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Single-molecule Real-time (SMRT) Sequencing Market Size, Share and Growth Outlook 2026: By Offering (Products, Services), By Workflow, By Application, By End-User, Companies to 2034.

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Abstracts

The global Single-molecule Real-time (SMRT) Sequencing Market size is forecast to increase from $3.64 Billion in 2026 to $9.12 Billion in 2034 at a CAGR of 12.16% between 2026 and 2034.

The Single-molecule Real-time Sequencing market report provides detailed analysis and outlook of Single-molecule Real-time Sequencing segments including By Offering (Products, Services), By Workflow (Sequencing, Data Analysis), By Application (Drug Discovery, Diagnostics, Agriculture, Epigenetics), By End-User (Academic and Research Institutes, Biopharmaceutical and Biotechnology Companies, Hospitals and Clinical Laboratories) across global and regional markets. Further, analysis and outlook across 21 countries in North America, Europe, Asia Pacific, Middle East, Africa, and South America are provided in the study.

Single-molecule Real-time (SMRT) Sequencing Industry Overview

Long-Read Sequencing Is Advancing Precision Genomics and Clinical Diagnostics.

Single-molecule Real-time (SMRT) sequencing is becoming a cornerstone of next-generation long-read genomics as researchers and healthcare providers seek more comprehensive characterization of complex genomes than conventional short-read technologies can provide. The technology is increasingly adopted for structural variant detection, haplotype phasing, epigenetic analysis, repeat expansion identification, de novo genome assembly, cancer genomics, and rare disease research. Continuous

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improvements in sequencing chemistry, throughput, data quality, and bioinformatics are enabling SMRT sequencing to move from specialized research applications toward routine clinical and translational medicine. Growing demand for highly accurate long-read sequencing is also supporting large-scale population genomics initiatives, precision medicine programs, and biomarker discovery across academic, pharmaceutical, and clinical laboratories.

Technology Innovation and Artificial Intelligence Are Improving Sequencing Performance.

The SMRT sequencing industry is increasingly focused on reducing sequencing costs while simultaneously improving read accuracy, throughput, and biological interpretation. Platform developers are integrating advanced sequencing chemistries with artificial intelligence-driven analytical tools to accelerate genomic analysis and enhance interpretation of increasingly complex datasets. Supporting this trend, PacBio introduced the SPRQ-Nx sequencing chemistry and new multi-use SMRT Cells for its Revio HiFi sequencing platform, reducing the projected list price of HiFi long-read sequencing to below $300 per genome at scale while expanding methylation analysis through detection of 5-hydroxymethyl-cytosine (5hmC). Complementing these hardware innovations, PacBio collaborated with Google to optimize the DeepConsensus algorithm using Google's AlphaEvolve coding agent, improving data quality, processing speed, and biological interpretation for HiFi sequencing while supporting large-scale population studies and complex rare disease investigations.

Clinical Adoption Is Expanding Through Large-Scale Rare Disease Genomics Programs.

The industry is increasingly transitioning from research-focused sequencing toward clinical implementation, particularly in rare disease diagnosis where long-read technologies provide significant advantages in identifying complex genomic variants that may be missed by conventional sequencing methods. Collaborative initiatives between sequencing technology providers, bioinformatics companies, and healthcare institutions are generating large, clinically validated genomic datasets that support broader adoption of long-read sequencing in routine diagnostics. Reflecting this industry evolution, PacBio partnered with DNAstack to establish a federated HiFi genomic dataset comprising more than 10,000 whole genomes collected from clinical and research institutions worldwide. The initiative is designed to validate SMRT sequencing as a potential first-line diagnostic approach for rare diseases, supporting the growing movement toward integrating highly accurate long-read sequencing into clinical

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workflows for the estimated 300 million people globally living with rare diseases.

