

Global AI in Predictive Toxicology Market Size study, by Component (Solution, Services) by Technology (Machine Learning, Natural Language Processing, Computer Vision, Others) by Toxicity Endpoints (Genotoxicity, Hepatotoxicity, Neurotoxicity, Cardiotoxicity, Others) by End User (Pharmaceutical & Biotechnology Companies, Chemical & Cosmetics, Contract Research Organizations, Others) and Regional Forecasts 2022-2032

<https://marketpublishers.com/r/G1E47580A774EN.html>

Date: August 2024

Pages: 200

Price: US\$ 4,950.00 (Single User License)

ID: G1E47580A774EN

Abstracts

Global AI in Predictive Toxicology Market was valued at approximately USD 364.06 million in 2023 and is expected to experience a significant growth rate of over 29.56% during the forecast period from 2024 to 2032. AI in Predictive Toxicology utilizes advanced machine learning algorithms and computational models to anticipate the toxic effects of various chemical substances on biological systems. By processing extensive datasets encompassing chemical properties and biological responses, AI can discern patterns and offer precise toxicity predictions, thereby minimizing the reliance on extensive animal testing and human trials. This methodology enhances the efficiency of drug development and safety evaluations, presenting a faster, cost-effective, and more ethical alternative to conventional approaches. The integration of AI-driven predictive toxicology is transforming the field by providing reliable and scalable solutions. The Global AI in Predictive Toxicology Market growth is primarily driven by rising investments in pharmaceutical AI startups, which facilitate the development and deployment of cutting-edge technologies such as machine learning and predictive modeling. These advancements significantly improve the toxicological assessments of chemical compounds, meeting the increasing demand for efficient drug development

processes. Additionally, the growing need for effective screening of chemical compounds and rising concerns about chemical safety further propel market growth. However, challenges such as insufficient or poor-quality data, which can compromise the accuracy of predictive models, and the complexity involved in integrating AI models pose significant restraints to the market.

The key regions considered for the Global AI in Predictive Toxicology Market study includes Asia Pacific, North America, Europe, Latin America, and Rest of the World. In 2023, North American region held largest revenue share attributed to the robust presence of the pharmaceutical industry in the region, which drives the adoption of AI technologies in predictive toxicology. Pharmaceutical companies in North America are increasingly recognizing the need for efficient drug development processes. By embracing AI technologies, these companies can expedite drug discovery, optimize research and development efforts, and reduce overall costs. The competitive landscape and the relentless pursuit of innovative solutions in the pharmaceutical sector significantly contribute to the demand for advanced AI applications in predictive toxicology within North America. Furthermore, the market in Asia Pacific is anticipated to develop at the fastest rate over the forecast period 2024-2032.

Major market players included in this report are:

Benevolent AI
Berg Health
Biovista
Celsius Therapeutics
Chemaxon Ltd.
Cyclica
Exscientia PLC
Insilico Medicine
Instem plc
Lhasa Limited
Recursion Pharmaceuticals

The detailed segments and sub-segment of the market are explained below:

By Component

- Solution
- Services

By Technology

- Machine Learning
- Natural Language Processing
- Computer Vision
- Others

By Toxicity Endpoints

- Genotoxicity
- Hepatotoxicity
- Neurotoxicity
- Cardiotoxicity
- Others

By End User

- Pharmaceutical & Biotechnology Companies
- Chemical & Cosmetics
- Contract Research Organizations
- Others

By Region:

North America

- U.S.
- Canada

Europe

- UK
- Germany
- France
- Spain
- Italy
- ROE

Asia Pacific

- China
- India
- Japan
- Australia
- South Korea
- RoAPAC

Latin America

- Brazil
- Mexico
- RoLA

Middle East & Africa

- Saudi Arabia
- South Africa
- RoMEA

Years considered for the study are as follows:

- Historical year – 2022
- Base year – 2023

- Forecast period – 2024 to 2032

Key Takeaways:

