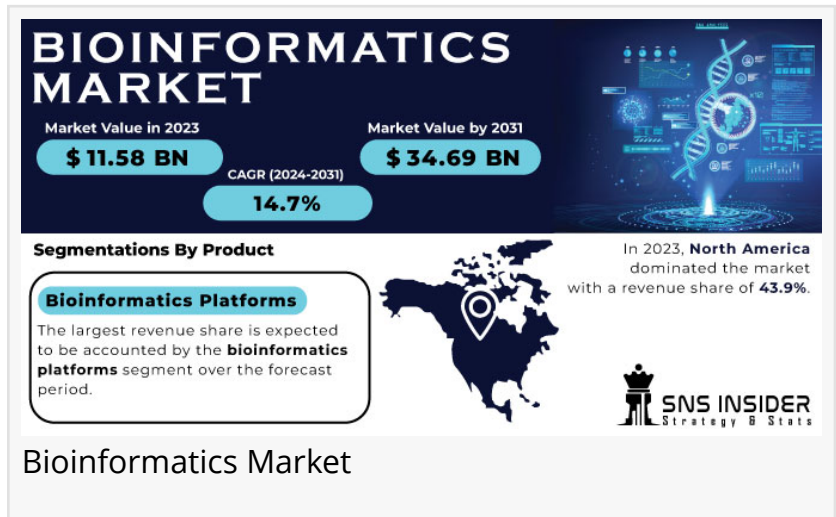
Bioinformatics Market to Surpass USD 34.69 Billion by 2031 Owing to Rising Demand for Drug Discovery and Genomics Research

AUSTIN, TEXAS, UNITED STATES, June 12, 2024 /EINPresswire.com/ -- The [Bioinformatics market](#) is experiencing a surge, driven by the increasing demand for nucleic acid and protein sequencing, along with rising initiatives from private and government organizations to bolster research

activities in proteomics and genomics. This trend is expected to propel the market to a staggering valuation of USD 34.69 Billion by 2031, reflecting a robust compound annual growth rate (CAGR) of 14.7% throughout the forecast period (2024-2031).

List of Bioinformatics Companies Profiled in Report:

- 3rd Millennium Inc
- Affymetrix
- Agilent Technologies Inc.
- BGI Group
- BIOVIA
- BioWisdom Ltd
- Celera Corporation
- DNAnexus Inc.
- Eurofins Scientific
- Fios Genomics
- IBM
- Illumina Inc.
- Life Sciences
- Life Technologies Corporation
- NeoGenomics Laboratories
- Partek Inc.



- Perkin Elmer Inc.
- Qiagen
- Seven Bridges Genomics
- Source BioScience
- Thermo Fisher Scientific Inc.
- Waters Corporation

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Escalating Research in Molecular Biology and Drug Discovery

Bioinformatics plays a pivotal role in unraveling complex biological pathways and identifying potential drug targets, driving the market's growth in tandem with research advancements in molecular biology and drug discovery.

A prime example of such market growth is the establishment of the Center for Bioinformatics and Computational Biology (CBCB) at the National Institute of Technology, Rourkela (NIT-R) in India (July 2021). This center leverages big data analysis to develop innovative disease biomarkers and therapeutic strategies, highlighting the impact of bioinformatics adoption in developing nations.

Furthermore, the rising number of new molecular entities (NMEs) approved by the US FDA underscores the crucial role of bioinformatics in drug discovery. The data published in Mid-Year Review: New Drug Approvals in June 2021 demonstrates a steady rise in NME approvals, indicating the increasing reliance on bioinformatics tools for efficient drug design and development.

The introduction of user-friendly bioinformatics software like RasMol, AUTODOCK, BALL, and Bioclipse further bolsters the market. These tools empower researchers with efficient and accurate means for biomarker discovery and toxicity detection during early drug development stages. Notably, the launch of powerful drug development software for oncology by My Intelligent Machines (MIMs) in June 2022 exemplifies this trend.