Single-molecule Real-time Sequencing Market Trends, Growth Drivers, Competitive Landscape, and Future Opportunities

The global Single-molecule Real-time Sequencing market is witnessing increasing investments in innovation, product development, digital transformation, artificial intelligence integration, healthcare infrastructure expansion, and strategic partnerships across developed and emerging economies. Key Companies in the industry include- Pacific Biosciences of California, Inc. (PacBio) , Illumina, Inc. , Oxford Nanopore Technologies plc , Thermo Fisher Scientific Inc. , F. Hoffmann-La Roche Ltd , Agilent Technologies, Inc. , QIAGEN N.V. , BGI Genomics Co., Ltd. , Bio-Rad Laboratories, Inc. , MGI Tech Co., Ltd.. The Single-molecule Real-time Sequencing market is expected to remain one of the most closely watched segments in the global healthcare industry, with companies focusing on niche market segments. As healthcare systems across the US, Europe, Asia-Pacific, Latin America, and Middle East & Africa continue to prioritize efficiency, access, and innovation, the Single-molecule Real-time Sequencing industry outlook remains shaped by rising healthcare expenditure, demographic change, digital transformation, and product innovation.

The report provides detailed market analysis including-

- Growth Single-molecule Real-time Sequencing Market size outlook across 3 scenarios- High growth, reference, and Low growth cases
- Market Trends, Drivers, Potential Opportunities, and Challenges faced by Single-molecule Real-time Sequencing companies
- Porter’s Five forces analysis- Bargaining power of buyers and sellers, Threat of Substitutes and new entrants, and Intensity of competitive rivalry
- Detailed SWOT Analysis of global and regional Single-molecule Real-time Sequencing markets
- Competitive analysis including business description, product analysis, and financial profiles
- Key country specific analysis detailing key factors shaping the short-term and long-term outlook

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Recent industry developments and news including mergers, acquisitions, product launches, expansions, and company announcements

Single-molecule Real-time Sequencing Market Competitive Benchmarking and Company Analysis

Leading companies in Single-molecule Real-time Sequencing industry include- Pacific Biosciences of California, Inc. (PacBio) , Illumina, Inc. , Oxford Nanopore Technologies plc , Thermo Fisher Scientific Inc. , F. Hoffmann-La Roche Ltd , Agilent Technologies, Inc. , QIAGEN N.V. , BGI Genomics Co., Ltd. , Bio-Rad Laboratories, Inc. , MGI Tech Co., Ltd.. The Single-molecule Real-time Sequencing market remains moderately to highly fragmented, with competition expected to intensify as companies accelerate investments in innovation, geographic expansion, strategic partnerships, and portfolio diversification through 2034. In developed markets such as the United States, Germany, France, the United Kingdom, and Canada, competition is increasingly centered on innovation, reimbursement positioning, and value-based healthcare solutions. Meanwhile, emerging markets including China, India, Brazil, and countries across the Middle East and Africa continue to present significant opportunities for expansion due to rising healthcare expenditure, growing patient populations, and increasing access to healthcare services.

What to expect in US Single-molecule Real-time Sequencing Markets in 2026 and beyond- Market Size, Share, Growth Rate, and Forecast to 2034

The US healthcare expenditure is forecast to reach $8.2 Trillion in 2034 from $5.5 Trillion in 2026 based on the National Health Expenditure Accounts (NHEA) data. With an aging population, rising chronic disease burden, and increasing migration toward minimally invasive and outpatient care, the Single-molecule Real-time Sequencing market remains one of the strongest-performing segments in the country.

The US Single-molecule Real-time Sequencing Companies are opting new business models, optimized pricing models, industry partnerships, and AI-enabled back end transformations to enhance efficiency and cost management. The US Single-molecule Real-time Sequencing market faces successive waves of challenging trends, with strong opportunities across select segments. The CMS plan to implement Medicaid from 2027 is driving states to build eligibility verification systems throughout 2026. Looking ahead to 2034, we anticipate stronger results underpinned by opportunities

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exist across Single-molecule Real-time Sequencing industry. On the medical device front, over 7,000 device manufacturers continue to gain from increasing demand from demand for implantable devices, surgical instruments, monitoring equipment, and diagnostic systems.

