

Whole Genome Sequencing: Global Markets

Market Research Report | 2025-06-25 | 81 pages | BCC Research

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Report description:

Description

Report Scope

This report highlights the current and future market potential of whole genome sequencing (WGS) and provides in-depth market estimates. This data-focused report covers market projections until 2030 at the global and regional levels for each segment. It provides market estimates and forecasts based on the product and service type, sequencing type, workflow end user, application and region. By product and service, the market is segmented into instruments, consumables and services.

By workflow, the segments include pre-sequencing, sequencing and data analysis. Based on the end user, the market is segmented into research institutes, hospitals and clinics, pharmaceutical companies, and others. By application, the market is categorized as infectious diseases, cancer research, rare genetic diseases, pharmacogenomics and others. Geographical regions include North America, Europe, Asia-Pacific and the Rest of the World (RoW). The report includes global revenue (\$ millions) for the base year 2024, estimated data for 2025, and forecasts of CAGRs through 2030.

Report Includes

- 67 data tables
- Industry insights and a brief overview of the global market for whole genome sequencing (WGS) technology
- In-depth analysis of global market trends, featuring historical revenue data for 2022-2024, estimated figures for 2025, including projections of CAGRs through 2030
- Evaluation of the current market size and revenue growth prospects for the global market, accompanied by a market share analysis by product and service type, workflow, application, end user, and region
- Country specific sales data and analysis for the U.S., Canada, Mexico, Germany, the U.K., France, Italy, Spain, Japan, China, India, South Korea, Australia, Rest of Europe, Rest of Asia-Pacific, South America, the Middle East and Africa

Executive Summary

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Summary:

The global market for whole genome sequencing is expected to grow from \$3 billion in 2025 and forecast to reach \$6.1 billion by the end of 2030, at a compound annual growth rate (CAGR) of 15.1% from 2025 to 2030.

Whole genome sequencing provides comprehensive information on genes and helps understand the role of coding and noncoding DNA in genetic expression. WGS involves extracting DNA from the organism, building a library, sequencing the DNA fragments and analyzing the data to identify genetic variations. The potential of WGS to offer a base-by-base view of the genome makes it more efficient than other methods, such as whole exome sequencing.

Whole genome sequencing is a promising tool for diagnosing, treating and monitoring many conditions, including cancer, rare inherited disorders, and neurological conditions. This technology's ability to offer comprehensive information about the whole genome can reduce the need for single gene tests or other invasive procedures to diagnose diseases. WGS is increasingly being explored in drug development to identify better disease targets and select suitable patients for a study based on genomic profiling. In drug development, the WGS technology is explored to characterize biomarkers for diseases such as cancer. and Due to its ability to identify variants, such as single nucleotide variants and structural variants, this technology can play a prominent role in the diagnostics industry in the future.

Market Dynamics and Growth Drivers

The growing research to understand the impact of genetic mutations on the occurrence of cancer, rare diseases, infectious diseases, etc., is driving the demand for WGS technology. Further, the decreasing genome sequencing costs influence market growth. Furthermore, government initiatives to establish genome data banks and healthcare organizations such as NHS (National Health Service) evaluating WGS for cancer diagnosis and treatment monitoring highlight the clinical utility of the technology.

Data analysis and management challenges and a lack of infrastructure in emerging countries hamper the market's growth. The high cost of sequencers and the lack of skilled professionals affect the market in regions such as Asia-Pacific and South America. However, with a growing emphasis on the automation of sequencing operations, WGS workflows can have simplified operations with reduced manual operations.

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