

# **Computational Biology Market Size, Trends, Analysis, and Outlook By Service (Databases, Infrastructure & Hardware, Software Platforms), By Application (Drug Discovery & Disease Modelling, Preclinical Drug Development, Clinical Trials, Computational Genomics, Computational Proteomics, Others), By End-User (Academic & Research, Industrial), by Region, Country, Segment, and Companies, 2024-2030**

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## **Abstracts**

The global Computational Biology market size is poised to register 15.15% growth from 2024 to 2030, presenting significant growth prospects for companies operating in the industry. The industry study analyzes the global Computational Biology market across By Service (Databases, Infrastructure & Hardware, Software Platforms), By Application (Drug Discovery & Disease Modelling, Preclinical Drug Development, Clinical Trials, Computational Genomics, Computational Proteomics, Others), By End-User (Academic & Research, Industrial).

The computational biology market is witnessing rapid growth due to increasing demand for bioinformatics tools, advancements in genomics and proteomics research, and rising applications in drug discovery, systems biology, and personalized medicine.

Computational biology encompasses the application of computational algorithms, mathematical models, and statistical methods to analyze biological data, predict molecular interactions, and simulate biological processes at the molecular and cellular levels, enabling researchers to gain insights into complex biological systems and unravel the mechanisms of disease. With a focus on data-driven discovery and precision medicine, bioinformaticians, computational biologists, and biomedical

researchers are utilizing bioinformatics software, computational modeling platforms, and machine learning algorithms to analyze omics data, predict drug targets, and design novel therapeutics with improved efficacy and safety profiles, driving innovation in computational biology and biomedical informatics research.

## Computational Biology Market Drivers, Trends, Opportunities, and Growth Opportunities

This comprehensive study discusses the latest trends and the most pressing challenges for industry players and investors. The Computational Biology market research analyses the global market trends, key drivers, challenges, and opportunities in the industry. In addition, the latest Future of Computational Biology survey report provides the market size outlook across types, applications, and other segments across the world and regions. It provides data-driven insights and actionable recommendations for companies in the Computational Biology industry.

## Key market trends defining the global Computational Biology demand in 2024 and Beyond

The industry continues to remain an attractive hub for opportunities for both domestic and global vendors. As the market evolves, factors such as emerging market dynamics, demand from end-user sectors, a growing patient base, changes in consumption patterns, and widening distribution channels continue to play a major role.

## Computational Biology Market Segmentation- Industry Share, Market Size, and Outlook to 2030

The Computational Biology industry comprises a wide range of segments and sub-segments. The rising demand for these product types and applications is supporting companies to increase their investment levels across niche segments. Accordingly, leading companies plan to generate a large share of their future revenue growth from expansion into these niche segments. The report presents the market size outlook across segments to support Computational Biology companies scaling up production in these sub-segments with a focus on expanding into emerging countries.

## Key strategies adopted by companies within the Computational Biology industry

Leading Computational Biology companies are boosting investments to capitalize on untapped potential and future possibilities across niche market segments and surging demand conditions in key regions. Further, companies are leveraging advanced

technologies to unlock opportunities and achieve operational excellence. The report provides key strategies opted for by the top 10 Computational Biology companies.

### Computational Biology Market Study- Strategic Analysis Review

The Computational Biology market research report dives deep into the qualitative factors shaping the market, empowering you to make informed decisions-

**Industry Dynamics:** Porter's Five Forces analysis to understand bargaining power, competitive rivalry, and threats that impact long-term strategy formulation.

**Strategic Insights:** Provides valuable perspectives on key players and their approaches based on comprehensive strategy analysis.

**Internal Strengths and Weaknesses:** Develop targeted strategies to leverage strengths, address weaknesses, and capitalize on market opportunities.

**Future Possibilities:** Prepare for diverse outcomes with in-depth scenario analysis. Explore potential market disruptions, technology advancements, and economic changes.

### Computational Biology Market Size Outlook- Historic and Forecast Revenue in Three Cases

The Computational Biology industry report provides a detailed analysis and outlook of revenue generated by companies from 2018 to 2023. Further, with actual data for 2023, the report forecasts the market size outlook from 2024 to 2030 in three case scenarios- low case, reference case, and high case scenarios.

### Computational Biology Country Analysis and Revenue Outlook to 2030

The report analyses 22 countries worldwide including the key driving forces and market size outlook from 2021 to 2030. In addition, region analysis across Asia Pacific, Europe, the Middle East, Africa, North America, and South America is included in the study. For each of the six regions, the market size outlook by segments is forecast for 2030.

