

Next-Generation Sequencing Market is growing at a CAGR of 18% from 2024 to 2030 by Exactitude Consultancy

The Exactitude Consultancy Next-Generation Sequencing Market Report – Size, Trends, and Forecast 2024-2030

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□□□□□□□□□□ □□□□□□□□□□ (□□□□) is a parallel processing technique that has an extremely high capacity, scalability, and quick speed for determining the nucleotide sequence throughout the entire genome. Additionally, the NGS is

gradually being applied to disease screening, diagnosis, and medical laboratory research in the healthcare industry. It speeds up the drug research process and is widely used in personalized medicine. Increasingly effective sequencing technologies and the unfulfilled clinical need for a better tool for illness prediction, treatment, diagnosis, and monitoring are some of the factors



Next-Generation Sequencing Market

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The Next-Generation Sequencing (NGS) market is growing rapidly due to rising demand in genomics, personalized medicine, diagnostics, and research applications.”

Exactitude Consultancy

propelling the Next Generation Sequencing Market. The industry's investment, patient demand, expanding knowledge of the molecular causes of disease, and laws allowing the marketing of tests without FDA approval all contribute to the market's expansion. Researchers frequently employ various potential sequencing techniques, such as whole exome and targeted sequencing, whole-genome sequencing, and RNA sequencing, to acquire a comprehensive sample analysis. Additionally, NGS DNA sequencing technology is less expensive and provides higher throughput than traditional

Sanger sequencing. The NGS market is being positively impacted by the increase in automation for data analysis, post-sequencing protocols, and pre-sequencing protocols. The demand for the NGS market is further increased by the use of cutting-edge platforms for the development of personalized medicine through genetic analysis in medicine.

sequencing, targeted sequencing, ChIP sequencing, and other NGS services. 43.9% of the NGS services market is anticipated to be accounted for by the targeted sequencing services segment in 2024. A significant portion of this market is explained by the growing use of targeted sequencing in precision medicine, its greater cost-effectiveness when compared to alternative sequencing services, the growing number of clinical applications for disease diagnosis and patient health monitoring, its quick turnaround, and its expanding significance in cancer research and drug development.

NGS Services Market: The market is segmented into various categories based on technology, application, and service type. The major segments include sequencing by synthesis (SBS), ion semiconductor sequencing (IOS), single-molecule real-time sequencing (SMRT), nanopore sequencing, and DNA nanoball sequencing.

Based on technology, Sequencing by synthesis (SBS), ion semiconductor sequencing (IOS), single-molecule real-time sequencing (SMRT), nanopore sequencing, and DNA nanoball sequencing are the different segments of the NGS services market. The sequencing by synthesis (SBS) market segment is anticipated to hold the biggest share of the NGS services market in 2024, making up 62.9% of the total market. Benefits such as higher yield of error-free throughput, base call values greater than Q30, and superior accuracy in DNA sequencing over other sequencing technologies account for a large portion of this segment's market share.

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NGS Consumables

Sequencing Services

Exome & Targeted Resequencing & Custom Panels

Whole-Genome Sequencing & De Novo Sequencing

RNA Sequencing

Other Sequencing Services

Presequencing Products & Services

Library Preparation & Target Enrichment

Quality Control

NGS Platforms

Illumina

Thermo Fisher Scientific

Oxford Nanopore Technologies

Pacific Biosciences

Other Platforms

Bioinformatics

Services For NGS Platforms

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Sequencing By Synthesis

Ion Semiconductor Sequencing

Nanopore Sequencing

Single-Molecule Real-Time Sequencing

Other Technologies

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Diagnostics

Cancer Diagnostics

Infectious Disease Diagnostics

Reproductive Health Diagnostics

Other Diagnostic Applications

Drug Discovery

Agricultural & Animal Research

Other Applications

Genomic research, clinical diagnostics, personalized medicine, drug discovery, and other applications (see report for details)

Academic Institutes & Research Centers

Pharmaceutical & Biotechnology Companies

Hospitals & Clinics

Other End Users

This report caters to a wide audience, from industry experts seeking insights into the dynamic Next-Generation Sequencing market to newcomers looking for guidance. Customization options are available to ensure the report's relevance to your specific needs.

Our report provides a comprehensive overview of the NGS market, including market size, growth drivers, challenges, and opportunities. It also includes detailed analysis of key players, regional trends, and future outlook.

- North America (United States, Canada and Mexico)
- Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)
- Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)
- South America (Brazil, Argentina, Colombia, and Rest of South America)
- Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

Regional Analysis

North America is anticipated to hold the biggest market share of 45.5% for NGS services in 2024. Leading NGS service providers, encouraging government initiatives for genomics research, expanding applications of NGS-based research, falling sequencing costs combined with growing NGS awareness, growing research investments by pharmaceutical and biopharmaceutical companies, rising cancer prevalence, and favorable reimbursement scenarios are the main reasons for North America's significant market share in NGS services.

Asia-Pacific Region

In the forecast period of 2024–2030, the Asia-Pacific region is expected to register the highest CAGR of 23.2%. The main reasons for this region's growth are the expanding prevalence of chronic diseases along with rising healthcare costs, as well as the expanding healthcare and pharmaceutical sectors as a result of growing investments and supporting initiatives.

