

# **Next Generation Sequencing Services Market- Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Service (Human Genome Sequencing Services, Single Cell Sequencing Services, Microbial Genome-based Sequencing Services, Gene Regulation Services, Others), By Workflow (Pre-Sequencing, Sequencing, Data Analysis), By End User (Hospitals & Clinics, Academic & Research Institutions, Pharmaceutical & Biotechnology Companies, Others), By Region and Competition**

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## **Abstracts**

Global Next Generation Sequencing Services Market is expected to see impressive growth during the forecast period, 2024-2028. This growth is accounted for by advancements in genomic technologies, increasing demand for precision medicine, growing application of next-generation sequencing in clinical research, and increasing prevalence of genetic disorders.

Advancements in genomic technologies have led to the development of more advanced and efficient sequencing platforms, which have reduced the cost and time required for sequencing. This has made NGS more accessible to researchers and has driven the growth of the NGS Services Market.

The demand for precision medicine has increased significantly in recent years as researchers and healthcare providers seek to develop personalized treatments for

patients based on their unique genetic makeup. NGS services are essential for identifying genetic variations that may be relevant to disease diagnosis, prognosis, and treatment.

NGS is increasingly being used in clinical research, including clinical trials and diagnostic testing. This has led to a growing demand for NGS services in the clinical research industry.

The increasing prevalence of genetic disorders has driven the growth of the NGS Services Market. NGS can be used to diagnose genetic disorders and identify potential treatments, making it an essential tool for genetic testing and diagnosis.

In the past few years, several new NGS services have been launched in the market. For example, in 2020, Illumina launched the NovaSeq 6000 system, which is designed to offer high-throughput sequencing with low per-sample costs. The system uses innovative flow cells and sequencing reagents to deliver high accuracy and cost-effectiveness, making it an attractive option for large-scale sequencing projects.

Thermo Fisher Scientific launched the Ion GeneStudio S5 system in 2019, which is designed to enable fast and accurate NGS for a range of applications. The system offers a compact and scalable design, making it suitable for a range of settings, from small labs to large-scale research facilities. In 2019, Qiagen launched the QIAseq Targeted RNA Panels, which enable researchers to analyze specific gene targets for RNA sequencing. The panels are designed to be compatible with the company's GeneReader NGS system, allowing for a streamlined workflow from sample to result.

However, the market of next-generation sequencing will face several challenges, including data management and analysis, standardization and quality control, regulatory challenges, cost, and data privacy and security. The biggest challenge associated with NGS services is the sheer volume of data generated by the sequencing process. Processing and analyzing this data can be time-consuming and computationally intensive, requiring specialized software and hardware. In addition, the accuracy of the results can be affected by various factors such as sequencing errors, sample contamination, and reference genome quality.

Standardization and quality control are essential to ensure the accuracy and reliability of NGS results. However, there are currently no universally accepted standards for NGS, and quality control can be challenging due to the high variability of samples and sequencing technologies. There is a need for robust quality control procedures that can

be applied across different sequencing platforms and laboratories.

### Increasing Adoption of NGS in Developing Countries

The adoption of Next Generation Sequencing (NGS) technology in developing countries has been steadily increasing in recent years. This trend is expected to continue in the coming years, and it will have a significant impact on the growth of the NGS market. One of the major factors driving the adoption of NGS in developing countries is the increasing demand for better healthcare services. NGS technology has the potential to improve the diagnosis and treatment of various diseases, including genetic disorders, cancer, and infectious diseases. As developing countries are facing a growing burden of these diseases, NGS is becoming an essential tool for their healthcare systems.

Moreover, the declining cost of NGS technology and the availability of affordable sequencing platforms are making it easier for developing countries to adopt this technology. Additionally, many governments in developing countries are investing in the development of their healthcare infrastructure, which includes the adoption of advanced technologies like NGS. The increasing adoption of NGS in developing countries is expected to be a major driver for the growth of the NGS market in the coming years. The growing demand for better healthcare services, declining costs of NGS technology, and government investments in healthcare infrastructure are the key factors driving this trend.

### Advancements in Genomic Technologies

Advancements in genomic technologies are driving the growth of the Next Generation Sequencing (NGS) Market in the coming years. The evolution of genomic technologies has made it possible to sequence DNA and RNA at a faster pace, with greater accuracy, and at a lower cost. This has led to the widespread adoption of NGS technology in various fields, including clinical research, drug discovery, personalized medicine, and agriculture.

