

Global Digital Genome - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Global Digital Genome Market size is estimated at USD 30.68 billion in 2024, and is expected to reach USD 57.68 billion by 2029, growing at a CAGR of 13.46% during the forecast period (2024-2029).

The COVID-19 pandemic is an unprecedented health concern and has significantly impacted the digital genome market worldwide. The pandemic has positively impacted the demand for digital genome software and products. For instance, as per a February 2022 published article titled, "Covid-19 and Artificial Intelligence: Genome sequencing, drug development, and vaccine discovery", the sequence of SARS-CoV-2 was identified with the help of AI and also aids in the prompt identification of variants of concern (VOC) as delta strains and Omicron. In addition, as per a May 2022 update by the Pan American Health Organization (PAHO), the COVID-19 Genomic Surveillance Regional Network was created in 2020 not only to strengthen the sequencing capacity in the participating laboratories but also for them to establish a routine SARS-CoV-2 genomic sequencing, as a strategy to increase the amount of genetic sequence data available to the global community, which is critical to support the development of diagnostic protocols, the information for vaccine development and to better understand the evolution and molecular epidemiology of the SARS-CoV-2. Moreover, with the introduction of vaccines and the upliftment of lockdown restrictions, the market is expected to increase the demand for digital genome products, thereby contributing to market growth.

The major factors fueling the market growth are the increasing technological advancements pertaining to the digital genome, growing adoption of personalized medicine, constantly evolving disease patterns as well as rising research and development activities about the digital genome.

The increasing technological advancement pertaining to the digital genome is proliferating market growth. For instance, in July 2021, GE Healthcare and SOPHiA GENETICS, a global healthcare data-sharing network, collaborated on advancing cancer care by

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developing genomic-based AI. The integration of genomics-based artificial intelligence into oncology workflow solutions would be a breakthrough for integrated cancer medicine and for future clinical research, which increasingly depends on the ability to select those patients most likely to respond to new therapies.

In addition, in April 2021, Genome Medical, a digital health company bringing genetics and genomics into everyday care, expanded its technology offering to augment the clinical services provided by its nationwide team of genetics specialists. Genome Medical will automate the collection of a patient's comprehensive family health history and incorporate the findings into an accurate and timely genetic risk assessment through an exclusive licensing of Health Heritage, a family medical history, and genomic decision support application.

However, high capital expenditure and a lack of a skilled workforce are the factors hindering the market growth.

Digital Genome Market Trends

Sequencing and Analysis Software Segment is Expected to Hold a Major Market Share in the Digital Genome Market Over the Forecast Period

By product, sequencing and analysis software segmented is expected to hold a major market share. Sequence analysis is the process of subjecting a DNA, RNA, or peptide sequence to any of a wide range of analytical methods to understand its features, function, structure, or evolution, and methodologies used include sequence alignment and searches against biological databases and others. The major factors fueling the market growth are the increasing research in sequence analysis as well as growing technological advancements.

Several market players are also contributing to the market growth. For instance, in July 2020, Illumina, Inc. introduced turn-key data analysis solutions to accelerate and facilitate the adoption of whole-genome sequencing with the launch of the TruSight Software Suite.

Also, in May 2022, NanoString Technologies, Inc. launched a seamless, cloud-based workflow that improves the spatial data analysis experience of customers using Illumina NextSeq 1000 and NextSeq 2000 sequencing systems and the GeoMx Digital Spatial Profiler.

Thus, due to the above-mentioned developments, the market is expected to witness significant growth over the forecast period.

North America is Expected to Hold a Significant Share in the Market and Expected to do Same in the Forecast Period

North America is expected to dominate the overall genomics market throughout the forecast period due to the rising incidence of chronic diseases, such as cancer, increasing government entities' investment in research, raising awareness of patients, and the availability of advanced healthcare infrastructure, contributing to the growing technological advances in this sector and rising demand for biotechnological practices in the region, is anticipated to drive the growth in the region. The domicile presence of some of the major players in the region also ensures the dominance of the region.

The current global pandemic created considerable opportunities for the domestic market players operating in the space. For instance, in March 2021, Applied DNA Sciences Inc. launched the Linea COVID-19 Selective Genomic Surveillance Mutation Panel to enhance the utility of limited Next Generation Sequencing (NGS) resources in the United States to track the SARS-CoV-2 Variants of Concern (VOCs) better at local, state, and federal levels.

In April 2021, Inscripta, a digital genome engineering company, announced the first commercial shipment of its Onyx platform.

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The platform is the world's first fully automated benchtop instrument for genome-scale engineering. Inscripta also announced its Series E funding of USD 150 million.

Thus, due to the above-mentioned developments, the market is expected to witness significant growth over the forecast period.

Digital Genome Industry Overview

The digital genome market is competitive with the presence of several global and international market players. The key players are adopting different growth strategies to enhance their market presence, such as partnerships, agreements, collaborations, new product launches, geographical expansions, mergers, and acquisitions. Some of the key players in the market are bioMerieux, Agilent Technologies, Inscripta, Inc., GE Healthcare, and Invitae Corporation.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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