

# AI in Clinical Trials Industry Growth 2025 | Market to Hit USD 5.06 Billion by 2033

*Global AI in Clinical Trials Market Insights  
| USD 1.45B in 2024 to USD 5.06 Billion  
by 2033*

AUSTIN, TX, UNITED STATES, October 30, 2025 /EINPresswire.com/ --  
Overview of the Market:

The global [AI in clinical trials market](#) is witnessing strong growth as pharmaceutical, biotechnology, and contract research organizations (CROs) increasingly leverage artificial

intelligence (AI) and machine learning (ML) technologies to modernize clinical research. AI in clinical trials encompasses a wide range of applications from protocol design and patient recruitment to site selection, predictive analytics, data monitoring, and post-trial analysis. As trials become more data-intensive and complex, AI serves as a key enabler to streamline operations, improve efficiency, and accelerate time-to-market for new therapies.



USA AI in Clinical Trials  
Market 2025–2033 |  
Industry Growth & Future  
Opportunities”

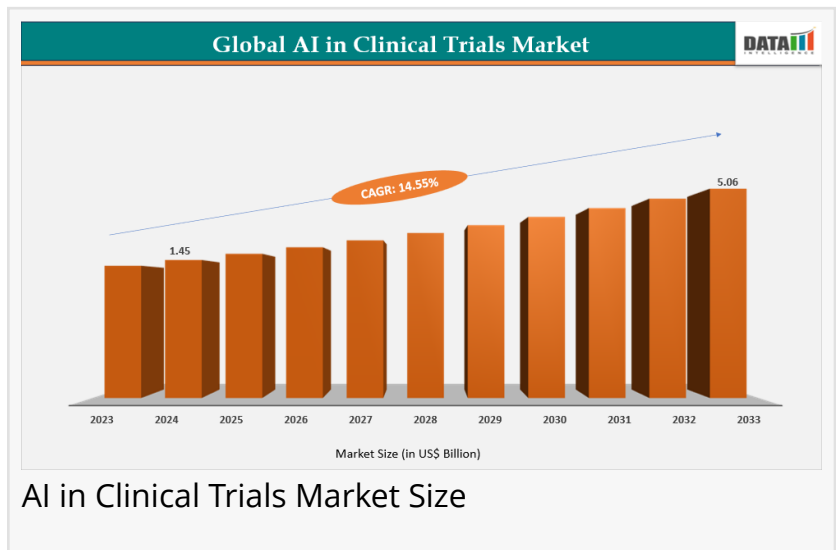
*DataM Intelligence*

Market Size and Forecast:

According to DataM Intelligence, the AI in clinical trials market reached US\$1.45 billion in 2024, up from US\$1.27 billion in 2023, and is projected to hit US\$5.06 billion by 2033, growing at a CAGR of 14.55% during the forecast period (2025–2033). The software segment accounted for approximately 67.43% of total revenue in 2024, highlighting the growing demand for AI-driven analytics and predictive tools. North America leads the market with about 43.04% share, driven by a mature pharmaceutical ecosystem, advanced digital infrastructure, and high investment in R&D.

Recent Developments:

USA:



October 2025: U.S. biopharma companies deployed AI-powered patient recruitment platforms for Phase II/III oncology trials, reducing enrollment time by 40% and identifying diverse candidates using real-world health data.

September 2025: Leading CROs integrated generative AI models for adaptive trial protocol design and remote monitoring, enabling precision scheduling and early risks mitigation in multi-site trials.

Japan:

October 2025: Japanese pharmaceutical firms piloted AI-based digital twins to simulate drug responses, enhancing early-stage clinical trial accuracy and safety profiling.

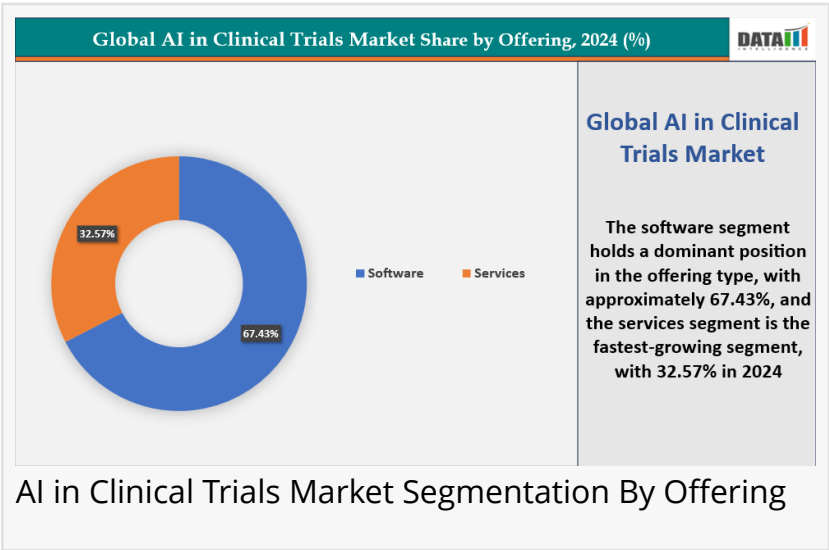
September 2025: Japan’s regulatory agency approved the first AI-developed virtual control arm for rare disease trials, improving statistical efficiency and lowering patient burden.

