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Long Read Sequencing Market Forecasts to 2032 – Global Analysis By Product (Instruments, Consumables and Services), Technology (Single-Molecule Real-Time (SMRT) Sequencing, Nanopore Sequencing, Synthetic Long-Read Sequencing and Other Technologies), Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Long Read Sequencing Market is accounted for $1.32 billion in 2025 and is expected to reach $5.87 billion by 2032 growing at a CAGR of 23.7% during the forecast period. The technique known as 'long read sequencing' creates lengthy, continuous reads of DNA strands, usually ranging in length from thousands to millions of base pairs. It enables more precise mapping of intricate genomic areas, including structural variations, repetitive sequences, and full-length transcripts, in contrast to conventional short-read techniques. Real-time sequencing and minimal sample preparation are made possible by technologies such as Oxford Nanopore's platforms and Pacific Biosciences' SMRT. Long read sequencing is a potent tool in genomics research because it improves genome assembly, clinical diagnostics, and evolutionary studies by giving genetic information more context and continuity.

Market Dynamics:

Driver:

Increasing demand for accurate genome assembly

Complex genomic areas are challenging to resolve with short reads, but long read

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sequencing methods make this possible. They provide more precision in detecting big insertions or deletions, repetitive sequences, and structural alterations. Applications in personalised treatment, disease research, and evolutionary studies all depend on this accuracy. Long read platforms are becoming more and more popular as academics and medical professionals place a higher value on accurate and comprehensive genetic data. In order to satisfy this rising demand, industry participants are investing in sophisticated sequencing systems.

Restraint:

High cost and error rates

The sophisticated technology required necessitates costly equipment and chemicals, which limits small labs' access to it. Its use in extensive clinical and scientific settings is restricted by the high expense of sequencing each sample. Furthermore, the correctness and dependability of data are jeopardised by the error rates in long-read outputs. This frequently calls for additional short-read sequencing for validation, which raises the expense and time. As a result, users hesitate to fully transition to long-read platforms, slowing market expansion.

Opportunity:

Growing use in clinical diagnostics and personalized medicine

Gene fusions, complicated genomic areas, and structural changes that short reads frequently overlook can be accurately detected by long read sequencing. For the diagnosis of complex diseases and rare genetic abnormalities, this accuracy is essential. This helps personalised medicine by customising care according to each patient's distinct genetic composition. Additionally, the technology helps cancer genomics and non-invasive prenatal diagnostics. Long read sequencing is gaining traction as the need for accurate, customised healthcare increases.

Threat:

Competition from short read technologies and emerging sequencing platforms

Adoption is facilitated by the established, widely used infrastructure and user familiarity of short read methods. Because of its precision and high throughput, short reads are still used in many clinical and research applications. New platforms are bridging the

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read-length divide without sacrificing price. Long read suppliers are under pressure to innovate and cut prices quickly as a result. Market expansion is therefore confronted with slower adoption and more intense pricing competition.

Covid-19 Impact

The COVID-19 pandemic positively impacted the Long Read Sequencing market by accelerating genomic research and diagnostic development. Increased demand for accurate and rapid pathogen detection drove investments in sequencing technologies. Long read sequencing played a vital role in studying virus mutations, improving surveillance, and supporting vaccine development. Additionally, collaborative efforts between governments and biotech firms expanded sequencing capacity globally. Despite initial supply chain disruptions, the market experienced significant growth due to heightened awareness of genomic tools in healthcare preparedness and response.

The consumables segment is expected to be the largest during the forecast period

The consumables segment is expected to account for the largest market share during the forecast period, due to ensured recurring demand through each sequencing run. These include reagents, kits, and flow cells, which are essential for accurate and efficient long-read data generation. Technological advancements in consumables enhance read length, accuracy, and throughput, attracting more research and clinical applications. As the adoption of long-read sequencing grows in fields like genomics and oncology, the need for high-performance consumables rises. This steady and expanding demand strengthens the overall market growth and profitability.

The hospitals & healthcare providers segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the hospitals & healthcare providers segment is predicted to witness the highest growth rate, due to the growing demand for accurate and comprehensive genomic data for patient diagnostics and personalized treatment. These institutions increasingly adopt long read sequencing to identify complex genetic variations that short read methods may miss. Rising incidences of rare genetic disorders and cancer further drive the need for precise genomic analysis in clinical settings. Integration of long read sequencing into hospital labs improves diagnostic workflows and enhances patient outcomes. Additionally, government funding and public-private partnerships support the adoption of advanced sequencing technologies in healthcare infrastructure.

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Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to increasing investments in genomics research, government support for precision medicine, and the rising prevalence of genetic disorders. Countries like China, Japan, and India are expanding their biotechnology infrastructure and research capabilities. Collaborations between local universities and global biotech firms are fuelling technological adoption. Moreover, the growing demand for personalized healthcare and increasing awareness about genomic testing contribute significantly to market expansion across the region.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, owing to the presence of major players, advanced healthcare infrastructure, and high R&D expenditure. The U.S., in particular, leads in the adoption of cutting-edge genomic technologies for clinical and research applications. The region benefits from established funding frameworks, robust regulatory systems, and widespread academic-industry collaborations. Unlike Asia Pacific, North America's market maturity allows for rapid deployment of innovative sequencing platforms and large-scale population genomics initiatives.

Key players in the market

Some of the key players profiled in the Long Read Sequencing Market include Pacific Biosciences, Oxford Nanopore Technologies, Illumina Inc., BGI Genomics, MGI Tech, 10x Genomics, Agilent Technologies, Thermo Fisher Scientific, Qiagen, Bionano Genomics, Element Biosciences, Quantapore Inc., Universal Sequencing Technology, BaseClear BV, Cantata Bio, LLC, Future Genomics Technologies B.V., MicrobesNG and SeqLL, Inc.

Key Developments:

In May 2025, PacBio expanded its distribution agreement with Xi'an-based Haorui Gene, making Haorui the distributor for the Vega benchtop system across China and providing product support. Haorui had already deployed 10 Sequel II and Revio sequencers, focusing on blood typing genomics and HLA testing.

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In October 2024, PacBio signed a research collaboration agreement to accelerate cancer genomics research in Asia, leveraging both its long-read (Revio) and short-read (Onso) sequencing platforms. The collaboration, supported by DKSH, aims to expand multi-omics research and precision oncology in the region.

In July 2024, Oxford Nanopore and Plasmidsaurus entered an expanded, multi-year strategic collaboration to transform the plasmid sequencing market using nanopore technology. This partnership aims to deliver rapid, high-quality, and cost-effective whole-plasmid sequencing, with plans to co-develop new technologies and applications for microbial and gene therapy use cases.

Products Covered:

- Instruments
- Consumables
- Services

Technologies Covered:

- Single-Molecule Real-Time (SMRT) Sequencing
- Nanopore Sequencing
- Synthetic Long-Read Sequencing
- Other Technologies

Applications Covered:

- Genomics
- Transcriptomics
- Epigenetics

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- Metagenomics
- Other Applications

End Users Covered:

- Pharmaceutical & Biotechnology Companies
- Clinical Laboratories
- Hospitals & Healthcare Providers
- Contract Research Organizations (CROs)
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain

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- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia
- UAE
- Qatar
- South Africa

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Rest of Middle East & 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 2024, 2025, 2026, 2028, and 2032
- 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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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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