

# **AI for Drug Discovery Market By Offering (Software, Services);By Technology (Machine Learning and Other Technologies); By Drug Type (Small Molecule and Large Molecules); By Application (Immuno-Oncology, Neurodegenerative Diseases, Cardiovascular Disease, Metabolic Diseases and Other Applications); By End-User (Pharmaceutical & Biotechnology Companies, Contract Research Organizations, Research Centers and Academic & Government Institutes)and Region – Analysis of Market Size, Share & Trends for 2018 – 2020 and Forecasts to 2030**

<https://marketpublishers.com/r/A0089A48FAEEEN.html>

Date: July 2022

Pages: 311

Price: US\$ 5,000.00 (Single User License)

ID: A0089A48FAEEEN

## **Abstracts**

### Market Overview

The initial step in drug discovery is the process of a novel drug candidate's identification and its therapeutic target base. Based on efficacy, potency, bioavailability, and toxicity the drug discovery or new drug target are being evaluated. Artificial intelligence is extensively used in the healthcare sector and especially used for drug discovery. AI technology has the potential to recognize drug targets, and play an essential role in drug design, discovery, identification, and screening of molecules promptly and efficiently.

### Market highlights

The global Artificial Intelligence (AI) in Drug Discovery Market size was valued at USD

253.8 million in 2019 is anticipated to reach USD 3,932.87 million by 2030, demonstrating a CAGR of 40.8 % from 2020 to 2030. AI helps in perceiving the mechanism of disease, establishing biomarkers, and generating data or models for the drug discovery process and thereby expected to propel the market over the forecast period of 2020-2030. Furthermore, rising research and development activities and software launches by the key market players are estimated to spur the market. A wave of new research and development collaborations between key biopharma players and AI-driven companies, mostly startups.

## AI for Drug Discovery Market Expected Market Growth

### Recent Highlights in Global Digital Banking Platform Market

Lantheus Holdings Inc. a diagnostic imaging company and Progenics Pharmaceuticals Inc. an oncology products company, amended a prior merger in February 2020. Novartis went into a collaboration with Microsoft for the artificial intelligence innovation lab and Amazon Web Services to form an enterprise comprising a data and analytics platform that would yield advanced medicines in February 2020.

A merger with MAbSilico was announced by OSE Immunotherapeutics in February 2020. Innovative problem-solving solutions including artificial intelligence for the development of new monoclonal antibodies are established and incorporated in the merger plan.

### Drug Discovery Market: Segments

In 2019, the software segment held the largest share of AI in the drug discovery market of 65.23 percent by type

On the basis of offering type, the AI is segmented into software and services in the drug discovery market. The Software segment accounted for a larger market share in 2018. The growth of the software segment is driven by factors such as lower cost and time to market the drug, low failure rate, a large number of drug discovery software developers, and strong software demand among big pharmaceutical & biotech companies and research institutes.

In the forecast period, the segment of neurodegenerative diseases is projected to rise at the highest CAGR.

Based on the application, the drug discovery market for artificial intelligence is segmented into neurodegenerative diseases, immuno-oncology, cardiovascular disease, metabolic diseases, and other uses. Neurodegenerative diseases form the fastest-growing segment of the application, with the highest CAGR during the forecast period. AI's ability to discover medicines for complex diseases, and market players'

focus on offering AI-based neurological disease platforms, is responsible for this application segment's rapid growth.

## AI for Drug Discovery Market: Drivers and Restraints

### Drivers

#### Shorten the Drug Discovery Process

Artificial Intelligence is expected as a lucrative healthcare industry avenue.

Implementing AI eliminates the research and development gap in the drug production cycle and helps in targeted drug manufacturing as well as helps pharmaceutical companies streamline research and development activities for customized drugs and complex drug discovery. The AI in the Drug Discovery Market is driven by the growing need to shorten the process of drug discovery in order to get drugs to treat various chronic and viral diseases quicker. Due to this, Biopharmaceutical industries tend to increase their market share toward AI.

#### Declining Cost of the Discovered Drugs

Another factor expected to improve the AI to drug discovery market is the growing pressure on the drugmaker to lower the drug price. Artificial intelligence renders drug discovery more cost-effective and faster. AI lowered the failure rate of clinical trials and also eliminated the cost of long-term drug discovery research and development.