Market Segmentation

By Product

- Bioinformatics Platforms
 - Sequence Analysis Platforms
 - Sequence Manipulation Platforms
 - Sequence Alignment Platforms
 - Structural and Functional Analysis Platforms
 - Others
- Bioinformatics Services

- Sequencing
 - Database Management
 - Data Analysis
 - Others
-
- Biocontent Management
 - Generalized Biocontent
 - Specialized Biocontent

By Application

- Genomics
- Molecular Phylogenetics
- Metabolomics
- Proteomics
- Transcriptomics
- Cheminformatics and drug designing
- Others

Sequence Analysis Platform Dominates

Within the bioinformatics market, the sequence analysis platform segment is anticipated to hold a dominant position throughout the forecast period. Sequence analysis is instrumental in comprehending the features, functions, structure, and evolution of DNA, RNA, and peptide sequences.

Advancements in NGS technologies, particularly concerning throughput, read length, and accuracy, have revolutionized microbiome research.

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Impact of Global Disruptions

Russia-Ukraine War: The ongoing war injects a layer of geopolitical complexity into global markets, including genomics services. The impact hinges on several factors, with both positive and negative possibilities. The conflict could disrupt the procurement of essential components, potentially hindering the operations of genomics service providers reliant on these regions' supply chains.

Geopolitical tensions may impede international collaboration in genomics research, limiting the exchange of knowledge and resources critical for advancements in the field.

Regional Developments: North America Leads the Market

- North America is currently the frontrunner in the bioinformatics market, and this dominance is expected to persist throughout the forecast period.
- The region is witnessing a rise in research activities pertaining to nucleic acids, genetic engineering, proteomics, and metagenomics, fueled by growing awareness about biological data. The increasing adoption of innovative molecular biology procedures in the region underscores

its commitment to cutting-edge research.

- The prevalence of extensive research studies in genomics and proteomics further bolsters the market in North America.

The United States plays a pivotal role in North American dominance

The US government and private organizations like the National Institutes of Health (NIH) and Gates and Melinda Foundation provide substantial funding for developing bioinformatics tools and devices to manage the vast amounts of data generated for disease prognosis and treatment options.

An example of such advancements is the agreement between ATCC and Qiagen in April 2022. This collaboration aims to establish a database leveraging sequencing data from ATCC's collection of biological materials. This database will empower the development and delivery of valuable digital biology content for the biotechnology and pharmaceutical industries, ultimately aiding in the discovery of new disease pathways and therapeutic targets.

Recent Developments: Shaping the Future

- Illumina and AstraZeneca joined forces to establish a strategic research collaboration. This partnership leverages the strengths of AI-based genome interpretation tools and industry knowledge to accelerate the identification of therapeutic targets. The collaboration aims to assess the effectiveness of combining both parties' technologies in enhancing target discovery yields and confidence.
- Thermo Fisher Scientific emerged as a founding sponsor of the B+Labs incubator, a collaborative effort with the Pennsylvania Biotechnology Center (PABC). This initiative aims to accelerate the path to commercialization for promising life science enterprises.

Key Takeaways: Unlocking the Potential of Bioinformatics

- The bioinformatics market is poised for significant growth due to the ever-increasing demand for novel drug discovery solutions.
- Technological breakthroughs in genomics, such as faster sequencing times, will further propel the bioinformatics market.
- The integration of bioinformatics tools with data management and analysis capabilities offers a comprehensive solution for researchers.
- The growing research focus on various 'omics' fields, including proteomics and genomics, will drive the need for advanced data storage and analysis solutions offered by the bioinformatics market.
- North America is expected to remain the frontrunner in the bioinformatics market due to its commitment to research advancements and high investment levels.

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Table of Content

Chapter 1 Introduction

Chapter 2 Research Methodology
Chapter 3 Bioinformatics Market Dynamics
Chapter 4 Impact Analysis (COVID-19, Ukraine- Russia war, Ongoing Recession on Major Economies)
Chapter 5 Value Chain Analysis
Chapter 6 Porter's 5 forces model
Chapter 7 PEST Analysis
Chapter 8 Bioinformatics Market Segmentation, By Product
Chapter 9 Bioinformatics Market Segmentation, By Application
Chapter 10 Regional Analysis
Chapter 11 Company profile
Chapter 12 Competitive Landscape
Chapter 13 Use Case and Best Practices
Chapter 14 Conclusion
Continued...

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