

# Artificial Intelligence (ai) In Drug Discovery Market to be Worth \$7.1 Bn by 2030 - Report by Vantage Market Research

*Artificial Intelligence (ai) In Drug Discovery Market Size to Grow by \$7.1 Bn | Revenue Forecast, Company Ranking, Competitive Landscape, Growth Factors*

WASHINGTON, D.C, DISTRICT OF COLUMBIA, UNITED STATES, May 24, 2024 /EINPresswire.com/ -- According to Vantage Market Research the Global [Artificial Intelligence \(ai\) In Drug Discovery Market Size](#) is expected to

reach a value of USD 1.3 Billion in 2022. The Artificial Intelligence (ai) In Drug Discovery Market is projected to

showcase a CAGR of 23.72% from 2023 to 2030 and is estimated to be valued at USD 7.1 Billion by 2030. Artificial Intelligence (AI) in drug discovery is revolutionizing the pharmaceutical industry by accelerating the process of drug development, reducing costs, and increasing the efficiency of finding new therapeutic solutions.

AI technologies, such as machine learning, deep learning, and natural language processing, are being integrated into various stages of drug discovery, from initial screening of drug compounds to predicting drug interactions and optimizing clinical trials. The driving factors of this market include the growing prevalence of chronic diseases, the high costs associated with traditional drug discovery methods, and advancements in AI technologies. The AI in drug discovery market is experiencing substantial growth, driven by the increasing demand for effective and personalized medicines, the need to reduce drug development timelines, and the potential of AI to identify novel drug candidates that were previously unrecognized.

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Market Dynamics



The AI in drug discovery market is characterized by a dynamic interplay of various factors. On the one hand, the increasing incidence of chronic and complex diseases is fueling the demand for more effective and targeted therapeutic solutions. Traditional drug discovery processes are often time-consuming and costly, with a high rate of failure. AI offers a promising alternative by enhancing the speed and accuracy of these processes, thus driving market growth. On the other hand, the integration of AI in drug discovery faces several challenges, including high initial investment costs, a shortage of skilled professionals, and concerns regarding data privacy and security. Despite these hurdles, the market is poised for significant growth, supported by continuous advancements in AI technology and increasing collaborations between pharmaceutical companies and AI solution providers. The competitive landscape is also evolving, with key players focusing on strategic partnerships, mergers, and acquisitions to strengthen their market position and expand their product offerings.

### Top Companies in Global Artificial Intelligence (ai) In Drug Discovery Market

- IBM Watson (U.S.)
- Exscientia (UK)
- GNS Healthcare (U.S.)
- Alphabet (U.S.)
- Benevolent AI (UK)
- BioSymetrics Inc. (Canada)
- Euretos (Netherlands)
- Berg Health (U.S.)
- Atomwise (U.S.)
- Insitro (U.S.)
- Cyclica Inc. (Canada)

To Know an Additional List of Key Players, Request Here to Download a Free Report PDF Brochure: <https://www.vantagemarketresearch.com/artificial-intelligence-ai-in-drug-discovery-market-2220/request-sample>

### Recent Development:

- Google Cloud Launches New AI Tools (May 2023): Google Cloud unveiled two new AI solutions in May 2023: the Target and Lead Identification Suite and the Multiomics Suite. These suites aim to accelerate drug discovery and precision medicine for various institutions.
- Recursion Achieves Milestone with Roche (October 2023): In collaboration with Roche and Genentech, Recursion Pharmaceuticals, a leader in AI-driven drug discovery, identified and validated a promising compound for a specific disease in October 2023. This triggered an option for Roche to enter their Small Molecule Validation Program.
- Continued Investment Growth: The overall investment in AI-powered drug development companies has witnessed significant growth in recent years. While the rapid increase seen in 2021 slowed in 2022, the first quarter of 2023 still indicated strong momentum.

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## Top Trends

Several notable trends are shaping the AI in drug discovery market. One of the most significant trends is the increasing use of AI-driven platforms for virtual screening and molecular modeling, which can rapidly identify potential drug candidates from vast chemical libraries. Another trend is the growing adoption of AI for precision medicine, where AI algorithms analyze genetic and clinical data to develop personalized treatment plans. AI is also being increasingly used to predict drug toxicity and adverse effects early in the drug development process, thereby reducing the risk of late-stage failures. Furthermore, the integration of AI with other emerging technologies, such as big data analytics and blockchain, is enhancing the robustness and security of drug discovery processes. Companies are also focusing on developing AI algorithms that can integrate and analyze multi-omics data, providing deeper insights into disease mechanisms and identifying novel drug targets. These trends are expected to drive the growth of the AI in drug discovery market in the coming years.