### Restraint

#### High Cost and Lack of Skilled Professionals

Lack of skilled professionals and infrastructure to facilitate easy AI adoption is a major factor that is expected to hamper global AI growth for the drug discovery market. Thus, in addition to limited acceptance by healthcare professionals, high costs and technological limitations of AI decision-making will impede market development.

## AI for Drug Discovery Market: Key Players

### Microsoft

#### Company Overview

#### Business Strategy

#### Key Product Offerings

#### Financial Performance

#### Key Performance Indicators

#### Risk Analysis

#### Recent Development

#### Regional Presence

SWOT Analysis

NVIDIA Corporation

IBM Corporation

Atomwise, Inc

Insilico Medicine

BenevolentAI Ltd

Exscientia

Cyclica Inc

Numerate

NuMedii, Inc

DEEP GENOMICS

Cloud Pharmaceuticals, Inc

Other Prominent Players

AI for Drug Discovery Market: Regions

AI for Drug Discovery Market is segmented based on regional analysis into five major regions. These include North America, Latin America, Europe, APAC, and MENA.

In 2019 North America holds the largest share of AI in the drug discovery market. Additionally, In 2018 North America was the largest and fastest-growing drug discovery market for AI. The US, Canada, and Mexico form the largest drug discovery market for AI. In drug discovery and development these countries were early adopters of AI technology. In the North American market, the US is a major contributor. In addition, leading suppliers of AI technology, such as IBM, Google, Microsoft, NVIDIA, and Intel, are headquartered in the US; their eminent presence is a significant contributor to business growth. Other drivers include the well-established pharmaceutical industry, a strong emphasis on R&D & extensive investment, and the existence of globally prominent pharmaceutical companies. These are a few major factors that are responsible for the large share and high growth rate of this market. Europe is expected to show growth at a remarkable CAGR in the forecast period of 2020-2030. It holds the second-largest market share.

The Asia Pacific region is expected to develop at the highest CAGR of 51.68% over the forecast period, due to perpetual technological advancements in the pharmaceutical sector and the rising number of pharmaceutical manufacturers in developing countries of APAC such as China and India. The initiative of the Indian Government 'Pharma Vision 2020' has a goal for making India a leading hub for drug discovery.

The AI for drug discovery market is further segmented by region into:

North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR –

United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil, and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey, and Rest of Europe

APAC Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia, and Rest of APAC

MENA Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa, and Rest of MENA

The AI for Drug Discovery Market report also contains analysis on:

AI for Drug Discovery Market Segments:

By Offering

Software

Services

By Drug Type

Small Molecules

Large Molecules

By Technology

Machine Learning

Deep Learning

Supervised Learning

Reinforcement Learning

Unsupervised Learning

Other Machine Learning Technologies

Other Technologies

By Application

Immuno-Oncology

Neurodegenerative Diseases

Cardiovascular Disease

Metabolic Diseases

Other Applications

By End-User

Pharmaceutical & Biotechnology Companies

Contract Research Organizations

Research Centers and Academic & Government Institutes

AI for Drug Discovery Market-Market Dynamics

AI for Drug Discovery Market Market Size

Supply & Demand

Current Trends/Issues/Challenges

Competition & Companies Involved in the Market

Value Chain of the Market

Market Drivers and Restraints

FAQs on AI for drug discovery Market

Which segment is anticipated to hold the largest market share?

At what CAGR is the market anticipated to grow between 2020 and 2030?

Who are the key players in the AI for the drug discovery market?

What could be the challenging factors for the growth of AI for the drug discovery market?

What are the growth drivers for AI for the drug discovery market?

## Contents

### **1. EXECUTIVE SUMMARY**

### **2. AI FOR DRUG DISCOVERY**

- 2.1. AI for Drug Discovery Product Overview
- 2.2. Market Definition
- 2.3. Segmentation
- 2.4. Assumptions and Acronyms

### **3. RESEARCH METHODOLOGY**

- 3.1. Research Objectives
- 3.2. Primary Research
- 3.3. Secondary Research
- 3.4. Forecast Model
- 3.5. Market Size Estimation