Figure 1. Global NGS market size, 2015-2025:

<https://exactitudeconsultancy.com/reports/2317/next-generation-sequencing-market/>

Figure 2. Global NGS market size, 2015-2025

Figure 3. Global NGS market size, 2015-2025

The benefits of NGS and the rapidly declining costs associated with NGS procedures have prompted the implementation of internal NGS systems. For their sequencing requirements, a growing number of sizable hospital chains, academic institutions, and research centers are building internal NGS facilities. By shortening the time it takes to receive test results, these in-house facilities assist medical professionals in efficiently developing individualized treatment plans for their patients. By cutting down on turnaround times and maintaining sample quality, these internal resources assist researchers in increasing the efficiency of their research. Their assistance in enhancing an organization's revenue channels also has a negative impact on the earnings of primary NGS service providers. Consequently, the growing number of large-scale hospitals, academic & research institutions, and other institutions installing in-house sequencing platforms and facilities may negatively impact the earnings of NGS service providers and impede the expansion of the NGS services market.

Figure 4. Global NGS market size, 2015-2025

Many diagnostic laboratories have NGS available, and it is widely used for testing for cancer. NGS technologies are being used more and more to diagnose diseases other than cancer. From novel microbial agents that start epidemics to heterogeneous mutations that result in complex inherited disorders, NGS can be used to diagnose a wide range of diseases. The most effective technique for diagnosing multigene diseases is next-generation sequencing (NGS). Among these are disorders of sex development, cardiomyopathies, autism, and connective tissue disorders.

NGS is increasingly being used for the molecular identification and genotyping of infectious disease pathogens. Additionally, public health surveillance uses it. NGS can be used to directly identify isolated pathogens from the samples. However, because NGS is expensive and there are less expensive alternatives, its adoption in medical practice has been sluggish. Nonetheless, NGS is now widely used in disease diagnosis due to its advantages in terms of speed and accuracy. NGS may also be the sole diagnostic technique available in a given circumstance. The use of NGS services is expanding quickly, particularly in high-risk pregnancies where it is intended to detect fetal aneuploidies through noninvasive prenatal testing.

Figure 5. Global NGS market size, 2015-2025

In order to meet the growing demand for food, the world's animal and land resources are under

tremendous strain due to population growth. Production pressure has been surpassed by advancements in agricultural technologies, irrigation, inputs, and pricing policies. Sequencing techniques have been applied in plant and animal breeding to produce products with desired traits in response to this growing demand. Due to the world's population growth and the increasing pressure on the environment from climate change, there is a growing need to breed novel crops that yield more, can withstand heat and drought, and require less pesticide use. Genetic progress has sped up the development of crops with advantageous agronomic characteristics. The application of genetics to agriculture to improve crop and livestock productivity and sustainability is known as "agriculture genomics." In addition to being time-consuming, the conventional plant-breeding methods for creating new crop varieties also carried the risk of reducing biodiversity. As a result, the whole genome and transcriptome of a species can be sequenced using high-throughput next-generation sequencing (NGS) technologies, which are becoming more and more popular due to their ability to help identify causative genetic factors.

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<https://exactitudeconsultancy.com/reports/3449/hereditary-testing-market/>

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<https://exactitudeconsultancy.com/reports/7122/home-health-hub-market/>

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<https://exactitudeconsultancy.com/reports/23542/human-identification-market/>

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<https://exactitudeconsultancy.com/reports/15048/immunotherapy-drugs-market/>

Immunotherapy drugs market report

The immunotherapy drugs market is expected to grow at a CAGR of 15.0% from 2020 to 2027, reaching a value of \$1.5 billion by 2027. The market is driven by the increasing prevalence of cancer and the growing demand for personalized medicine. The market is segmented by drug type, including monoclonal antibodies, small molecule inhibitors, and vaccines. The market is also segmented by region, including North America, Europe, Asia-Pacific, and Latin America.

<https://exactitudeconsultancy.com/reports/31104/infection-surveillance-solutions-market/>

Infection surveillance solutions market report

The infection surveillance solutions market is expected to grow at a CAGR of 12.0% from 2020 to 2027, reaching a value of \$1.2 billion by 2027. The market is driven by the increasing prevalence of infectious diseases and the growing demand for early detection and treatment. The market is segmented by solution type, including point-of-care testing, laboratory testing, and mobile health. The market is also segmented by region, including North America, Europe, Asia-Pacific, and Latin America.

<https://exactitudeconsultancy.com/reports/29162/intraoperative-radiation-therapy-market/>

Intraoperative radiation therapy market report

The intraoperative radiation therapy market is expected to grow at a CAGR of 10.0% from 2020 to 2027, reaching a value of \$0.8 billion by 2027. The market is driven by the increasing prevalence of cancer and the growing demand for minimally invasive treatment. The market is segmented by device type, including external beam radiation therapy, brachytherapy, and stereotactic radiosurgery. The market is also segmented by region, including North America, Europe, Asia-Pacific, and Latin America.

<https://exactitudeconsultancy.com/reports/14997/life-science-analytics-market/>

Life science analytics market report

The life science analytics market is expected to grow at a CAGR of 18.0% from 2020 to 2027, reaching a value of \$2.5 billion by 2027. The market is driven by the increasing volume of life science data and the growing demand for data-driven insights. The market is segmented by data type, including genomics, proteomics, and metabolomics. The market is also segmented by region, including North America, Europe, Asia-Pacific, and Latin America.

<https://exactitudeconsultancy.com/reports/5571/nerve-repair-and-regeneration-market/>

Nerve repair and regeneration market report

The nerve repair and regeneration market is expected to grow at a CAGR of 14.0% from 2020 to 2027, reaching a value of \$1.0 billion by 2027. The market is driven by the increasing prevalence of nerve damage and the growing demand for effective treatment. The market is segmented by device type, including nerve conduits, nerve grafts, and nerve regeneration. The market is also segmented by region, including North America, Europe, Asia-Pacific, and Latin America.

<https://exactitudeconsultancy.com/reports/5751/nurse-call-systems-market/>

Nurse call systems market report

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