

Global Next Generation Sequencing Market: Market Estimation, Dynamics, Regional Share, Trends, Competitor Analysis 2012-2016 and Forecast 2017-2023

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Abstracts

Next-generation sequencing is the process of sequencing DNA strands similar to the nucleotides in a DNA molecule. Next-generation sequencing is carried by massive parallelization. Next-generation sequencing reduces the requirements for the fragment-cloning method used in sequencing of the genomes by Sanger's method. Due to high accuracy, precise results, and low cost, and with low sample, next-generation sequencing is preferred over the Sanger's method. It is commonly used in oncology studies, biomarker discovery, agricultural and animal research, personalized medicine, and others. In addition, re-sequencing of targets, identification of binding sites of a transcriptional factor, and non-coding RNA expression profiling are other applications of next-generation sequencing.

Next-generation sequencing market is driven by technological development in next-generation sequencing, increase in the various applications, decreasing the cost of sequencing, increase in gene mapping programs, increasing automation for pre-sequencing programs, and development of personalized medicine which are expected to fuel the next generation sequencing market. Moreover, rise in R&D activities by the market players and drug discovery applications are driving the demand for next-generation sequencing (NGS) market. However, lack of skilled professionals, ethical and legal issues in the interpretation, storage and management of patient data, and high reliability on funding from the government might hamper the next generation sequencing market over the forecast period.

The next generation sequencing market segmented based on the product and service

type, technology, application type, and end user

Based on the product and service type, the next-generation sequencing market segmented into the following:

Pre-sequencing products and services market

DNA fragmentation, size selection, A-tailing, and end repair

Library preparation and target enrichment

Quality control

Sequencing services market

Targeted sequencing/gene panels

RNA-Seq

De Novo sequencing

Exome sequencing

Chip-Seq

Whole-genome sequencing

Methyl-Seq

Others

Next-generation sequencing, data analysis, storage, and management (Bioinformatics) market

NGS data analysis software & workbenches

NGS data analysis services

NGS storage management and cloud computing solutions

Based on technology, the next-generation sequencing market segmented into the following:

- Ion semiconductor sequencing

- Sequencing by the synthesis (SBS)

- Nanopore sequencing

- Single-molecule real-time (SMRT) sequencing

Based on application, the next-generation sequencing market segmented into the following:

- Drug discovery

- Diagnostics

- Agriculture and animal research

- Biomarker discovery

- Precision medicine

- Other applications

Based on the end-user, the next-generation sequencing market segmented into the following:

- Biotechnology and Pharmaceutical Companies

- Research Centres

- Hospitals & Clinics

Others

The global next-generation sequencing market is in growing stage, several local and international players are actively involved in the development and marketing of global next-generation sequencing market. Organizations are focusing on the introduction of low-cost sequencing devices in routine medical check-ups. For instance, Grail is focusing on the development of a next generation sequencing technology that allows detection of different types of cancer before the symptoms appear. This test is expected to reach the market by 2019. Furthermore, companies are also engaged in producing genomic data by making it available to research laboratories worldwide. Growing partnerships, collaborations, increasing adoption of NGS among research laboratories and academic institutes, and the launch of services and novel products by market players fuel the growth of global next generation sequencing market over the forecast period. Moreover, increase in inclination of drug developers and scientists towards the next generation sequencing technology for the development of personalized medicine is a key driver for the demand of next generation sequencing platforms for gaining insights into the genetic organization.

Next-generation sequencing market segmented into following regions Viz. North America, Asia-Pacific, Latin America, Europe, and Middle East and Africa. North America expected to hold a major share, which is attributed to rise in adoption of next generation sequence, development in the healthcare infrastructure, decrease in the cost, and increase in the R&D activities for proteomic and genomic sequence determination. Moreover, most of the end users for clinical and academic use are from the U.S., U.K., and Germany due to presence of universities offering molecular biology course in these regions might bolster the next generation sequencing market. For instance, in June 2015, Illumina has opened its Europe headquarters in the Cambridge to increase its revenue through 10,000 genome project carried out in U.K. Asia-Pacific is expected to grow at the fastest rate in global next generation sequencing market with owing to increasing investment in development in healthcare expenditure, rising medical awareness in regional population, government funding for translational research, and rising partnerships & agreements among market players. In addition, these countries have less-stringent regulations and data requirements as compared to developed nations; companies find regulatory policies in the Asia-Pacific region to be adaptive and business-friendly.

Some of the players in global next-generation sequencing market are Agilent

Technologies, Inc. (U.S.), Illumina, Inc. (U.S.), Pacific Biosciences (Danaher Corporation) (U.S.), Thermo Fisher Scientific Inc. (U.S.), Qiagen N. V. (Germany), Beijing Genomics Institute (China), PerkinElmer, Inc (U.S.), F. Hoffmann La Roche AG (Switzerland), Genomatix GmbH (Germany), Oxford Nanopore Technologies (U.K.), and Eurofins Scientific (U.S.) to name a few.

In June 2017, FDA approved Illumina's next-generation sequencing cancer companion diagnostic test kit, which was developed together with Amgen

In April 2016, Oxford Nanopore Technology released a USB 3.0-interfaced sequencer, the MinION a newer method for multiplexed target enrichment of NGS libraries using the PCR-generated baits

In May 2015, Pacific Biosciences and RainDance Technologies partnered to co-develop and commercialize novel solution for De Novo whole genome assembly

REPORT OUTLINE:

The report provides granular level information about the market size, regional market share and forecast from 2017-2023

The report covers in-detail insights about the competitor's overview, key findings and their key strategies

The report outlines drivers, restraints, challenges, and trends that are currently faced by the industry

The report tracks recent innovations, key developments and startup's details that are working in the industry

The report provides plethora of information about market entry strategies, regulatory framework and reimbursement scenario

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