

Genomics Sequencing & CRISPR Gene Editing Market Forecasts to 2034 - Global Analysis By Product & Service (Instruments & Sequencers, Consumables & Reagents, Software & Bioinformatics Tools and Services), Technology, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Genomics Sequencing & CRISPR Gene Editing Market is accounted for \$12.3 billion in 2026 and is expected to reach \$40.3 billion by 2034 growing at a CAGR of 16.0% during the forecast period. Genomics Sequencing & CRISPR Gene Editing brings together high-throughput genetic sequencing and targeted gene-editing technologies to analyze and alter DNA with increasing precision. Genomic sequencing helps reveal mutations, genetic variations, and molecular characteristics, whereas CRISPR systems enable researchers to make specific modifications within genomes. The combined approach is contributing to medical research, therapeutic development, diagnostics, agricultural applications, and personalized healthcare. Continued technological progress is strengthening genomic understanding, expanding research capabilities, and enabling more precise approaches to addressing genetic and biological challenges.

According to the National Human Genome Research Institute (NHGRI), the cost of generating a high-quality draft whole human genome sequence fell from just above \$4,000 in mid-2015 to below \$1,500 by late 2015, demonstrating the substantial improvement in sequencing economics and technology.

Market Dynamics:

Driver:**Rising demand for precision medicine**

Increasing adoption of precision medicine is supporting expansion of the Genomics Sequencing & CRISPR Gene Editing Market. Sequencing technologies provide detailed information about genetic variations, helping researchers and healthcare professionals understand disease mechanisms and develop more individualized approaches to diagnosis and treatment. Meanwhile, CRISPR enables targeted study and modification of specific genes, strengthening research capabilities. The increasing focus on personalized healthcare is encouraging pharmaceutical companies, biotechnology firms, hospitals, and research institutions to invest in genomic sequencing, gene-editing platforms, analytical software, and supporting laboratory technologies.

Restraint:**High cost of sequencing and gene-editing technologies**

Significant investment requirements can limit adoption of genomics sequencing and CRISPR gene-editing solutions. Organizations may need to spend heavily on sequencing equipment, CRISPR platforms, specialized reagents, computational infrastructure, laboratory facilities, and technical expertise. Ongoing costs for system maintenance, genomic data management, validation, and workforce training can further increase expenses. Smaller laboratories, emerging biotechnology firms, and resource-constrained healthcare organizations may therefore face difficulties implementing these technologies. Such cost pressures can restrict broader utilization, particularly where funding for advanced genomic research and gene-editing infrastructure remains limited.

Opportunity:**Expansion of personalized and precision healthcare**

Increasing adoption of personalized healthcare offers considerable growth opportunities for the Genomics Sequencing & CRISPR Gene Editing Market. Genomic sequencing enables comprehensive examination of individual DNA profiles, supporting identification of genetic variations associated with diseases and improving precision-oriented healthcare strategies. CRISPR technology further expands opportunities by facilitating targeted investigation of genes and potential therapeutic approaches. Rising demand for individualized diagnostics, targeted therapies, and genetic biomarkers is encouraging hospitals, biotechnology companies, pharmaceutical organizations, and research institutes to expand their use of sequencing and gene-editing solutions.

Threat:

Data privacy and cybersecurity risks

Cybersecurity issues and concerns over genetic data protection pose significant challenges for the Genomics Sequencing & CRISPR Gene Editing Market. Sequencing activities produce extensive amounts of confidential genomic information that must be carefully managed and protected. Potential risks such as data leaks, unauthorized usage, or cyberattacks can affect public confidence and create regulatory complications. Governments and regulatory agencies may introduce stricter data protection requirements, increasing operational and compliance expenses. Such challenges can limit the pace of adoption and affect investments in genomic and gene-editing technologies.

Covid-19 Impact:

The COVID-19 pandemic affected the Genomics Sequencing & CRISPR Gene Editing Market by creating greater demand for pathogen genome analysis, variant tracking, and genetic research. Genomic sequencing became important for monitoring changes in SARS-CoV-2, while CRISPR technologies gained attention for potential diagnostic and laboratory applications. However, restrictions, disrupted supply chains, laboratory interruptions, and postponed research programs created temporary challenges. The pandemic subsequently encouraged greater investment in genomic surveillance systems, sequencing capacity, computational analysis, and molecular technologies, supporting broader adoption of genomic research tools.