One of the significant advancements in genomic technologies is the development of long-read sequencing technology. Long-read sequencing provides complete sequencing of long DNA and RNA fragments, which is critical for understanding complex genetic variations such as structural variants, gene fusions, and alternative splicing. This technology has improved the accuracy and completeness of genome assemblies, making it possible to identify new genetic variants and improve understanding of the genetic basis of diseases.

Another advancement in genomic technologies is the development of single-cell sequencing technology. This technology allows the analysis of individual cells, providing insight into cellular heterogeneity and cellular interactions. Single-cell sequencing is being used in various fields, including cancer research, neurobiology, and developmental biology. As a result, there is a growing demand for NGS technology in these areas.

In addition, the development of cloud-based computing platforms and bioinformatics tools has made it easier to analyze NGS data, leading to the growth of the NGS market. These tools allow researchers to analyze large-scale genomic data sets quickly and efficiently, leading to new discoveries and improved patient outcomes.

Advancements in genomic technologies are driving the growth of the NGS Market in the coming years. Long-read sequencing, single-cell sequencing, and cloud-based computing platforms are some of the key advancements that are shaping the future of the NGS market.

### Increasing Prevalence of Genetic Disorders

The increasing prevalence of genetic disorders is a significant factor driving the growth of the Next Generation Sequencing (NGS) market in the coming years. Genetic disorders are caused by abnormalities in an individual's DNA sequence, and they can result in a wide range of health problems. Some of the common genetic disorders include cystic fibrosis, sickle cell anemia, and Huntington's disease.

NGS technology has revolutionized the field of genetics by allowing for the rapid and cost-effective sequencing of large portions of the human genome. This technology has made it possible to identify the genetic mutations and variations that are responsible for various genetic disorders. As a result, NGS has become an essential tool for genetic research and clinical diagnostics.

The increasing prevalence of genetic disorders is driving the demand for NGS technology in clinical diagnostics. NGS-based genetic testing can provide accurate and comprehensive diagnoses for patients with genetic disorders, enabling doctors to provide more personalized and effective treatment plans. Moreover, NGS-based genetic testing is becoming increasingly affordable and accessible, making it possible for more patients to benefit from this technology.

In addition to clinical diagnostics, NGS technology is being used in genetic research to identify new genetic mutations and variations associated with various diseases. This research is critical for developing new treatments and therapies for genetic disorders. The increasing prevalence of genetic disorders is expected to be a significant driver for the growth of the NGS Market in the coming years. NGS technology has revolutionized the field of genetics by enabling the rapid and cost-effective sequencing of large portions of the human genome, making it possible to identify the genetic mutations and variations responsible for various genetic disorders.

## Market Segmentation

Global Next Generation Sequencing Services Market can be segmented based on service, workflow, end user, and region. Based on service, the market can be divided into human genome sequencing services, single-cell sequencing services, microbial genome-based sequencing services, gene regulation services, and others. Based on workflow, the market is divided into pre-sequencing, sequencing, and data analysis. Based on end users, the market is divided into hospitals & clinics, academic & research institutions, pharmaceutical & biotechnology companies, and others. Regionally, the Next Generation Sequencing Services Market can be categorized into North America, Europe, Asia Pacific, South America, and Middle East & Africa.

## Market Players

Quest Diagnostics Incorporated, Applied Biological Materials, Inc., Novogene Co, Ltd., Azenta Life Sciences (GENEWIZ), NanoString Technologies, Inc., Illumina, Inc., PacBio, Inc., Gene by Gene Ltd, Lucigen Corporation are some of the leading players operating in the Global Next Generation Sequencing Services Market.

## Report Scope:

In this report, Global Next Generation Sequencing Services Market has been segmented into the following categories, in addition to the industry trends, which have also been detailed below:

### Next Generation Sequencing Services Market, By Service:

Human Genome Sequencing Services

Single Cell Sequencing Services

Microbial Genome-based Sequencing Services

Gene Regulation Services

Others

Next Generation Sequencing Services Market, By Workflow:

Pre-Sequencing

Sequencing

Data Analysis

Next Generation Sequencing Services Market, By Workflow:

Hospitals & Clinics

Academic & Research Institutions

Pharmaceutical & Biotechnology Companies

Others

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in Global Next Generation Sequencing Services Market.

Available Customizations:

With the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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