

# Al for Drug Discovery and Development Market Demand Analysis and Opportunity Outlook 2030 | IBM, Google, Microsoft

Stay up to date with AI for Drug Discovery and Development Market offered by HTF MI. Check how key trends and emerging drivers are shaping this industry growth.

PUNE, MAHARASHTRA, INDIA, March 12, 2024 /EINPresswire.com/ -- According to HTF Market Intelligence, the Global AI for Drug Discovery and Development market to witness a CAGR of 33.5% during the forecast period (2024-2030). The Latest Released AI for Drug Discovery and



Al for Drug Discovery and Development market

Development Market Research assesses the future growth potential of the AI for Drug Discovery and Development market and provides information and useful statistics on market structure and size.

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The AI for Drug Discovery and Development market size is estimated to increase by USD 4.57 Billion at a CAGR of 33.5% by 2030. The Current market value is pegged at USD 1.58 Billion."

Criag Francis

This report aims to provide market intelligence and strategic insights to help decision-makers make sound investment decisions and identify potential gaps and growth opportunities. Additionally, the report identifies and analyses the changing dynamics and emerging trends along with the key drivers, challenges, opportunities and constraints in the AI for Drug Discovery and Development market. The AI for Drug Discovery and Development market size is estimated to increase by USD 4.57 Billion at a CAGR of 33.5% by 2030. The report includes historic market data from 2024 to 2030. The Current market value

is pegged at USD 1.58 Billion.

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The Major Players Covered in this Report: Microsoft Corporation (United States), Exscientia (United Kingdom), NVIDIA Corporation (United States), Schrödinger (United States), Atomwise, Inc. (United States), BenevolentAI (United Kingdom), NuMedi (United States), Google (United States), Insilico Medicine (United States), BERG LLC (United States), Cloud Pharmaceuticals (United States), Cyclica (Canada), Deep Genomics (Canada), IBM (United States), BIOAGE (United States), Valo Health (United States), Envisagenics (United States), twoXAR (United States), XtalPi (United States), Verge Genomics (United States)

#### Definition:

The AI for drug discovery and development market refers to the use of artificial intelligence (AI) technologies and algorithms in the process of discovering and developing new pharmaceutical drugs. This market encompasses various AI-driven approaches and tools aimed at streamlining and enhancing the drug discovery and development process, from target identification and validation to clinical trials and regulatory approval. AI algorithms analyze biological data, including genomic, proteomic, and metabolomic data, to identify potential drug targets and validate their relevance to disease mechanisms. This helps researchers prioritize targets with the highest therapeutic potential.

#### Market Trends:

- Pharmaceutical companies, biotech firms, and research organizations are increasingly integrating Al-driven approaches into their drug discovery and development processes. This trend is fueled by the growing availability of big data, advancements in machine learning algorithms, and computational power.
- Al enables personalized drug discovery and development by analyzing large datasets to identify patient-specific biomarkers, therapeutic targets, and treatment responses. There is a shift towards developing targeted therapies that address the molecular and genetic characteristics of individual patients.

#### Market Drivers:

- The growing prevalence of chronic diseases, aging populations, and emerging infectious diseases drive the demand for innovative treatments and personalized medicines. Al offers a promising approach to accelerate the discovery of novel therapies and address unmet medical needs.
- Advances in AI, machine learning, natural language processing, and computational biology enable more sophisticated analysis of biological data and complex drug-target interactions. This drives the development of AI-driven platforms with enhanced predictive capabilities and scalability.

### Market Opportunities:

• Al-driven platforms streamline the drug discovery pipeline by automating time-consuming tasks such as target identification, lead optimization, and virtual screening. This reduces

development timelines and lowers costs associated with traditional drug discovery methods.

 Al opens up opportunities for drug discovery in complex disease areas with high unmet medical needs, including rare diseases, neurodegenerative disorders, and oncology. Al-driven approaches enable the identification of novel targets and the development of innovative treatments for these conditions.

# Market Challenges:

- Access to high-quality, curated datasets is crucial for the effectiveness of AI algorithms in drug discovery. However, data integration, standardization, and privacy concerns pose challenges in accessing and utilizing diverse data sources from electronic health records, genomic databases, and clinical trials.
- The black-box nature of some AI models presents challenges in interpreting the underlying decision-making processes. Validating the predictive accuracy and reliability of AI algorithms in real-world settings remains a key challenge for stakeholders in the drug discovery ecosystem.

#### Market Restraints:

• Regulatory agencies are still evolving guidelines for the use of AI in drug discovery and development, posing challenges in navigating compliance requirements and ensuring patient safety. Ethical concerns related to data privacy, bias in AI algorithms, and informed consent also need to be addressed.