- Market Estimates & Forecast for 10 years from 2022 to 2032.
- Annualized revenues and regional level analysis for each market segment.
- Detailed analysis of geographical landscape with Country level analysis of major regions.
- Competitive landscape with information on major players in the market.
- Analysis of key business strategies and recommendations on future market approach.
- Analysis of competitive structure of the market.
- Demand side and supply side analysis of the market

Contents

CHAPTER 1. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET EXECUTIVE SUMMARY

- 1.1. Global AI in Predictive Toxicology Market Size & Forecast (2022-2032)
- 1.2. Regional Summary
- 1.3. Segmental Summary
 - 1.3.1. By Component
 - 1.3.2. By Technology
 - 1.3.3. By Toxicity Endpoints
 - 1.3.4. By End User
- 1.4. Key Trends
- 1.5. Recession Impact
- 1.6. Analyst Recommendation & Conclusion

CHAPTER 2. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET DEFINITION AND RESEARCH ASSUMPTIONS

- 2.1. Research Objective
- 2.2. Market Definition
- 2.3. Research Assumptions
 - 2.3.1. Inclusion & Exclusion
 - 2.3.2. Limitations
 - 2.3.3. Supply Side Analysis
 - 2.3.3.1. Availability
 - 2.3.3.2. Infrastructure
 - 2.3.3.3. Regulatory Environment
 - 2.3.3.4. Market Competition
 - 2.3.3.5. Economic Viability (Consumer's Perspective)
 - 2.3.4. Demand Side Analysis
 - 2.3.4.1. Regulatory frameworks
 - 2.3.4.2. Technological Advancements
 - 2.3.4.3. Environmental Considerations
 - 2.3.4.4. Consumer Awareness & Acceptance
- 2.4. Estimation Methodology
- 2.5. Years Considered for the Study
- 2.6. Currency Conversion Rates

CHAPTER 3. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET DYNAMICS

3.1. Market Drivers

- 3.1.1. Rising investments in pharmaceutical AI startups
- 3.1.2. Increased demand for efficient drug development
- 3.1.3. Advancements in AI technologies
- 3.1.4. Growing need for efficient screening of chemical compounds
- 3.1.5. Rising concerns about chemical safety

3.2. Market Challenges

- 3.2.1. Insufficient or poor-quality data compromising the accuracy of predictive models
- 3.2.2. Complexity in the integration of AI models

3.3. Market Opportunities

- 3.3.1. Increasing collaborations between pharmaceutical companies and AI technology providers
- 3.3.2. Expansion of AI applications in predictive toxicology to other industries
- 3.3.3. Development of standardized protocols for AI-driven toxicity assessments

CHAPTER 4. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET INDUSTRY ANALYSIS

4.1. Porter's 5 Force Model

- 4.1.1. Bargaining Power of Suppliers
- 4.1.2. Bargaining Power of Buyers
- 4.1.3. Threat of New Entrants
- 4.1.4. Threat of Substitutes
- 4.1.5. Competitive Rivalry
- 4.1.6. Futuristic Approach to Porter's 5 Force Model
- 4.1.7. Porter's 5 Force Impact Analysis

4.2. PESTEL Analysis

- 4.2.1. Political
- 4.2.2. Economical
- 4.2.3. Social
- 4.2.4. Technological
- 4.2.5. Environmental
- 4.2.6. Legal

4.3. Top investment opportunity

4.4. Top winning strategies

4.5. Disruptive Trends

4.6. Industry Expert Perspective

4.7. Analyst Recommendation & Conclusion

CHAPTER 5. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET SIZE & FORECASTS BY COMPONENT 2022-2032

5.1. Segment Dashboard

5.2. Global AI in Predictive Toxicology Market: Solution Revenue Trend Analysis, 2022 & 2032 (USD Million)

5.2.1. Solution

5.2.1. Services

CHAPTER 6. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET SIZE & FORECASTS BY TECHNOLOGY 2022-2032

