

Biosimulation Market - Forecasts from 2021 to 2026

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Abstracts

The global biosimulation market is estimated to grow at a CAGR of 13.55% to reach US\$5,680.595 million in 2026 from US\$2,333.475 million in 2019. Biosimulation refers to a computer-aided program that simulates biological processes and systems. It is being used extensively for pharmaceutical drug development to mimic the flow of diseases and then running the designed medicine through the simulation to observe its impact on the disease and the body. The increase in the investment in R&D has been a major reason for the growth in the biosimulation market.

According to WHO, the 2020 report analyses the global health spending by countries around the world from the year 2000 to 2018. According to the report, the global spending on health has increased drastically between 2000 and 2018 and it has reached US\$ 8.3 trillion i.e., 10% of the global GDP. The out-of-pocket spending has also increased especially in the low- and middle-income countries, thereby representing a share greater than 40% of the total health spending in 2018.

The pharmaceutical companies' segment will account for a significant market share and is anticipated to grow at a substantial rate in the coming years. This is due to the 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 a 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.

Market Restraints.

There is a lack of standardization in biosimulation.

Biosimulation uses a variety of models, tools, and languages for processing and capturing many different aspects of biological processes. The bodies governing it are yet to standardize the use of biosimulation technologies in the process of drug development and discovery.

The shortage of skilled labor in developed countries is another reason hampering the growth in the region.

North America to witness significant growth.

The North American region will witness significant growth in the market of biosimulation. The growth in the biotechnology and pharmaceutical industry, increase in the R&D investment by these pharmaceutical and biotechnology companies, and increase in the use of personalized medicines are some of the major factors driving growth in the market. Moreover, the U.S. Food and Drug Administration (FDA) firmly recommends simulation processes in drug development and discovery, thereby boosting growth in the region.

Market Developments:

In March 2021 Certara announced the acquisition of AUTHOR!. This company has regulatory and biostatistical expertise in a huge range of therapeutic areas, including cardiovascular diseases, oncology, and rare diseases.

In February 2021, SimulationPlus announced its distribution agreement with Mosim, China's leading biopharmaceutical services company. It will distribute MonolixSuite, the Lixoft division's pharmacodynamic (PK/PD) modeling platform, in China.

In February 2021, Schrodinger announced that it had expanded its collaboration agreement with Google Cloud. This collaboration will help accelerate the speed and capacity of its physics-based computational platform for the discovery of drugs and materials science.

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In September 2020, INSILICO announced the launch of a new product, INSILICO Designer for Digital-Twin-based Design of Experiments. The use of Insilico designer reduces the experimental burden and provides quality predictions using machine learning applications.

- In August 2020, Certara a global leader in biosimulation announced its plan for the

development of a new biosimulation platform for COVID-19 vaccines and major enhancements in its Immunogenicity and Immuno-oncology QRS platforms. Certara's mechanistic model helped the researchers to examine how a drug or a biologic is handled by the human body in computer-generated, virtual patients.

The rise in the demand for the biosimulation market has compelled major players such as Certara and Simulation Plus to focus on enhancing their global presence by adopting inorganic growth strategies.

Impact of COVID.

The market for biosimulation has been growing during the pandemic. Due to an emergency, the market has been driving towards developing drugs to cure this disease that has killed millions of people worldwide. The healthcare industry has therefore continued to grow during these adverse conditions.

Key Players:

The major players in the market of biosimulation are using various strategies to stay ahead of each other, such as new product launches, mergers, and acquisitions. The major companies in the market are Rhenovia Pharma, Accelrys, Certara, Genedata, Leadscope, Compugen, Archimedes, Simulations Plus Inc., Schrodinger Inc., and Insilico Biotechnology. Artificial Intelligence and Machine Learning is extensively being used by these major players to gain better results. Therefore, technological advancements will help grow the biosimulation market further over the forecast period.

Segmentation

By Type

Software

Services

By Application

Drug Development

Drug Discovery

Others

By End-User

Pharmaceutical Companies

Academic Institutions

Research Organizations

Others

By Geography

North America

U.S.

Canada

Mexico

South America

Brazil

Argentina

Colombia

Others

Europe

U.K

Germany

Italy

France

Netherlands

Spain

Others

Middle East and Africa

Israel

South Africa

Saudi Arabia

Others

Asia-Pacific

China

Japan

Australia

South Korea

India

Others

*Note: The report will be dispatched in 2 business days.

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