Canada- Proximity to the US and healthcare similarities to EU5 countries fuel sales of Canadian Single-molecule Real-time Sequencing markets

Canada's strong Single-molecule Real-time Sequencing sales performance is underpinned by an aging population and a well-developed healthcare infrastructure. Steady growth in new brand spending in rural and urban locations fuel the long-term prospects of small and medium-sized enterprises across medical, diagnostic, and therapeutic devices. The Canadian Single-molecule Real-time Sequencing market presents significant opportunities for U.S. exporters of medical devices, with the U.S. being Canada’s largest trading partner for this sector. Potential advantages including specialized materials, advanced manufacturing techniques, and digital technologies support the launch of new products in the country.

Germany Single-molecule Real-time Sequencing Trends and Perspectives to 2034- Financial sustainability, hospital restructuring, demographic pressures, and digitization of care delivery continue to shape the German healthcare industry.

Germany continues to remain the largest Single-molecule Real-time Sequencing market in Europe, driven by over €600 Billion healthcare expenditure, €12 Billion medical device R&D expenditure, statutory health insurance system covering 90% German population, nationwide rollout of the electronic patient record (ePA), and large-volume of Single-molecule Real-time Sequencing population. In particular, Research and development in Germany fuels the commercialization of cutting-edge technologies. Companies across the Germany Single-molecule Real-time Sequencing industry value chain are focusing on both domestic markets and exports. The country is also driving digital adoption with the Hospital Future Act driving hospitals to upgrade their information systems by 2027. Over the forecast period, aging population, rising healthcare costs, and increasing procedural volumes drive the Single-molecule Real-time Sequencing market outlook.

France Market Size, Growth Rate, and Forecast Analysis to 2034- Universal healthcare system, high public healthcare expenditure, and strong government support Single-molecule Real-time Sequencing sales through 2034

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France Single-molecule Real-time Sequencing companies are emphasizing on opportunities for rapid, at-scale innovation to boost profitability over the long-term. The country's National Health Insurance spending target (ONDAM) estimates 3.7% growth in the country's healthcare expenditure. Over the forecast period, expenditure control measures, chronic disease management initiatives, workforce reforms, and efforts to improve system efficiency drive the long-term prospects.

The biggest 2026 policy frame is the PLFSS 2026. The law sets the Maladie branch spending target at €271.4 billion for 2026 and fixes the ONDAM at €117.5 billion for city care, €112.8 billion for health establishments, and €18.3 billion for elderly-care establishments and services. France's market is also being pulled by demographics. INSEE estimates that on 1 January 2026 France had 69.1 million inhabitants, with 22% aged 65 or over. INSEE also reported that 2025 births were 645,000 and deaths were 651,000, producing a negative natural balance of about 6,000 for the first time since the end of the Second World War.

UK Single-molecule Real-time Sequencing Market Size, Share, and Growth Projections to 2034- Rapid growth driven by new and existing brands across the industry value chain

Small high-need consumer segments remain key priority of Single-molecule Real-time Sequencing distributors in the UK industry. Continuous launch of new products coupled with high expenditures support the market outlook. The UK Government financing remains the dominant funding source at 81.3% of total healthcare expenditure, or ?280 billion in 2025. According to the ONS, total healthcare spending grew 7.7% nominally and 3.9% in real terms from 2024 to 2025. Similarly, out-of-pocket spending was ?49 billion (14.1%) and voluntary health insurance was ?9.5 billion (2.8%). The market is driven by rapid digital adoption with NHS England's plan to give more than 500,000 staff access to new AI tools.

China Single-molecule Real-time Sequencing Market Growth Drivers, Revenue Trends, and Forecast- Medical insurance coverage is rapidly expanding over the past few years

China Single-molecule Real-time Sequencing market is undergoing a structural shift from hospital-centric care toward a more integrated system emphasizing primary care, outpatient services, and long-term care. Chinese local players are emerging as a strong pillar of Single-molecule Real-time Sequencing industry, offering opportunities for both competition and partnership. Over the forecast period, new and innovative product launches remain key elements driving market outlook. China's healthcare industry is

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increasingly centered on expanding healthcare capacity, improving access to advanced treatments, and reducing dependence on imported technologies.

