

Metagenomics Sequencing Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented by Product and Service (Reagents & consumables, Instruments, Services), By Technology (Shotgun metagenomic sequencing, 16S rRNA sequencing, Whole genome sequencing & de novo assembly, Meta transcriptomics), By Application (Drug discovery, Ecological & environmental metagenomics, Clinical diagnostics, Biofuel, Industrial applications), By Region, and By Competition

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Abstracts

Metagenomics Sequencing Market is anticipated to witness impressive growth during the forecast period. This can be ascribed to the growing awareness about genetic disorders due to genetic history, along with the growing demand for advanced bioinformatics tools. Also, a growing development of novel drugs and high throughput screening methods along with cost-effective technologies developments are expected to create lucrative growth during the forecast period. Similarly, the rise in research and development activities for identifying newer antibiotics and enzymes is a major factor fueling the growth of the market over the upcoming years. For instance, in August 2022, OpGen, Inc., a personalized medicine company, announced to launch of next-generation sequencing (NGS) services under the subsidiary Ares Genetics.

Growing demand for personalized medicine

Personalized medicine is a key driver for the growth of the Global Metagenomics

Sequencing Market. Personalized medicine aims to provide targeted therapies and treatments that are tailored to the individual patient based on their specific genetic makeup and environmental factors. Metagenomics sequencing provides a powerful tool for understanding the composition and function of microbes that are present in our body and can be used to develop therapies for chronic diseases. Metagenomics sequencing can be used to identify the specific microbes present in a patient's gut, skin, or other body sites and determine how these microbes interact with the patient's immune system and other physiological systems. This information is generally used to develop therapies that can modulate the patient's microbiome for treating the conditions such as cancer, diabetes, and inflammatory bowel disease. In addition, metagenomics sequencing can be used to identify the specific pathogens that are causing an infectious disease and to determine the most effective treatments for those pathogens. This can help to reduce the use of broad-spectrum antibiotics and other treatments that can lead to the development of antibiotic resistance.

Advancements in sequencing technologies

Advancements in sequencing technologies have had a significant impact on the growth of the Global Metagenomics Sequencing Market. Next-generation sequencing and single-molecule sequencing technologies have greatly enhanced the throughput, accuracy, and speed of metagenomics sequencing, making it more accessible to a wider range of users, including researchers and clinicians. These advancements have led to the development of new bioinformatics tools and software that can more effectively analyze the vast amounts of data generated by metagenomics sequencing. These tools help researchers and clinicians to extract more meaningful insights from metagenomics data and develop new diagnostic and therapeutic applications. In addition, the development of portable sequencing technologies is enabling metagenomics sequencing to be performed in field settings, making it possible to study microbial communities in remote or resource-limited areas. This is opening new opportunities for environmental monitoring, public health, and agriculture applications. As sequencing technologies continue to advance, the cost of metagenomics sequencing is expected to continue to decline, making it more accessible to researchers and clinicians around the world. This is expected to drive the growth of the global metagenomics sequencing market as the technology becomes more widely adopted in a range of research, clinical, and commercial applications.

Increasing need for environmental monitoring and management

Environmental monitoring and management are important drivers of the growth of the

Global Metagenomics Sequencing Market. Metagenomics sequencing can be used to study microbial communities in a wide range of environments, including soil, water, air, and the built environment. This information can be used to better understand the ecology and function of these communities and to develop more effective strategies for environmental management and remediation.

Particularly, metagenomics sequencing can be used to identify and monitor microbial indicators of environmental health, such as pathogenic bacteria, fungi, and viruses. This can be important for identifying and managing outbreaks of infectious diseases in human and animal populations and for monitoring the health of ecosystems and natural resources. In addition, metagenomics sequencing can be used to study the impact of environmental stressors, such as pollution and climate change, on microbial communities and their functions. The growing demand for environmental monitoring and management is driving the development of new metagenomics sequencing technologies and analytical tools that are better suited to these applications.

Rising demand for precision agriculture

Precision agriculture is a key driver for the growth of the global metagenomics sequencing market. Precision agriculture is a farming technique that uses data-driven approaches to optimize crop production and reduce environmental impact. Metagenomics sequencing can be used to study the microbial communities that live in the soil and on plants and to better understand the interactions between these communities about plant health and growth. By studying the microbial communities in the soil and on plants, farmers can gain a better understanding of the nutrient and water requirements of crops, as well as their susceptibility to pests and diseases. This information can be used to develop more targeted fertilization, irrigation, and pest management strategies, leading to increased crop yields and reduced environmental impact.

