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Global DNA Sequencing Market Assessment, By Product Type [Consumables, Instruments, Services], By Technology [Sanger Sequencing, Next Generation Sequencing, Other Sequencing Technologies], By Application [Diagnostic Applications, Personalized Medicine, Research Applications], By End-users [Hospitals and Healthcare Organizations, Academics and Research Institutions, Pharmaceutical and Biotechnology Companies, Others], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

Global DNA sequencing market size was valued at USD 8.16 billion in 2023, which is expected to reach USD 24.51 billion in 2031, with a CAGR of 14.74% for the forecast period between 2024 and 2031F. The global DNA sequencing market is a highly dynamic and promising market with a robust product and favorable market strategies. Healthcare professionals can diagnose chronic diseases with pinpoint accuracy which can facilitate the drafting of effective treatment and disease management strategies. Genetic mutation leading to chronic disease can be detected early using DNA sequencing. Several chronic diseases and other genetic disorders like cystic fibrosis are diagnosed using DNA sequencing with high precision, thus there is a growing demand for the market. The increasing number of genetic researchers for different purposes, like drug development, agricultural research, and forensics, creates a huge demand for DNA sequencing products, further driving the market. Technological advancements and government support for scientific research and development are expected to play a pivotal role in developing the market. However, the high cost associated with products,

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the lack of highly skilled professionals, and the interpretation of complicated data are some of the hindrances in the growth of the global DNA sequencing market.

In September 2023, Integrated DNA Technologies (IDT), announced the launch of xGen NGS products designed exclusively for the Ultima Genomics UG 100™ platform. The launch package of new xGen NGS tools comprised of adapters, primers, and universal blockers. It can support a wide range of applications, including DNA, RNA, and methylation sequencing workflows. The xGen NGS aims to minimize the possible errors in sequencing, thus improving overall outcomes.

Growing Prevalence of Chronic Diseases and Genetic Disorders

The growing prevalence of chronic diseases and genetic disorders is a significant driver of the DNA sequencing market. The increasing incidence and prevalence of cancer, cardiovascular diseases, and other chronic ailments are fueling the demand for DNA sequencing-based diagnosis, driving market growth. DNA Sequencing plays a substantial role in the diagnosis and treatment of these diseases, leading to a rising demand for related products and services. The ability of DNA sequencing techniques to identify specific disease markers and predict individual responses to treatments is driving their adoption, further contributing to market expansion. In September 2023, according to a factsheet by WHO, noncommunicable diseases (NCDs) are responsible for killing 41 million people each year, equivalent to 74% of all deaths globally. Around 17 million people die from an NCD before the age of 70 years; 86% of these premature deaths occur in low- and middle-income countries. Cardiovascular diseases (CVDs) account for most NCD deaths, (17.9 million people annually), followed by cancers (9.3 million), chronic respiratory diseases (4.1 million), and diabetes (2.0 million).

Growing Research and Development

Growing research and development around genome exploration and utilizing its benefits for several purposes is positively impacting the global DNA sequencing market. The human genome project contributed a lot in the past few decades to the increasing research environment involving genome expeditions. Along with that, increased acceptance, and usage of sanger technology and NGS in academic and institutional research projects, the market is expected to register significant growth. In November 2023, UK Biobank Limited released the world’s largest-by-far single set of sequencing data in the public domain after consistent research for five years with an investment of EUR 200 million. The data is set to drive the discovery of novel diagnostics, treatments, and cures. The data is available to approved researchers worldwide, via a protected

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database containing only de-identified data.

Sanger Sequencing is Expected to Dominate During Forecast Period

Sanger sequencing is considered as a standard for accurate detection of single nucleotide variants and small insertions/deletions, thus it is usually preferred over other sequencing methods. With the increasing use of sanger sequencing, this segment is expected to dominate the technology category in the DNA sequencing market throughout the forecast period. Various market players are dedicated to providing better DNA sequencing services and expanding their market. In June 2023, Source Genomics, a subsidiary of Source BioScience group, announced the opening of its new laboratory in the North of England which aims to provide improved Sanger sequencing services to the northern region of England with faster turnaround time.

North America to Lead the DNA Sequencing Market

With high investment in research and development activities, technological advancements by key players, and highly advanced healthcare infrastructure in North American countries, like the United States and Canada, are expected to dominate the market with the highest value share. The supportive government initiatives for different DNA sequencing techniques are embracing the growth of market in the region. In May 2023, The National Institutes of Health (NIH) launched a new program, the Common Fund's Somatic Mosaicism Across Human Tissues (SMaHT) Network worth USD 140 million to explore knowledge about genetic variation in normal human cells and tissues.

Impact of COVID-19

The COVID-19 pandemic had a significant impact on DNA Sequencing market. The prioritization of COVID-19-related care led to an increase in the use of DNA sequencing methods for addressing the virus but simultaneously reduced other applications. Next-generation sequencing methods gained huge interest in the diagnosis of COVID-19. Rising COVID-19 cases in the year 2021 significantly boosted the demand for diagnostic products involving DNA sequencing, propelling the market growth. Furthermore, the pandemic negatively influenced the supply chain in the DNA Sequencing market, limiting the growth to some extent, but the market resumed to its usual pace soon after the pandemic restrictions were waived off and is expected to register consistent growth during the forecast period.

Key Players Landscape and Outlook

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To increase their presence globally, major companies in the market are undertaking strategies such as product launches, mergers and acquisitions, and partnerships. In October 2022, PacBio announced the launch of their two new sequencing platforms, Revio and Onso. Revio is a short-read sequencing system while Onse is a long-read DNA sequencing platform for improving the sequencing outcomes of researchers. The Revio System has a U.S. list price of USD 779,000 while Onso has a U.S. list price of USD 259,000.

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Contents

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6. GLOBAL DNA SEQUENCING MARKET OUTLOOK, BY REGION, 2017-2031F

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7. MARKET MAPPING, 2023

8. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE

9. MARKET DYNAMICS

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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