6.1. Segment Dashboard

6.2. Global AI in Predictive Toxicology Market: Machine Learning Revenue Trend Analysis, 2022 & 2032 (USD Million)

6.3.1. Machine Learning

6.3.2. Natural Language Processing

6.3.3. Computer Vision

6.3.4. Others

CHAPTER 7. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET SIZE & FORECASTS BY TOXICITY ENDPOINTS 2022-2032

7.1. Segment Dashboard

7.2. Global AI in Predictive Toxicology Market: Genotoxicity Revenue Trend Analysis, 2022 & 2032 (USD Million)

7.3.1. Genotoxicity

7.3.2. Hepatotoxicity

7.3.3. Neurotoxicity

7.3.4. Cardiotoxicity

7.3.5. Others

CHAPTER 8. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET SIZE & FORECASTS BY END USER 2022-2032

8.1. Segment Dashboard

8.2. Global AI in Predictive Toxicology Market: Pharmaceutical & Biotechnology

Companies Revenue Trend Analysis, 2022 & 2032 (USD Million)

- 8.3.1. Pharmaceutical & Biotechnology Companies
- 8.3.2. Chemical & Cosmetics
- 8.3.3. Contract Research Organizations
- 8.3.4. Others

CHAPTER 9. GLOBAL AI IN PREDICTIVE TOXICOLOGY MARKET SIZE & FORECASTS BY REGION 2022-2032

- 9.1. North America AI in Predictive Toxicology Market
 - 9.1.1. U.S. AI in Predictive Toxicology Market
 - 9.1.1.1. By Component
 - 9.1.1.2. By Technology
 - 9.1.1.3. By Toxicity Endpoints
 - 9.1.1.4. By End User
 - 9.1.2. Canada AI in Predictive Toxicology Market
- 9.2. Europe AI in Predictive Toxicology Market
 - 9.2.1. UK AI in Predictive Toxicology Market
 - 9.2.2. Germany AI in Predictive Toxicology Market
 - 9.2.3. France AI in Predictive Toxicology Market
 - 9.2.4. Spain AI in Predictive Toxicology Market
 - 9.2.5. Italy AI in Predictive Toxicology Market
 - 9.2.6. Rest of Europe AI in Predictive Toxicology Market
- 9.3. Asia-Pacific AI in Predictive Toxicology Market
 - 9.3.1. China AI in Predictive Toxicology Market
 - 9.3.2. India AI in Predictive Toxicology Market
 - 9.3.3. Japan AI in Predictive Toxicology Market
 - 9.3.4. Australia AI in Predictive Toxicology Market
 - 9.3.5. South Korea AI in Predictive Toxicology Market
 - 9.3.6. Rest of Asia Pacific AI in Predictive Toxicology Market
- 9.4. Latin America AI in Predictive Toxicology Market
 - 9.4.1. Brazil AI in Predictive Toxicology Market
 - 9.4.2. Mexico AI in Predictive Toxicology Market
 - 9.4.3. Rest of Latin America AI in Predictive Toxicology Market
- 9.5. Middle East & Africa AI in Predictive Toxicology Market
 - 9.5.1. Saudi Arabia AI in Predictive Toxicology Market
 - 9.5.2. South Africa AI in Predictive Toxicology Market
 - 9.5.3. Rest of Middle East & Africa AI in Predictive Toxicology Market

CHAPTER 10. COMPETITIVE INTELLIGENCE

- 10.1. Key Company SWOT Analysis
 - 10.1.1. Company
 - 10.1.2. Company
 - 10.1.3. Company
- 10.2. Top Market Strategies
- 10.3. Company Profiles
 - 10.3.1. Benevolent AI
 - 10.3.1.1. Key Information
 - 10.3.1.2. Overview
 - 10.3.1.3. Financial (Subject to Data Availability)
 - 10.3.1.4. Product Summary
 - 10.3.1.5. Market Strategies
 - 10.3.2. Berg Health
 - 10.3.3. Biovista
 - 10.3.4. Celsius Therapeutics
 - 10.3.5. Chemaxon Ltd.
 - 10.3.6. Cyclica
 - 10.3.7. Exscientia PLC
 - 10.3.8. Insilico Medicine
 - 10.3.9. Instem plc
 - 10.3.10. Lhasa Limited
 - 10.3.11. Recursion Pharmaceuticals