The National Healthcare Security Administration reported that by end-2024, China's basic medical insurance covered 1.32662 billion people and the coverage rate was 95%. Regional disparities in consumer spending trends continue to become more pronounced in the Chinese Single-molecule Real-time Sequencing industry. Over the forecast period, demand will keep shifting toward geriatrics, chronic disease management, rehabilitation, long-term care, and outpatient care, while pricing pressure will remain intense in drugs and consumables because reimbursement.

India Single-molecule Real-time Sequencing Market Landscape: Current Size and Long-Term Growth Outlook - Increased pricing pressures in US market is encouraging domestic vendors to expand across India

Indian Single-molecule Real-time Sequencing market is witnessing the rapid emergence of an ecosystem that brings together diverse companies across the industry value chain. Further, large-scale healthcare public and private investments and a steady growth in chronic conditions is driving sales of pharmaceuticals and medical devices. Further, non-retail channel is experiencing volume decrease and patients are migrating to the retail. Indian medical device firms are also combining precision engineering with lower labor costs to make world-class diagnostics, robotics, and critical care devices.

Brazil Single-molecule Real-time Sequencing market remains price-driven, with products domestically manufactured and accessibility offering potential opportunities

Healthcare expenditure in Brazil exceeds 10% of GDP, with the country among the highest healthcare spenders in Latin America. ANS reported 53.2 million medical-plan beneficiaries in December 2025, while IBGE projects a steady rise in older-age cohorts, with people aged 60+ already representing about 23% of the population. The price sensitive market access is broad through the public system, private coverage adds a sizeable premium layer, and reimbursement, procurement, and hospital efficiency remain key buying drivers.

Middle East and Africa Single-molecule Real-time Sequencing Industry Trends and Perspectives to 2034

According to the World Bank, the Middle East and North Africa population exceeds 500 million, while Sub-Saharan Africa's population exceeds 1.2 billion, making the broader

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MEA region one of the fastest-growing healthcare demand centers globally. The GCC countries including Saudi Arabia, United Arab Emirates, Qatar, and Kuwait continue to account for a disproportionately large share of regional healthcare spending. Government-led programs such as Saudi Arabia's Vision 2030 are accelerating investments in hospital infrastructure, private-sector participation, medical technology adoption, and healthcare digitalization. On the other hand, South Africa, Egypt, Nigeria, and Kenya remain key healthcare markets due to their large populations, expanding private healthcare sectors, and growing investments in healthcare delivery systems.

Single-molecule Real-time Sequencing Market Segmentation

By Offering

Products

Services

By Workflow

Sequencing

Data Analysis

By Application

Drug Discovery

Diagnostics

Agriculture

Epigenetics

By End-User

Academic and Research Institutes

Biopharmaceutical and Biotechnology Companies

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Hospitals and Clinical Laboratories

Leading Companies in Single-molecule Real-time Sequencing Industry (2026)

Pacific Biosciences of California, Inc. (PacBio)

Illumina, Inc.

Oxford Nanopore Technologies plc

Thermo Fisher Scientific Inc.

F. Hoffmann-La Roche Ltd

Agilent Technologies, Inc.

QIAGEN N.V.

BGI Genomics Co., Ltd.

Bio-Rad Laboratories, Inc.

MGI Tech Co., Ltd.

Countries Included

North America- US, Canada, Mexico

Europe- Germany, France, UK, Spain, Italy, Nordics, Others

Asia Pacific- China, India, Japan, South Korea, Australia, Southeast Asia, Others

Latin America- Brazil, Argentina, Others

Middle East and Africa- Saudi Arabia, UAE, Other Middle East, South Africa, Other Africa

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