

AI in Clinical Trials Market (2nd Edition): AI Software and Service Providers, Distribution by Trial Phase (Phase I, Phase II and Phase III), Target Therapeutic Area (Cardiovascular Disorders, CNS Disorders, Infectious Diseases, Metabolic Disorders, Oncological Disorders and Other Disorders), End-user (Pharmaceutical and Biotechnology Companies, and Other End-users) and Key Geographical Regions (North America, Europe, Asia-Pacific, Latin America, and Middle East and North Africa): Industry Trends and Global Forecasts, 2023-2035

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Abstracts

The AI in clinical trials market is expected to reach USD 8.50 billion by 2035 and is anticipated to grow at a CAGR of 16% during the forecast period 2023-2035

Creating a novel therapeutic intervention requires substantial resources and involves a multifaceted, resource-intensive process. The journey from conceptualization to market availability necessitates significant investments in both time and finances, often estimated at around 10 years and requiring an investment exceeding \$2.5 billion for a single drug. A pivotal phase in this intricate process is the clinical trial stage, consuming nearly half of the time and capital invested in drug development. Regrettably, sponsors frequently encounter financial constraints and considerable delays in bringing drugs to market due to unsuccessful clinical trials. Over recent decades, the success rate of a drug candidate progressing from clinical trials to obtaining marketing approval has persistently remained low, fluctuating between 10% to 20%. This persistent challenge

stems from various factors contributing to the failure of interventions during the clinical stage, encompassing suboptimal study design, inadequate patient recruitment, insufficient subject stratification, and a high attrition rate among clinical trial participants.

To overcome these challenges and optimize the clinical trial processes, stakeholders in the pharmaceutical industry are actively exploring innovative solutions and strategies. One noteworthy strategy involves the incorporation of Artificial Intelligence (AI) in drug development, potentially revolutionizing conventional methods, especially within clinical trials. Notably, AI possesses the capability to integrate and analyze vast datasets, empowering trial sponsors to optimize future research endeavors. By addressing issues related to trial design, patient recruitment and retention, site selection, data interpretation, and treatment assessment, AI holds the promise of enhancing and refining the entire clinical drug development process. Moreover, the investment landscape underscores the escalating interest in AI within the healthcare sector, particularly in the domain of clinical trials. The year 2021 witnessed a substantial surge, with more than \$20 billion directed toward AI companies focused on healthcare, surpassing the previous investment of approximately \$15 billion in 2020. This surge in investor interest signals the potential for robust growth in the AI in clinical trials market during the forecast period.

Report Coverage

The report conducts an examination of the AI in clinical trials market, analyzing it based on trial phase, target therapeutic area, end-user, and key geographical regions.

An analysis is performed to evaluate the factors—such as drivers, restraints, opportunities, and challenges—that impact the growth of this market.

An assessment is made of the potential advantages and obstacles within the market, offering insights into the competitive landscape for leading market players.

Revenue forecasts for market segments are provided concerning five major regions.

An executive summary is included, offering insights into the current state and potential evolution of the AI in Clinical Trials market. This overview delves into AI, its subfields, applications in healthcare and clinical trials, adoption

challenges, and future perspectives.

An evaluation is conducted on companies providing AI software and services for clinical trials, considering parameters like establishment year, company size, headquarters location, key offerings (device, technology/platform, service), business models, deployment options, AI technologies used, application areas, and potential end-users.

Detailed profiles are crafted for select companies meeting specific criteria. Each profile includes company overview (establishment year, employee count, HQ location, leadership team), financial information (if available), AI-based clinical trial offerings, recent developments, and future outlook.

An insightful analysis is presented on completed/ongoing AI-based clinical trials, considering parameters such as trial registration year, patient enrollment, phase, sponsor type, demographics, therapeutic areas, allocation models, masking, interventions, purposes, active players, and geographic locations.

Examination is made of partnerships formed since 2018 in the AI in Clinical Trials market, encompassing utilization agreements, integrations, licensing, R&D collaborations, mergers, acquisitions, service agreements, alliances, and other relevant collaborations.

A detailed analysis is conducted on investments (seed financing, VC funding, IPOs, grants, debt financing, equity) at various developmental stages in startups and mid-sized companies focused on AI software and services for clinical trials.

Analysis is provided on initiatives by major pharmaceutical players in AI in clinical trials, considering parameters like initiative year, type, application area, therapeutic focus, and leading companies involved in AI-focused initiatives.

A framework is presented depicting the implementation of advanced tools (blockchain, big data analytics, real-world evidence, digital twins, cloud computing, IoT) in different stages of clinical studies, analyzing ease of implementation and associated risks based on literature trends and patents.

A detailed cost-saving analysis is presented projecting potential savings with AI in clinical trials until 2035, highlighting savings in different phases and procedures (recruitment, retention, staffing, administration, monitoring, data

verification) with formalized figures and projections.

Key Market Companies

AiCure

Antidote Technologies

Deep 6 AI

Innoplexus

IQVIA

Median Technologies

Medidata

Mendel.ai

Phesi

Saama Technologies

Signant Health

Trials.ai

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