

Global AI in Precision Medicine Market Size Study & Forecast, by Technology, Component, Therapeutic Application, and Regional Forecasts 2025-2035

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Abstracts

Global AI in Precision Medicine Market is valued approximately at USD 2.29 billion in 2024 and is projected to grow with a mind-bending CAGR of 36.23% during the forecast period from 2025 to 2035. With a paradigm shift sweeping across healthcare, artificial intelligence has assumed a transformative role—ushering in a new era of hyper-personalized medicine. By leveraging machine learning algorithms and data-rich analytics, AI in precision medicine is enabling tailored treatment pathways based on genetic profiles, clinical data, and lifestyle nuances. This convergence of AI and genomic intelligence is revolutionizing patient care—improving diagnostics, identifying target therapies, and maximizing drug efficacy while minimizing adverse effects. As chronic diseases like cancer and neurological disorders continue to surge, the integration of AI is fast becoming a linchpin in treatment precision.

Accelerated by cloud computing and advanced computational models, AI solutions are increasingly being used to query complex biomedical data and deliver real-time, actionable insights to clinicians. Technologies such as context-aware processing are empowering healthcare ecosystems to automate clinical decision support systems, predict disease progression, and optimize clinical trial outcomes. Furthermore, the rise of smart diagnostics and AI-assisted oncology platforms has opened up unparalleled opportunities for pharmaceutical companies and research institutions to redesign the drug discovery lifecycle. However, despite the disruptive potential, issues related to algorithm transparency, patient data privacy, and lack of standardized protocols could hinder widespread deployment in certain regions.

Regionally, North America dominates the market landscape, underpinned by strong R&D investments, a mature AI infrastructure, and early adoption among

biopharmaceutical and genomics companies. The U.S., in particular, is spearheading advancements through public-private collaborations such as the NIH's All of Us Research Program. Europe is also witnessing rapid growth due to regulatory support from frameworks like the European Health Data Space and heightened demand for AI-enhanced oncology care. Meanwhile, Asia Pacific is poised to emerge as the fastest-growing region, propelled by large-scale genomics projects in China and India, growing healthcare IT infrastructure, and increasing government focus on personalized medicine. With AI becoming the nucleus of next-generation healthcare, the market is expected to undergo an exponential trajectory across the globe.

Major market player included in this report are:

IBM Watson Health

NVIDIA Corporation

Tempus

PathAI

Google Health

Microsoft Corporation

Intel Corporation

Oracle Corporation

GE HealthCare

Amazon Web Services, Inc.

Siemens Healthineers

Roche

Deep Genomics

BioXcel Therapeutics

Owkin

Global AI in Precision Medicine 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 Technology:

Querying Method

Context Aware Processing

By Component:

Hardware

By Therapeutic Application:

Oncology

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

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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