

Global Biosimulation Market - Forecasts from 2019 to 2024

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Abstracts

Global biosimulation market is projected to grow at a CAGR of 16.54% during the forecast period, reaching a total market size of US\$4,673.474 million in 2024 from US\$1,865.475 million in 2018. Owing to the increasing number of diseases and rising aging population, there is a growing need to reduce the amount and time spent on physical drug development. This, in turn, is leading to a surge in adoption of biosimulation solutions, as huge investment and time required for new drug development are brought down significantly. In addition, focus on medical research and development across emerging economies combined with technological advancement in drug development processes is further contributing to the growth of this market. With constant emergence of new diseases, personalized drug delivery has gained significant traction, with greater focus on population health management. This is creating a favourable regulatory environment in developed economies in the North America and European region. Moreover, there has been a significant growth in the use of biologicals and generic drugs, leading to major drug enterprises adopting biosimulation solutions for different development stages. Besides, increasing focus on personal healthcare and emergence of new diseases are increasing the scope for biosimulation solutions. Many companies are using these solutions for the development of new drugs as there has been a surge in the drug delivery for personal healthcare. In addition, the government policies and investment being done in research and development of new drugs are also contributing to the market growth. For instance, according to the World Bank, the governments across the world have increased healthcare expenditure. In 2009, global current healthcare expenditure per capita was US\$868.156, which has increased to US\$1,026.243 in 2016. However, shortage of skilled labour in developed countries and lack of accuracy of the biosimulation system is hampering the market growth.

The biosimulation market is segmented based on type into software and services. The

software segment is expected to hold the largest market size throughout the forecast period. The growing adoption of biosimulation software in clinical drug trials coupled with features like ease in modelling and target identification of drug is propelling the market growth. Moreover, rapid virtualization augments the demand for biosimulation software solutions in virtual drug development. With the assistance of this software, the developers can model different clinical trials to reduce the complexity, increase reliability and obtain information, and in some cases, it replaces the usage of clinical human trials. The regulatory agencies are fully encouraging the modelling and simulation methods as a part of their drug development processes and thereby contributing to the market growth. Growing need to augment the predictability of trials is escalating the demand for biosimulation software to find out the drug interactions and drug failure while reducing the complexity of clinical trials.

By application, the global biosimulation market is segmented into drug development, drug discovery, and others. Drug development segment of the global biosimulation market is projected to grow at a healthy CAGR during the forecast period. Owing to the increasing number of chronic diseases like HIV, cancer, asthma, and cardio vascular diseases worldwide bolsters the need for efficient drug development globally. Emerging trend of virtualization of multiple aspects of R&D through the application of silico methodologies and computational and analytical capabilities is a significant trend in drug development. Rising number of partnerships among research laboratories of Pharma companies, academic institutions and government research organisations is propelling the growth of this segment. Furthermore, spurring demand for wearable devices due to growing awareness about good health and fitness coupled with growing telehealth industry complements drug development via biosimulation.

By end-user industry, the global biosimulation market is segmented as pharmaceutical companies, academic institutions, research organizations, and others. Pharmaceutical companies segment will account for significant share in the market and is anticipated to grow at substantial rate in the coming years. This is due to increasing adoption of in silico models for developing new drugs in the areas such as cancer, diabetes, and central nervous system diseases. Companies are investing heavily in R&D activities to prolong the lifecycles of patent-expiring drugs by incorporating biosimulation approach to develop drug-variants. For instance, Rhenovia Pharma Ltd., a biotech company, utilized in silico models to identify better treatment approaches related to bipolar disorders, depression, schizophrenia, and Alzheimer's disease.

Geographically, North America is expected to hold significant share in the market on account of early adoption of technology in countries like USA and Canada. The U.S.

has also strong budget support, and patent protection laws contributing to the overall drug development market. The high costs associated with the drug development has led to government agencies like the U.S. Food and Drug Administration creating action plan for driving the innovation in scientific processes for the development and manufacturing of medical products. There is also additional focus being given to usage of predictive modelling tools for drug development processes. The U.S. is also one of the biggest market for Drug Discovery globally. Expanding budget allocation for research and development by major players in the region is contributing to the market growth. The synergy and collaboration between different stakeholders ensures robust medical research capability.

Major industry players profiled as part of the report are Certara USA, Inc., Advanced Chemistry Development, Inc., Schrodinger, LLC, Simulations Plus, Chemical Computing Group Inc., Dassault Systemes BIOVIA and Physiomics PLC among others.

Segmentation

The global biosimulation market has been analyzed through following segments:

By Type:

Software

Services

By Application:

Drug Development

Drug Discovery

Others

By End-User Industry:

Pharmaceutical Companies

Academic Institutions

Research Organizations

Others

By Geography

North America

By Type

By Application

By End-user industry

By Countries

USA

Canada

Mexico

South America

By Type

By Application

By End-user industry

By Countries

Brazil

Argentina

Others

Europe

By Type

By Application

By End-user industry

By Countries

Germany

France

UK

Spain

Others

Middle East and Africa

By Type

By Application

By End-user industry

By Countries

Israel

Saudi Arabia

Others

Asia Pacific

By Type

By Application

By End-user industry

By Countries

China

Japan

South Korea

India

Others

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*List is not exhaustive

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