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## Top Report Findings

- The global AI in drug discovery market is expected to witness a CAGR of over 23.72% during the forecast period.
- North America dominates the market, followed by Europe and the Asia Pacific.
- AI in drug discovery significantly reduces the time and cost associated with drug development.
- The increasing prevalence of chronic diseases and the need for personalized medicine are major market drivers.
- Data privacy and security concerns remain significant challenges in the market.
- Collaboration between pharmaceutical companies and AI technology providers is a key strategy for market growth.
- Continuous advancements in AI technology are expected to further drive market growth.

## Challenges

Despite the promising potential of AI in drug discovery, the market faces several challenges. One of the primary challenges is the high initial cost of implementing AI technologies. Developing and integrating AI systems requires substantial investment in hardware, software, and skilled personnel. Another significant challenge is the shortage of professionals with expertise in both

AI and drug discovery, which can hinder the effective deployment of AI solutions. Data privacy and security concerns also pose a challenge, as the integration of AI involves handling large volumes of sensitive patient data. Ensuring the accuracy and reliability of AI algorithms is another critical challenge, as any errors in AI predictions can lead to costly and potentially harmful outcomes. Moreover, regulatory hurdles and the lack of standardized protocols for AI in drug discovery can slow down the adoption of these technologies.

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## Opportunities

The AI in drug discovery market presents numerous opportunities for growth and innovation. One of the most significant opportunities lies in the development of AI-driven precision medicine. By analyzing genetic, clinical, and lifestyle data, AI can help develop highly personalized treatment plans that improve patient outcomes. Another promising opportunity is the use of AI to repurpose existing drugs for new therapeutic indications, which can significantly reduce development timelines and costs. Collaborations and partnerships between pharmaceutical companies, AI technology providers, and academic institutions also present opportunities for sharing knowledge, resources, and expertise, driving innovation in the field. Additionally, the integration of AI with other emerging technologies, such as blockchain and big data analytics, can enhance the security and efficiency of drug discovery processes. The growing adoption of AI in emerging markets, particularly in the Asia Pacific region, presents another significant opportunity for market expansion.

## Key Questions Answered in the Report

- \* What is the current market size of AI in drug discovery, and what is its projected growth rate?
- \* What are the primary driving factors for the AI in drug discovery market?
- \* What are the major challenges faced by the AI in drug discovery market?
- \* Which region holds the largest market share, and which region is expected to grow the fastest?
- \* Who are the key players in the AI in drug discovery market, and what are their strategies?
- \* What are the latest trends in the AI in drug discovery market?
- \* How is AI being used to improve precision medicine and personalized treatment?
- \* What are the potential opportunities for growth and innovation in the AI in drug discovery market?

Browse Market data Tables and Figures spread through 149 Pages and in-depth TOC on Artificial Intelligence (ai) In Drug Discovery Market Forecast Report:

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## Global Artificial Intelligence (ai) In Drug Discovery Market Segmentation

### By Application

- Drug Optimization & Repurposing
- Preclinical Testing
- Other Applications

### By Therapeutic Area

- Oncology
- Neurodegenerative Diseases
- Cardiovascular Diseases
- Metabolic Diseases
- Infectious Diseases
- Other Areas

### By Component

- Software
- Hardware
- Services

### Regional Analysis:

The Asia Pacific region is emerging as a significant player in the AI in drug discovery market. This growth is driven by several factors, including the increasing prevalence of chronic diseases, a growing elderly population, and rising healthcare expenditures. Countries such as China, Japan, and India are investing heavily in AI technologies and digital health infrastructure to improve healthcare outcomes and reduce costs. The region's large and diverse patient population provides a rich source of data for AI algorithms, enhancing the accuracy and effectiveness of AI-driven drug discovery.

Additionally, the Asia Pacific region is witnessing a surge in collaborations and partnerships between local pharmaceutical companies and global AI technology providers, further driving market growth. Governments in the region are also supporting AI initiatives through favorable policies and funding, creating a conducive environment for innovation. However, challenges such as data privacy concerns, a shortage of skilled professionals, and varying regulatory frameworks across different countries need to be addressed to fully realize the potential of AI in drug discovery in the Asia Pacific region.

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