# DNA Sequencing - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-08-01 | 131 pages | Mordor Intelligence

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**Report description:**

DNA Sequencing Market Analysis

The DNA sequencing market size reached USD 14.40 billion in 2025 and is projected to touch USD 34.23 billion by 2030, reflecting an 18.91% CAGR over the forecast window. Demand is shifting from academic discovery toward routine clinical testing in oncology, rare disease, and infectious-disease surveillance. A sustained drop in cost-per-genome, steady reimbursement expansion, and government-funded precision-medicine programs are widening patient access while enlarging installed instrument bases. Nanopore and other long-read platforms are eroding the short-read stronghold by resolving complex genomic regions, whereas cloud bioinformatics and AI pipelines streamline interpretation and cut turnaround times. Nevertheless, fragmented data-privacy rules and geopolitical supply-chain risks raise compliance costs and threaten reagent continuity, tempering growth momentum.

Global DNA Sequencing Market Trends and Insights

Declining Cost-Per-Genome Revolutionizes Access

Sequencing a whole human genome has fallen from USD 1 million in 2007 to under USD 600 in 2025, unlocking routine use across community hospitals. Illumina's NovaSeq X cuts that figure below USD 200, and Ultima Genomics markets a USD 100 genome, altering budget allocation toward data interpretation tools. United Kingdom oncology centers now deploy whole-genome sequencing for pediatric cancers, and Germany and Sweden are piloting similar programs. Vendors are pivoting from hardware

sales to application-specific solutions; Illumina's acquisition of Fluent BioSciences strengthens single-cell assay portfolios, underscoring a shift toward higher-margin, software-rich offerings. As costs approach commodity levels, competitive focus centers on differentiated chemistry and bioinformatics ecosystems.

Broader Reimbursement Accelerates Clinical Adoption

Centers for Medicare & Medicaid Services expanded national coverage for next-generation sequencing in solid tumors in 2024, removing a primary barrier to uptake. The National Comprehensive Cancer Network now recommends whole-genome sequencing for acute myeloid leukemia, further cementing clinical demand. Yet reimbursement remains patchy across private payers and European insurers, prompting vendors to invest in health-economics evidence packages and payer-education teams. Local Coverage Determinations increasingly target high-value uses such as indeterminate pulmonary-nodule risk stratification, creating incremental tailwinds.

High Capital Costs Create Market Entry Barriers

A top-tier high-throughput instrument can exceed USD 1 million, with annual maintenance contracts adding significant overhead. Smaller laboratories defer acquisition or rely on reagent-rental models and centralized core facilities. Element Biosciences attempts to democratize access with the USD 289,000 AVITI system that features per-gigabase operating costs of USD 2-USD 5, yet the razor-and-blade economics still favor incumbents that control consumable supply. Capital requirements therefore slow expansion in low-resource settings and reinforce economies of scale for established vendors.

Other drivers and restraints analyzed in the detailed report include:

Government Precision-Medicine Programs Drive Infrastructure / Genomics-Based Drug Discovery Expands Applications / Bioinformatics Bottlenecks Constrain Value Extraction /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Consumables generated 58.11% of revenue in 2024 owing to proprietary flowcells and reagent kits that users must reorder for every run, underscoring the razor-and-blade model that supports the DNA sequencing market. Margins on chemistry routinely outpace those on instruments, funding accelerated product refresh cycles. Services, including sequencing-as-a-service and data analytics, are climbing at an 18.21% CAGR as laboratories outsource complex informatics and compliance workloads.

Consumable innovation now focuses on lowering cost and increasing throughput. Ultima Genomics is moving to unpatterned wafers that shrink lithography expense and facilitate scale-out manufacturing. Meanwhile, service providers such as DNAnexus couple cloud compute, compliance, and AI interpretation to deliver end-to-end actionable reports rather than raw data, enhancing customer stickiness. Together these shifts position recurring consumables and managed services as the lifeblood of the DNA sequencing market.

Next-generation short-read instruments captured 81.51% of revenue in 2024 thanks to validated clinical workflows, high accuracy, and wide assay menus. Nanopore sequencing is the fastest-growing subsegment at a 28.41% CAGR, propelled by real-time long reads that resolve structural variants and methylation patterns. PacBio's SPRQ chemistry drops HiFi human genome costs below USD 500, improving affordability for population studies.

Oxford Nanopore's PromethION 2 Integrated delivers up to 290 Gb per flowcell with onboard compute, while its 99.7%

single-nucleotide accuracy strengthens clinical credibility. Vendors increasingly promote hybrid pipelines that merge short-read economy with long-read context, broadening use scenarios from oncology to metagenomics and transcriptomics. Competitive intensity is therefore accelerating innovation pace across both read-length regimes.

The DNA Sequencing Market Report is Segmented by Product & Service (Instruments, and More), Sequencing Technology (Sanger Sequencing, and More), Workflow Step (Sample Preparation, and More), by Application (Clinical Diagnostics, and More), by End User (Hospitals, and More), Geography (North America, Europe, Asia-Pacific, The Middle East and Africa, and South America). The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

North America accounted for 45.11% of 2024 revenue, fueled by Medicare coverage expansion, abundant venture capital, and a supportive FDA framework. The National Institutes of Health channel multi-year grants into rare-disease and cancer-genome initiatives, while infrastructure laws incentivize bio-manufacturing. Proposed US legislation restricting Chinese genomic suppliers, however, threatens reagent flow and increases inventory costs for domestic labs.

Asia Pacific is poised to be the fastest-growing territory with a 19.63% CAGR, driven by population-scale sequencing projects and rising healthcare spend. China dominates volume through hospital cancer registries and direct-to-consumer tests, whereas Singapore's long-read population program aims to create a high-quality Asian reference genome that underpins regional assays. India announces biobank networks under its National Genomics Mission, though disparate reimbursement hinders clinical roll-out.

Europe maintains significant share through publicly funded health systems that embed genomic testing into routine care. The General Data Protection Regulation enforces strict consent protocols and cross-border data rules, raising compliance costs. The UK's Genomics England targets 5 million whole genomes, Germany funds hospital digitalization for genomic data integration, and France's national plan scales newborn-screening pilots. Emerging markets in the Middle East, Africa, and South America remain nascent but invest in oncology sequencing and infectious-disease surveillance as costs fall and mobile labs spread to remote clinics.

List of Companies Covered in this Report:

Agilent Technologies / Bio-Rad Laboratories / Danaher Corp. (IDT) / Roche / Illumina / Merck / PerkinElmer / Thermo Fisher Scientific / QIAGEN / Macrogen / Myriad Genetics / Eurofins / Hamilton Thorne / Pacific Bioscience / Oxford Nanopore Technologies PLC / BGI Genomics Co. Ltd. (MGI Tech) / 10x Genomics Inc. / GenScript Biotech Corp. /

Additional Benefits:

The market estimate (ME) sheet in Excel format /
3 months of analyst support /

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