要約 本レポートは、グローバルAI臨床試験市場の現状と将来予測を詳しく分析しています。詳細なデータと図表は、<https://www.datamintelligence.com/download-sample/ai-in-clinical-trials-market>からダウンロード可能です。

Key Highlights from the Report:

- The global AI in clinical trials market was valued at around US\$1.45 billion in 2024 and is expected to reach US\$5.06 billion by 2033, growing at a CAGR of 14.55%.
- The software segment dominated the market with a 67.43% share, reflecting strong demand for AI-powered platforms and analytics tools.
- North America led the global market in 2024, accounting for 43.04% of total revenue, driven by strong industry infrastructure and R&D capabilities.
- Oncology emerged as the leading therapeutic area, supported by extensive data availability, high trial volume, and precision medicine initiatives.
- The growing adoption of real-world data, wearable devices, and decentralized trial models is accelerating AI integration.
- Despite robust growth, challenges such as data quality, algorithm validation, and integration with legacy systems continue to hinder full-scale adoption.

Market Segmentation:



- By Offering: Software, Services
- By Trial Phase: Phase I, Phase II, Phase III
- By Indication: Oncology, Central Nervous System (CNS) Disorders, Cardiovascular (CVS) Diseases, Other Indications
- By End-User: Pharmaceutical and Biotechnology Companies, Contract Research Organizations (CROs), Other End Users
- By Region: Geographically, the market is segmented into North America, Europe, Asia-Pacific, Latin America, and the Middle East & Africa.

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#### Keyplayers:

- Medidata Solutions
- IQVIA Holdings
- Saama Technologies
- Phesi
- Euretos
- Median Technologies
- Innoplexus
- Deep6 AI
- AiCure
- Mendel AI

#### Regional Insights:

##### North America:

North America dominates the global AI in clinical trials market, accounting for around 43.04% of total revenue in 2024. The region's leadership is attributed to the strong presence of pharmaceutical giants, advanced clinical research capabilities, and favorable regulatory frameworks that encourage innovation. Government agencies and regulatory bodies are increasingly promoting the use of digital and AI-driven tools in clinical research, while collaborations between tech firms and life sciences companies continue to strengthen the region's AI ecosystem.

##### Europe:

In Europe, the AI in Clinical Trials market is growing steadily, supported by strong regulatory and policy initiatives. The EU's €1.1 billion "Apply AI" strategy promotes AI adoption in key sectors like healthcare, aiming to boost regional innovation and reduce reliance on non-EU technologies. Additionally, regulatory bodies such as the EMA are endorsing AI tools like AIM-NASH for liver

disease assessment, signaling rising trust in AI-driven clinical research.

#### Asia-Pacific:

Asia-Pacific is the fastest-growing market, contributing approximately 20% of global revenue in 2024. The Asia-Pacific AI in Clinical Trials market is expanding rapidly, fueled by rising R&D investments in China and India, a growing prevalence of chronic diseases, and the availability of a large, diverse patient base ideal for inclusive studies. The region's cost-effective trial operations and increasing adoption of AI-driven solutions further strengthen its position as a key hub for clinical research innovation.

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#### Reasons to Buy the Report:

- Comprehensive market coverage, providing in-depth quantitative and qualitative insights into current trends and future forecasts.
- Detailed segmentation analysis across offerings, phases, indications, and end-user categories for strategic decision-making.
- Identification of major market drivers, restraints, and opportunities shaping the competitive landscape.
- Competitive intelligence, including profiling of key players, partnerships, and product innovations.
- Regional breakdowns offering actionable insights for market entry and investment strategies.

#### Frequently Asked Questions (FAQs):

Q1: How big is the AI in clinical trials market?

Ans: The Global AI in Clinical Trials Market is expected to reach growth at a CAGR of 14.55% from 2025 to 2033.

Q2: What is the projected growth rate of the market during 2025–2033?

Ans: The global AI in Clinical Trials market reached US\$1.45 billion in 2024, up from US\$1.27 billion in 2023, and is projected to reach US\$5.06 billion by 2033.

Q3: Which region dominates the AI in clinical trials industry?

Ans: North America is the fastest-growing region and is expected to grow at the fastest CAGR of 17.18% over the forecast period.

Q4: Who are the leading players in the global AI in clinical trials market?

Ans: The major market players in the AI in Clinical Trials market are Medidata, IQVIA, Saama Technologies, Phesi, Euretos, Median Technologies, Innoplexus, Deep6.ai, AiCure, Antidote

Technologies, and Mendel AI.

## Conclusion:

The global AI in clinical trials market is entering a transformative phase as the pharmaceutical industry increasingly embraces digital innovation and data-driven decision-making. With an expected market value exceeding US\$5 billion by 2033, AI technologies are set to redefine every stage of clinical development from design to post-approval analytics. The software segment continues to lead adoption, while North America remains at the forefront of innovation. However, the fastest growth will come from Asia-Pacific as digital healthcare infrastructure expands.

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## Competitive Landscape:

Sustainability Impact Analysis

KOL / Stakeholder Insights

Unmet Needs & Positioning, Pricing & Market Access Snapshots

Market Volatility & Emerging Risks Analysis

Quarterly Industry Report Updated

Live Market & Pricing Trends

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