The instruments & sequencers segment is expected to be the largest during the forecast period

The instruments & sequencers segment is expected to account for the largest market share during the forecast period due to its fundamental role in enabling genomic sequencing and CRISPR-related research activities. Sequencing platforms provide essential capabilities for analyzing DNA, detecting genetic variations, studying biological mechanisms, and supporting gene-editing workflows. Their applications extend across biotechnology companies, pharmaceutical research, clinical laboratories, universities, and healthcare settings. Ongoing advances in instrument automation, analytical performance, sequencing capabilities, and integration with laboratory workflows are further increasing the importance of these platforms and reinforcing their central role within the genomics and gene-editing ecosystem.

The personalized medicine segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the personalized medicine segment is predicted to witness the highest growth rate as healthcare increasingly focuses on individualized approaches. Sequencing technologies help identify genetic characteristics, disease-related variants, and relevant biomarkers, while CRISPR enables precise study of specific genetic pathways. The growing use of genomic information for diagnosis, treatment planning, and development of targeted therapies is creating broader opportunities for personalized medicine. Continued progress in precision healthcare and genomic technologies is supporting the segment's rapid expansion.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to its well-developed genomics infrastructure, established biotechnology sector, and extensive use of advanced sequencing and genome-editing technologies. Strong investment from government, research organizations, and private companies supports innovation in genomic medicine, clinical research, and biotechnology. A concentration of pharmaceutical companies, technology providers, academic institutions, and specialized laboratories also contributes to regional adoption. This combination of research capabilities, healthcare infrastructure, and technological expertise reinforces North America's prominent position in genomics sequencing and CRISPR gene editing.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. Expansion of biotechnology capabilities, genomic research programs, and precision healthcare initiatives is increasing regional demand. Countries including China, Japan, India, South Korea, Singapore, and Australia are strengthening investments in sequencing platforms, genome editing, and biomedical research. Growing research partnerships, greater access to genomic technologies, and wider applications in clinical diagnostics and therapeutic development are further supporting expansion. Recent market assessments consistently identify Asia Pacific as a leading high-growth region.

Key players in the market

Some of the key players in Genomics Sequencing & CRISPR Gene Editing Market include Illumina, Thermo Fisher Scientific, Danaher Corporation, CRISPR Therapeutics, Vertex Pharmaceuticals, Intellia Therapeutics, Editas Medicine, Beam Therapeutics, Prime Medicine, Caribou Biosciences, Merck KGaA, Sangamo Therapeutics, Metagenomi, Mammoth Biosciences, Scribe Therapeutics, Tessera Therapeutics, Pacific Biosciences and Oxford Nanopore Technologies.

Key Developments:

In February 2026, Danaher Corp. agreed to acquire Masimo Corp. for \$9.9 billion in a move to strengthen its diagnostics business. Under the terms of the agreement, Danaher will acquire all the outstanding shares of Masimo for \$180 per share in cash, representing a 38.3% premium to Masimo's last closing price.

In October 2025, Thermo Fisher Scientific Inc. has agreed to acquire Clario Holdings Inc., a provider of digital endpoint data solutions for clinical trials. The deal includes potential additional earnout and other payments contingent on future performance. Clario's platform integrates clinical trial endpoint data from devices, sites, and patients, enabling pharmaceutical and biotechnology companies to digitally collect, manage, and analyze clinical evidence across all phases of drug development.

Product & Services Covered:

Instruments & Sequencers

Consumables & Reagents

Software & Bioinformatics Tools

Services

Technologies Covered:

Next-Generation Sequencing (NGS)

CRISPR Gene Editing Platforms

Applications Covered:

Clinical Diagnostics

Drug Discovery & Development

Agricultural Genomics

Personalized Medicine

Functional Genomics & Research

End Users Covered:

Academic & Research Institutes

Pharmaceutical & Biotechnology Companies

Clinical Laboratories & Hospitals

Agricultural & Environmental Organizations

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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