Quantum-Enhanced Predictive Genomics Market Anticipated to Grow at 33.8% CAGR Through 2029: Industry Report

The Business Research Company's Quantum-Enhanced Predictive Genomics Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

The Business Research Company

LONDON, GREATER LONDON, UNITED KINGDOM, October 14, 2025 /EINPresswire.com/ -- How Big Is The Quantum-Enhanced Predictive Genomics Market In 2025?

The market size for quantum-enhanced predictive genomics has seen rapid escalation over the past few years. Rising steeply from $1.45 billion in 2024 to $1.95 billion in 2025, it exhibits a compound annual growth rate (CAGR) of 34.1%. The notable surge in the recent past links back to factors such as the increasing need for precision medicine, a rise in the intricacy of genomic data, greater investment in quantum computing, broadening scopes in forecasting diseases, and an upswing in partnerships between the technology and healthcare industries.

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The expected expansion of the quantum-enhanced predictive genomics market is anticipated to be significant over the upcoming years, with the market predicted to escalate to a total of $6.26 billion by 2029, growing at a compound annual growth rate (CAGR) of 33.8%. The projected market growth over this period is attributed to the increasing adoption of customized healthcare, the growing unification of AI with quantum genomics, a heightened emphasis on early detection of diseases, increased governmental and private sector investment in R&D, and a growing accessibility of sophisticated genomic datasets. The major trends expected to shape the market over the forecast period include progress in quantum machine learning models, enhancements in genomic data encryption and security, the integration of multi-omics with quantum analytics methods, the evolution of cloud-based quantum genomics platforms, and the increasing collaborations between quantum tech firms and biotech corporations.

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What Are The Key Driving Factors For The Growth Of The Quantum-Enhanced Predictive Genomics Market?
The rising popularity of personalized medicine is projected to significantly impact the growth trajectory of the quantum-enhanced predictive genomics market. Personalized medicine involves customizing medical care, treatments, and preventive measures according to an individual's distinct genetic, biological, and clinical profile. The demand spike for such bespoke medicine stems from its enhanced efficacy, with individual-specific therapies providing superior results and minimal side effects. Quantum-enhanced predictive genomics play a vital role in facilitating personalized medicine by expediting the analysis of intricate genomic data. This rapid analysis process guides clinicians in crafting exceptionally accurate, patient-centric treatment and prevention plans. For example, NHS England, a public health body in the UK, reported that their genomic medicine service conducted over 810,000 custom genomic tests for patients in 2024. This number marks an 8% increment from the previous year—strong evidence of the waxing clinical appetite for genomic-centered care. Consequently, the burgeoning interest in personalized medicine is predicted to fuel the expansion of the quantum-enhanced predictive genomics market.

Who Are The Key Players In The Quantum-Enhanced Predictive Genomics Industry?
Major players in the Quantum-Enhanced Predictive Genomics Global Market Report 2025 include:
• Google LLC
• Microsoft Corporation
• Alibaba Group Holding Limited
• Amazon Web Services Inc.
• Johnson & Johnson Services Inc.
• F. Hoffmann-La Roche AG
• Accenture plc
• IBM Corporation
• Pfizer Inc.
• Bayer AG

What Are The Major Trends That Will Shape The Quantum-Enhanced Predictive Genomics Market In The Future?
Big players in the quantum-improved predictive genomics market are honing in on fresh advancements such as high-throughput genomic data handling to hasten the discovery of genetic variances, refine predictive precision in tailored medicine, and facilitate a quicker, more accurate dissection of intricate genomic datasets. High-throughput genomic data processing points to the swift, mass-scale examination of genomic sequences via cutting-edge computational methods. For instance, in June 2025, Norma Group, a German firm specializing in

the creation and production of engineered and standardized joining and fluid-handling technology, collaborated with Seoul National University Bundang Hospital (SNUBH) to implement quantum algorithms in large genomic analysis. The project's target is to quicken the identification of genetic mutations via quantum-enhanced combinatorial optimization, enhancing both the pace and accuracy of genomic data handling surpassing traditional computing methods. Primary applications encompass precision diagnostics, personalized treatment schedules, and genetic risk evaluation for ailments such as cancer and neurological conditions.

What Segments Are Covered In The Quantum-Enhanced Predictive Genomics Market Report?
The quantum-enhanced predictive genomics market covered in this report is segmented as

1) By Technology: Quantum Computing, Quantum Machine Learning, Quantum Cryptography, Other Technologies
2) By Deployment Mode: On-Premises, Cloud-Based
3) By Application: Disease Risk Assessment, Drug Discovery, Personalized Medicine, Genomic Data Analysis, Other Applications
4) By End-User: Pharmaceutical And Biotechnology Companies, Research Institutes, Healthcare Providers, Other End-Users

Subsegments:
1) By Quantum Computing: Gate Based Quantum Computing, Quantum Annealing, Topological Quantum Computing, Photonic Quantum Computing
2) By Quantum Machine Learning: Supervised Learning, Unsupervised Learning, Reinforcement Learning, Deep Learning
3) By Quantum Cryptography: Quantum Key Distribution, Quantum Random Number Generation, Quantum Secure Communication, Post Quantum Cryptography
4) By Other Technologies: Quantum Sensors, Quantum Simulation, Quantum Networking, Hybrid Quantum Classical Systems

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Which Region Is Expected To Lead The Quantum-Enhanced Predictive Genomics Market By 2025?
In the Quantum-Enhanced Predictive Genomics Global Market Report 2025, North America emerged as the leading region in 2024. It is predicted that Asia-Pacific will experience the most rapid growth during the forecasted period. The report encompasses several regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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