Metagenomics sequencing can also be used to study the diversity of soil microbial communities and their functional roles in soil processes such as nutrient cycling, carbon sequestration, and soil aggregation. This information can be used to develop new strategies for sustainable agriculture that promote soil health and resilience while also reducing the use of synthetic fertilizers and pesticides. As precision agriculture continues to gain traction, the demand for metagenomics sequencing is expected to increase, driving the development of new technologies and analytical tools that are better suited to these applications. Further, expected to drive the growth of the Global Metagenomics Sequencing Market as farmers, researchers, and agribusinesses adopt

metagenomics sequencing to optimize crop production and improve sustainability.

Growing availability of funding for genomics research

Government funding for genomic research has played a critical role in the growth of the Global Metagenomics Sequencing Market. Genomic research is expensive and requires significant investment in equipment, infrastructure, and personnel. Government funding can help to provide the necessary resources to support research and development in the field of metagenomics sequencing.

Government funding has supported the development of new sequencing technologies, bioinformatics tools, and data analysis methods, which have greatly enhanced the accuracy and speed of metagenomics sequencing. This has made it possible to sequence larger and more complex samples, which has led to new insights into the diversity and function of microbial communities in a range of environments. Government funding has also supported the translation of metagenomics research into clinical and commercial applications. For example, government funding has supported the development of metagenomics-based diagnostic tests for infectious diseases and cancer, as well as the development of new drugs and therapies based on insights gained from metagenomics research.

In addition to funding research and development, government funding can help to create a favorable policy environment for the adoption of metagenomics sequencing in research and clinical settings. This can include regulations that promote the use of genomic data in medical practice and research, as well as initiatives that promote the sharing of genomic data across different research groups.

Recent Development

Oxford Nanopore PromethION: Oxford Nanopore launched the PromethION sequencing platform in 2018, which is a portable and scalable system for real-time sequencing of long DNA fragments. The platform can be used for a wide range of applications, including metagenomics sequencing.

QIAGEN Microbial Insights ARB: QIAGEN launched the Microbial Insights ARB in 2020, which is a metagenomics analysis software that enables researchers to study microbial communities and their functions in various environments. The software uses a database of annotated microbial genomes to provide accurate taxonomic and functional analysis of metagenomic data.

BGI One-Stop Microbiome Sequencing Service: In 2022, BGI launched its One-Stop Microbiome Sequencing Service, which is a comprehensive service for analyzing microbiome samples using metagenomics sequencing. The service includes sample preparation, sequencing, and data analysis and is designed for a wide range of applications, including medical and environmental research.

PacBio Sequel IIe System: PacBio launched the Sequel IIe System in 2021, which is a high-throughput, long-read sequencing platform that can generate up to 10 terabases of data in a single run. The system is designed for a wide range of applications, including metagenomics sequencing.

Illumina DRAGEN Metagenomics Pipeline: In 2021, Illumina launched its DRAGEN Metagenomics Pipeline, which is a software solution for analyzing metagenomics sequencing data. The pipeline uses advanced algorithms and machine learning techniques to provide accurate taxonomic and functional analysis of microbial communities.

Market Segmentation

Global Metagenomics Sequencing Market can be segmented by product and service, technology, application, and by region. Based on the product and service, the market can be segmented into reagents & consumables, instruments, and services. Based on technology, the market can be segmented into shotgun metagenomic sequencing, 16S rRNA sequencing, whole genome sequencing & de novo assembly, and metatranscriptomics. Based on application, the market can be differentiated into drug discovery, ecological & environmental metagenomics, clinical diagnostics, biofuel, and industrial applications.

Market Players

BGI Genomics Co Ltd., Eurofins Scientific Se., Illumina Inc., Macrogen Inc., Oxford Nanopore Technologies Ltd., Pacific Biosciences of California Inc., Perkinelmer Inc., Qiagen N.V., Swift Biosciences Inc., Thermo Fisher Scientific Inc. are some of the leading players operating in the Global Metagenomics Sequencing Market.

Report Scope:

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

Metagenomics Sequencing Market, By Product and Service:

Reagents & consumables

Instruments

Services

Metagenomics Sequencing Market, By Technology:

Shotgun metagenomic sequencing

16S rRNA sequencing

Whole genome sequencing & de novo assembly

Meta transcriptomics

Metagenomics Sequencing Market, By Application:

Drug discovery

Ecological & environmental metagenomics

Clinical diagnostics

Biofuel

Industrial applications

Metagenomics Sequencing Market, By Region:

North America

? United States

? Canada

? Mexico

Europe

? France

? Germany

? United Kingdom

? Italy

? Spain

Asia Pacific

? China

? India

? Japan

? South Korea

? Australia

South America

? Brazil

? Argentina

? Colombia

Middle East & Africa

? South Africa

? Saudi Arabia

? UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Metagenomics Sequencing 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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