CHAPTER 11. RESEARCH PROCESS

- 11.1. Research Process
 - 11.1.1. Data Mining
 - 11.1.2. Analysis
 - 11.1.3. Market Estimation
 - 11.1.4. Validation
 - 11.1.5. Publishing
- 11.2. Research Attributes

List Of Tables

LIST OF TABLES

TABLE 1. Global AI in Predictive Toxicology market, report scope

TABLE 2. Global AI in Predictive Toxicology market estimates & forecasts by Region 2022-2032 (USD Million)

TABLE 3. Global AI in Predictive Toxicology market estimates & forecasts by Component 2022-2032 (USD Million)

TABLE 4. Global AI in Predictive Toxicology market estimates & forecasts by Technology 2022-2032 (USD Million)

TABLE 5. Global AI in Predictive Toxicology market estimates & forecasts by Toxicity Endpoints 2022-2032 (USD Million)

TABLE 6. Global AI in Predictive Toxicology market estimates & forecasts by End User 2022-2032 (USD Million)

TABLE 7. Global AI in Predictive Toxicology market by segment, estimates & forecasts, 2022-2032 (USD Million)

TABLE 8. Global AI in Predictive Toxicology market by region, estimates & forecasts, 2022-2032 (USD Million)

TABLE 9. Global AI in Predictive Toxicology market by segment, estimates & forecasts, 2022-2032 (USD Million)

TABLE 10. Global AI in Predictive Toxicology market by region, estimates & forecasts, 2022-2032 (USD Million)

.....

This list is not complete, final report does contain more than 100 tables. The list may be updated in the final deliverable

List Of Figures

LIST OF FIGURES

- FIG 1. Global AI in Predictive Toxicology market, research methodology
- FIG 2. Global AI in Predictive Toxicology market, market estimation techniques
- FIG 3. Global market size estimates & forecast methods.
- FIG 4. Global AI in Predictive Toxicology market, key trends 2023
- FIG 5. Global AI in Predictive Toxicology market, growth prospects 2022-2032
- FIG 6. Global AI in Predictive Toxicology market, porters 5 force model
- FIG 7. Global AI in Predictive Toxicology market, PESTEL analysis
- FIG 8. Global AI in Predictive Toxicology market, value chain analysis
- FIG 9. Global AI in Predictive Toxicology market by segment, 2022 & 2032 (USD Million)
- FIG 10. Global AI in Predictive Toxicology market by segment, 2022 & 2032 (USD Million)
- FIG 11. Global AI in Predictive Toxicology market by segment, 2022 & 2032 (USD Million)
- FIG 12. Global AI in Predictive Toxicology market by segment, 2022 & 2032 (USD Million)
- FIG 13. Global AI in Predictive Toxicology market by segment, 2022 & 2032 (USD Million)
- FIG 14. Global AI in Predictive Toxicology market, regional snapshot 2022 & 2032
- FIG 15. North America AI in Predictive Toxicology market 2022 & 2032 (USD Million)
- FIG 16. Europe AI in Predictive Toxicology market 2022 & 2032 (USD Million)
- FIG 17. Asia pacific AI in Predictive Toxicology market 2022 & 2032 (USD Million)
- FIG 18. Latin America AI in Predictive Toxicology market 2022 & 2032 (USD Million)
- FIG 19. Middle East & Africa AI in Predictive Toxicology market 2022 & 2032 (USD Million)
- FIG 20. Global AI in Predictive Toxicology market, company market share analysis (2023)

.....

This list is not complete, final report does contain more than 50 figures. The list may be updated in the final deliverable

I would like to order

Product name: Global AI in Predictive Toxicology Market Size study, by Component (Solution, Services) by Technology (Machine Learning, Natural Language Processing, Computer Vision, Others) by Toxicity Endpoints (Genotoxicity, Hepatotoxicity, Neurotoxicity, Cardiotoxicity, Others) by End User (Pharmaceutical & Biotechnology Companies, Chemical & Cosmetics, Contract Research Organizations, Others) and Regional Forecasts 2022-2032

Product link: <https://marketpublishers.com/r/G1E47580A774EN.html>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

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

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G1E47580A774EN.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