### North America Computational Biology Market Size Outlook- Companies plan for

focused investments in a changing environment

The US continues to remain the market leader in North America, driven by a large consumer base, the presence of well-established providers, and a strong end-user industry demand. Leading companies focus on new product launches in the changing environment. The US economy is expected to grow in 2024 (around 2.2% growth in 2024), potentially driving demand for various Computational Biology market segments. Similarly, Strong end-user demand is encouraging Canadian Computational Biology companies to invest in niche segments. Further, as Mexico continues to strengthen its trade relations and invest in technological advancements, the Mexico Computational Biology market is expected to experience significant expansion, offering lucrative opportunities for both domestic and international stakeholders.

Europe Computational Biology Market Size Outlook-Companies investing in assessing consumers, categories, competitors, and capabilities

The German industry remains the major market for companies in the European Computational Biology industry with consumers in Germany, France, the UK, Spain, Italy, and others anticipated to register a steady demand throughout the forecast period, driving the overall market prospects. In addition, the proactive approach of businesses in identifying and leveraging new growth prospects positions the European Computational Biology market for an upward trajectory, fostering both domestic and international interest. Leading brands operating in the industry are emphasizing effective marketing strategies, innovative product offerings, and a keen understanding of consumer preferences.

Asia Pacific Computational Biology Market Size Outlook- an attractive hub for opportunities for both local and global companies

The increasing prevalence of indications, robust healthcare expenditure, and increasing investments in healthcare infrastructure drive the demand for Computational Biology in Asia Pacific. In particular, China, India, and South East Asian Computational Biology markets present a compelling outlook for 2030, acting as a magnet for both domestic and multinational manufacturers seeking growth opportunities. Similarly, with a burgeoning population and a rising middle class, India offers a vast consumer market. Japanese and Korean companies are quickly aligning their strategies to navigate changes, explore new markets, and enhance their competitive edge. Our report utilizes in-depth interviews with industry experts and comprehensive data analysis to provide a comprehensive outlook of 6 major markets in the region.

Latin America Computational Biology Market Size Outlook- Continued urbanization and rising income levels

Rising income levels contribute to greater purchasing power among consumers, spurring consumption and creating opportunities for market expansion. Continued urbanization and rising income levels are expected to sustainably drive consumption growth in the medium to long term.

Middle East and Africa Computational Biology Market Size Outlook- continues its upward trajectory across segments

Robust demand from Middle Eastern countries including Saudi Arabia, the UAE, Qatar, Kuwait, and other GCC countries supports the overall Middle East Computational Biology market potential. Fueled by increasing healthcare expenditure of individuals, growing population, and high prevalence across a few markets drives the demand for Computational Biology.

Computational Biology Market Company Profiles

The global Computational Biology market is characterized by intense competitive conditions with leading companies opting for aggressive marketing to gain market shares. The report presents business descriptions, SWOT analysis, growth strategies, and financial profiles. Leading companies included in the study are Certara, Chemical Computing Group ULC, Compugen Ltd, Dassault Systèmes SE, Genedata AG, Insilico Biotechnology AG, Instem Plc, Nimbus Discovery LLC, Rosa & Co. LLC, Schrodinger, Simulation Plus Inc, Strand Life Sciences

Recent Computational Biology Market Developments

The global Computational Biology market study presents recent market news and developments including new product launches, mergers, acquisitions, expansions, product approvals, and other updates in the industry.

Computational Biology Market Report Scope

Parameters: Revenue, Volume Price

Study Period: 2023 (Base Year); 2018- 2023 (Historic Period); 2024- 2030 (Forecast)

Period)

Currency: USD; (Upon request, can be provided in Euro, JPY, GBP, and other Local Currency)

Qualitative Analysis

Pricing Analysis

Value Chain Analysis

SWOT Profile

Market Dynamics- Trends, Drivers, Challenges

Porter's Five Forces Analysis

Macroeconomic Impact Analysis

Case Scenarios- Low, Base, High

Market Segmentation:

By Service

Databases

Infrastructure & Hardware

Software Platforms

By Application

Drug Discovery & Disease Modelling

-Target Identification

-Target Validation

-Lead Discovery

-Lead Optimization

Preclinical Drug Development

-Pharmacokinetics

-Pharmacodynamics

Clinical Trials

-Phase I

-Phase II

-Phase III

-Phase IV

Computational Genomics

Computational Proteomics

Others

By End-user

Academic & Research

Industrial

Geographical Segmentation:

North America (3 markets)

Europe (6 markets)

Asia Pacific (6 markets)

Latin America (3 markets)

Middle East Africa (5 markets)

## Companies

Certara

Chemical Computing Group ULC

Compugen Ltd

Dassault Systèmes SE

Genedata AG

Insilico Biotechnology AG

Instem Plc

Nimbus Discovery LLC

Rosa & Co. LLC

Schrodinger

Simulation Plus Inc

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Formats Available: Excel, PDF, and PPT



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