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# Global AI in Clinical Trials Market Size Study & Forecast, by Component, Technology, Application, End User and Regional Forecasts 2025-2035

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## Abstracts

The Global AI in Clinical Trials Market is valued at approximately USD 1.48 billion in 2024 and is poised to expand at a robust CAGR of over 14.00% during the forecast period 2025-2035. As the clinical research ecosystem increasingly hinges on data-driven decision-making, artificial intelligence (AI) has emerged as a transformative catalyst capable of redefining traditional paradigms in drug discovery and trial execution. Leveraging AI tools allows stakeholders to enhance protocol design, predict patient outcomes, accelerate recruitment, and optimize site selection — all while maintaining regulatory compliance and ensuring data integrity. With rising complexity in clinical development and mounting pressure to reduce R&D costs, pharmaceutical sponsors and contract research organizations (CROs) are proactively integrating AI-driven platforms to compress timelines and amplify success rates.

The exponential growth in clinical data, coupled with the imperative to expedite time-to-market for therapies, has underpinned the demand for AI-powered solutions in trials. Technologies such as machine learning (ML), natural language processing (NLP), and computer vision are increasingly being deployed to streamline data capture, identify anomalies, and model patient behavior in silico before human trials begin. For instance, contextual bots now facilitate real-time patient engagement and automate trial logistics, thereby minimizing human error and administrative burden. According to recent industry analyses, AI adoption has notably shortened protocol development timelines and improved trial retention, especially in oncology and rare disease studies. Furthermore, service providers are offering end-to-end AI-driven clinical solutions, which allow sponsors to navigate complex regulatory landscapes more efficiently.

Regionally, North America dominated the AI in Clinical Trials market in 2025 due to its

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extensive clinical research infrastructure, early adoption of advanced technologies, and favorable regulatory environment for digital therapeutics. The presence of major pharmaceutical companies and AI innovators further strengthens its leadership position. Europe follows closely, driven by collaborative initiatives between health tech firms and public health agencies aimed at promoting AI integration in life sciences. Meanwhile, Asia Pacific is expected to witness the fastest growth during the forecast period, bolstered by increasing investments in healthcare AI, expanding patient pools, and the digital transformation of clinical practices in countries such as China, India, and Japan. Government-backed innovation hubs and international partnerships are accelerating the region’s evolution into a global clinical trial powerhouse.

Major market players included in this report are:

IBM Watson Health

Google Health

IQVIA

Medidata Solutions (Dassault Syst?mes)

Oracle Corporation

Microsoft Corporation

PAREXEL International Corporation

Veristat

BioXcel Therapeutics

Deep 6 AI

Saama Technologies

Trials.ai

Concerto HealthAI

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Tempus

PathAI

Global AI in Clinical Trials Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period - 2025-2035

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segments of the market are explained below:

By Component:

Software

Service

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By Technology:

- Machine Learning (ML)
- Natural Language Processing (NLP)
- Computer Vision
- Contextual Bots

By Application:

- Clinical Trial Design
- Patient Recruitment
- Site Selection
- Risk-Based Monitoring
- Others

By End User:

- Pharmaceutical & Biotechnology Companies
- Contract Research Organizations (CROs)
- Academic Research Institutes
- Others

By Region:

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North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

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Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

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.

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