

Bioinformatics: Technologies and Global Markets

Market Research Report | 2023-11-07 | 481 pages | BCC Research

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Report description:

Description

Report Scope:

The scope of the study encompasses the global bioinformatics market based on geography, category and application. It provides a detailed analysis of recent advances in omic technologies and examines their impact on the bioinformatics market. It discusses the ways in which bioinformatics has been utilized by the pharma and biotech industries to streamline the research and development (R&D) process and improve efficiencies. It provides a detailed analysis of the leading countries, companies and technologies that will drive the field forward.

By solution, hardware application, sequencing services and platform, end user, and geography, the market has been segmented into the North America, Europe, Asia-Pacific and Rest of the World (RoW) regions. Detailed analysis of major countries such as the U.S., Germany, the UK, Italy, France, Spain, Japan, China, India, Brazil, Mexico, GCC countries and Australia will be covered in each country's respective regional segment. In the market valuations, 2022 serves as the base year, while estimated values are provided for 2023 and forecast values for 2028.

Report Includes:

- 123 data tables and 90 additional tables
- An up-to-date overview and industry analysis of the global bioinformatics market
- Analyses of the global market trends, with historical market revenue data (sales figures) from 2020 to 2022, estimates for 2023, and projections of compound annual growth rates (CAGRs) through 2028
- Estimation of the market size and revenue forecast for the global bioinformatics market, and corresponding market share analysis based on solution, hardware type, application, sequencing services and platforms, end use, and region

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- In-depth information (facts and figures) concerning the major factors influencing the progress of this market (drivers, restraints, opportunities, and industry-specific challenges) with respect to specific growth trends, upcoming prospects, and contributions to the overall market
- Coverage of information on the latest developments in the bioinformatics tools and services market, innovations in bioinformatics solutions for drug discovery, and details of antibody-based drug discovery and developments
- Impact analysis of various region specific and industry specific macroeconomic variables on global bioinformatics market
- Identification of the innovative companies and technologies that are moving forward in search for elusive pieces of information that will improve diagnoses and treatments of diseases with precision medicines
- Understanding of the importance of ESG in the market for bioinformatics tools and services, consumer attitudes towards sustainability, risks & opportunity assessment, ratings and matrices, and ESG practices in global bioinformatics marketplace
- A look at the major vendors in the global bioinformatics market, and analyze the structure of this industry with respect to company market shares, venture fundings, and recent M&A activities
- Patent analysis covering significant allotments of recent patent grants across each major category
- Profile descriptions of the leading market players

Executive Summary

Summary:

The global market for bioinformatics was valued at \$REDACTED billion in 2022. Among application segments, the genomics segment accounted for the highest market share in the global market for bioinformatics in 2022. This segment recorded \$REDACTED billion in revenue in 2022, and it is estimated to grow at a compound annual growth rate (CAGR) of REDACTED% during the forecast period. The high growth rate of this segment is attributed to factors such as demand for antibodies research, expanding COVID-19 research, the epidemics of other infectious diseases, and an increase in R&D efforts among key companies to develop new data about genetic consequences to address the rise in various infectious diseases globally. Moreover, the advancement of biological discoveries will result in the need for more molecular targets to be detected by their antibodies and the use of different bioinformatics tools. For example, publicly available datasets of human BCR - Breakpoint cluster region protein were selected to represent different sequencing platforms such as Illumina MiSeq, Roche REDACTED and Ion Torrent. Sample preparation protocols, data quality and disease status information are also required during sequencing. The use of different tools manufactured by key players is likely to propel the growth of the bioinformatics market during the forecast period.

Genomics continues to attract significant investment from public and private funds, which has fueled the development of subdisciplines such as chemogenomics, metagenomics, pharmacogenomics and toxicogenomics. Further advances in high-throughput technologies have led to a decline in sequencing costs and an increase in data generation. The rapid evolution of cloud-based solutions has helped address some IT infrastructure issues relating to data storage and retrieval, although challenges remain with respect to data security.

Proteomics is increasingly gaining pace and offers considerable potential, particularly to the pharma industry. As the vast number of approved drugs act directly on protein targets, the development of biologics and orphan drugs is high on pharma radar. For instance, according to the Journal of Proteome Research, the Human Proteome Organization (HUPO) has a working group, the Proteomics Standards Initiative (PSI), whose mission is to define data standards for proteomics. HUPO is also exploring the application of proteomics for the purpose of integrating it with genomics and transcriptomics across the life sciences and biomedical research. Advances in proteomics and the interpretation of multiplexed proteomics data will continue to attract investment from the industry.

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