### **4. AVERAGE PRICING ANALYSIS**

### **5. MARKET DYNAMICS**

- 5.1. Growth Drivers
- 5.2. Restraints
- 5.3. Opportunity
- 5.4. Trends

### **6. RECENT DEVELOPMENT, POLICIES & REGULATORY LANDSCAPE**

### **7. RISK ANALYSIS**

- 7.1. Demand Risk Analysis
- 7.2. Supply Risk Analysis

### **8. AI FOR DRUG DISCOVERY INDUSTRY ANALYSIS**

- 8.1. Porters Five Forces
  - 8.1.1. Threat of New Entrants

- 8.1.2. Bargaining Power of Suppliers
- 8.1.3. Threat of Substitutes
- 8.1.4. Rivalry
- 8.2. PEST Analysis
  - 8.2.1. Political
  - 8.2.2. Economic
  - 8.2.3. Social
  - 8.2.4. Technological

## **9. GLOBAL AI FOR DRUG DISCOVERY MARKET**

- 9.1. Market Size & forecast, 2019A-2030F
  - 9.1.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
  - 9.1.2. By Volume (Million Units) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

## **10. GLOBAL AI FOR DRUG DISCOVERY: MARKET SEGMENTATION**

- 10.1. By Regions
  - 10.1.1. North America: (U.S. and Canada)
    - 10.1.1.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
  - 10.1.2. Latin America: (Brazil, Mexico, Argentina, Rest of Latin America)
    - 10.1.2.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
  - 10.1.3. Europe: (Germany, UK, France, Italy, Spain, BENELUX, NORDIC, Hungary, Poland, Turkey, Russia, Rest of Europe)
    - 10.1.3.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
  - 10.1.4. Asia-Pacific: (China, India, Japan, South Korea, Indonesia, Malaysia, Australia, New Zealand, Rest of Asia Pacific)
    - 10.1.4.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
  - 10.1.5. Middle East and Africa: (Israel, GCC, North Africa, South Africa, Rest of Middle East and Africa)
    - 10.1.5.1. By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
- 10.2. By Offering: Market Share (2020-2030F)
  - 10.2.1. Software, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
  - 10.2.2. Services, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
- 10.3. By Drug Type: Market Share (2020-2030F)
  - 10.3.1. Small Molecule, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F
  - 10.3.2. Large Molecules, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F



#### 10.4. By Technology: Market Share (2020-2030F)

10.4.1. Machine Learning, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.4.2. Other Technologies, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

#### 10.5. By Application: Market Share (2020-2030F)

10.5.1. Immuno-Oncology, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.5.2. Neurodegenerative Diseases, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.5.3. Cardiovascular Disease, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.5.4. Metabolic Diseases, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.5.5. Other Applications, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

#### 10.6. By End-users: Market Share (2020-2030F)

10.6.1. Pharmaceutical & Biotechnology Companies, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.6.2. Contract Research Organizations, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.6.3. Research Centers, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

10.6.4. Academic & Government Institutes, By Value (USD Million) 2019-2030F; Y-o-Y Growth (%) 2020-2030F

### **11. COMPANY PROFILE**

#### 11.1. Microsoft

11.1.1. Company Overview

11.1.2. Company Total Revenue (Financials)

11.1.3. Market Potential

11.1.4. Global Presence

11.1.5. Key Performance Indicators

11.1.6. SWOT Analysis

11.1.7. Product Launch

#### 11.2. NVIDIA Corporation

#### 11.3. IBM Corporation

#### 11.4. Atomwise, Inc

- 11.5. Insilico Medicine
  - 11.6. BenevolentAI Ltd
  - 11.7. Exscientia
  - 11.8. Cyclica Inc
  - 11.9. Numerate
  - 11.10. NuMedii, Inc
  - 11.11. DEEP GENOMICS
  - 11.12. Cloud Pharmaceuticals, Inc
- Consultant Recommendation

\*\*The above-given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

## I would like to order

Product name: AI for Drug Discovery Market By Offering (Software, Services);By Technology (Machine Learning and Other Technologies); By Drug Type (Small Molecule and Large Molecules); By Application (Immuno-Oncology, Neurodegenerative Diseases, Cardiovascular Disease, Metabolic Diseases and Other Applications); By End-User (Pharmaceutical & Biotechnology Companies, Contract Research Organizations, Research Centers and Academic & Government Institutes)and Region – Analysis of Market Size, Share & Trends for 2018 – 2020 and Forecasts to 2030

Product link: <https://marketpublishers.com/r/A0089A48FAEEEN.html>

Price: US\$ 5,000.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/A0089A48FAEEEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970