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The titled segments and sub-sections of the market are illuminated below:

In-depth analysis of AI for Drug Discovery and Development market segments by Types: Machine Learning, Deep Learning, Supervised Learning, Reinforcement Learning, Unsupervised Learning, Other Machine Learning Technologies, Other Technologies

Detailed analysis of AI for Drug Discovery and Development market segments by Applications: Immuno-oncology, Neurodegenerative diseases W, Cardiovascular diseases, Metabolic diseases, Other Applications

Major Key Players of the Market: Microsoft Corporation (United States), Exscientia (United Kingdom), NVIDIA Corporation (United States), Schrödinger (United States), Atomwise, Inc. (United States), BenevolentAI (United Kingdom), NuMedi (United States), Google (United States), Insilico Medicine (United States), BERG LLC (United States), Cloud Pharmaceuticals (United States), Cyclica (Canada), Deep Genomics (Canada), IBM (United States), BIOAGE (United States), Valo Health (United States), Envisagenics (United States), twoXAR (United States), XtalPi (United States), Verge Genomics (United States)

Geographically, the detailed analysis of consumption, revenue, market share, and growth rate of the following regions:

- The Middle East and Africa (South Africa, Saudi Arabia, UAE, Israel, Egypt, etc.)
- North America (United States, Mexico & Canada)
- South America (Brazil, Venezuela, Argentina, Ecuador, Peru, Colombia, etc.)
- Europe (Turkey, Spain, Turkey, Netherlands Denmark, Belgium, Switzerland, Germany, Russia UK, Italy, France, etc.)
- Asia-Pacific (Taiwan, Hong Kong, Singapore, Vietnam, China, Malaysia, Japan, Philippines, Korea, Thailand, India, Indonesia, and Australia).

# Objectives of the Report:

- -To carefully analyse and forecast the size of the AI for Drug Discovery and Development market by value and volume.
- -To estimate the market shares of major segments of the Al for Drug Discovery and Development market.
- -To showcase the development of the AI for Drug Discovery and Development market in different parts of the world.
- -To analyse and study micro-markets in terms of their contributions to the AI for Drug Discovery and Development market, their prospects, and individual growth trends.
- -To offer precise and useful details about factors affecting the growth of the AI for Drug Discovery and Development market.
- -To provide a meticulous assessment of crucial business strategies used by leading companies operating in the AI for Drug Discovery and Development market, which include research and development, collaborations, agreements, partnerships, acquisitions, mergers, new developments, and product launches.

Global AI for Drug Discovery and Development Market Breakdown by Application (Immuno-oncology, Neurodegenerative diseases W, Cardiovascular diseases, Metabolic diseases, Other Applications) by Offering (Software, Services) by Technology (Machine Learning, Deep Learning, Supervised Learning, Reinforcement Learning, Unsupervised Learning, Other Machine Learning Technologies, Other Technologies) by End User (Pharmaceutical & biotechnology companies, Contract research organizations, Research centers and academic & government institutes) and by Geography (North America, South America, Europe, Asia Pacific, MEA)

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Key takeaways from the AI for Drug Discovery and Development market report:

- Detailed consideration of AI for Drug Discovery and Development market-particular drivers,
   Trends, constraints, Restraints, Opportunities, and major micro markets.
- Comprehensive valuation of all prospects and threats in the
- In-depth study of industry strategies for growth of the AI for Drug Discovery and Development market-leading players.
- Al for Drug Discovery and Development market latest innovations and major procedures.

- Favourable dip inside Vigorous high-tech and market latest trends remarkable the Market.
- Conclusive study about the growth conspiracy of AI for Drug Discovery and Development market for forthcoming years.

# Major questions answered:

- What are influencing factors driving the demand for AI for Drug Discovery and Development near future?
- What is the impact analysis of various factors in the Global AI for Drug Discovery and Development market growth?
- What are the recent trends in the regional market and how successful they are?
- How feasible is AI for Drug Discovery and Development market for long-term investment?

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# Major highlights from Table of Contents:

Al for Drug Discovery and Development Market Study Coverage:

- It includes major manufacturers, emerging player's growth story, and major business segments of AI for Drug Discovery and Development Market Global Trend and Outlook to 2030 market, years considered, and research objectives. Additionally, segmentation on the basis of the type of product, application, and technology.
- Al for Drug Discovery and Development Market Global Trend and Outlook to 2030 Market Executive Summary: It gives a summary of overall studies, growth rate, available market, competitive landscape, market drivers, trends, and issues, and macroscopic indicators.
- Al for Drug Discovery and Development Market Production by Region Al for Drug Discovery and Development Market Profile of Manufacturers-players are studied on the basis of SWOT, their products, production, value, financials, and other vital factors.

Key Points Covered in AI for Drug Discovery and Development Market Report:

- Al for Drug Discovery and Development Overview, Definition and Classification Market drivers and barriers
- Al for Drug Discovery and Development Market Competition by Manufacturers
- Al for Drug Discovery and Development Capacity, Production, Revenue (Value) by Region (2024-2030)
- AI for Drug Discovery and Development Supply (Production), Consumption, Export, Import by Region (2024-2030)
- AI for Drug Discovery and Development Production, Revenue (Value), Price Trend by Type {Machine Learning, Deep Learning, Supervised Learning, Reinforcement Learning, Unsupervised Learning, Other Machine Learning Technologies, Other Technologies}
- Al for Drug Discovery and Development Market Analysis by Application (Immuno-oncology, Neurodegenerative diseases W, Cardiovascular diseases, Metabolic diseases, Other Applications)
- Al for Drug Discovery and Development Manufacturers Profiles/Analysis Al for Drug Discovery and Development Manufacturing Cost Analysis, Industrial/Supply Chain Analysis, Sourcing

Strategy and Downstream Buyers, Marketing

- Strategy by Key Manufacturers/Players, Connected Distributors/Traders Standardization, Regulatory and collaborative initiatives, Industry road map and value chain Market Effect Factors Analysis.

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