

Automated Cell Culture Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2024)

<https://marketpublishers.com/r/A501FFF70567EN.html>

Date: July 2024

Pages: 100

Price: US\$ 4,750.00 (Single User License)

ID: A501FFF70567EN

Abstracts

The Automated Cell Culture Systems Market size is estimated at USD 13.17 billion in 2024, and is expected to reach USD 19.64 billion by 2029, growing at a CAGR of 8.32% during the forecast period (2024-2029).

The automated cell culture systems market is a dynamic and rapidly evolving sector within the life sciences and biotechnology industries. This market is influenced by the rise in the demand for biopharmaceuticals, advancements in cell-based research, and the need for precise, reproducible, and high-throughput cell culture processes. These systems offer enhanced productivity, reduced contamination risks, and improved data management, making them indispensable in applications ranging from drug discovery and vaccine production to regenerative medicine and personalized therapies. With ongoing technological innovations and a growing emphasis on automation in research and production, the automated cell culture systems market is poised for continued growth and innovation.

Chronic conditions are on the rise, including cancer, diabetes, and autoimmune diseases. Automated cell culture systems play a crucial role in drug discovery and development to address these health challenges. According to the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) data published in December 2022, approximately six in ten Americans have at least one chronic disease. This signifies a high prevalence of chronic diseases, which significantly impacts research and developments in biopharmaceuticals.

Apart from this, the report released by the World Health Organization (WHO) in September 2023 points to the fact that around 41 million people die each year due to a

chronic illness, which includes cardiovascular disorders followed by cancer and other chronic illnesses. This number projects a high number of treatment cases around the world, which would eventually impact the market's growth. Biopharmaceuticals are required due to the rising burden of chronic diseases in the world, which is driving this market's expansion.

Apart from this, ongoing advancements in cell-based research, including regenerative medicine, tissue engineering, and personalized medicine, require precise and controlled cell culture conditions, which automated systems can provide. Factors such as collaboration for introducing new technologies in regenerative medicines and launching new systems further propel the market's growth.

For instance, Sony Group Corporation launched a new Cell Isolation System, CGX10, in December 2022. This device facilitates rapid cell sorting and can be used in studies to create cell-based products for industries like cell therapy and regenerative medicine. Also, for instance, in March 2023, Canon Inc. acquired assets of Kyoto Seisakusho Co. Ltd, which included the technology for mass production of cells for use in regenerative medicines and other clinical applications. These instances point out the growth of the market due to the advancements in this field of interest.

Therefore, the market is expected to grow during the forecast period due to factors such as the increased demand for biopharmaceuticals, rising incidence of chronic diseases, and advancements in cell-based research. However, factors such as high investment costs for the automated cell culture systems and regulatory compliance challenges act as restraining parameters for the market's growth.

Automated Cell Culture Systems Market Trends

The Drug Development Segment is Expected to Hold a Significant Market Share Over the Forecast Period

The drug development segment is expected to increase rapidly because of the increased funding by government bodies in the drug development field during the forecast period. Automated cell culture systems play a crucial role in drug development by providing a controlled and efficient environment for the growth and manipulation of cells. The Department of Health and Human Services (HHS) National Institutes of Health (NIH) is the largest public supporter of biomedical research and development (R&D).

According to the United States Government Accountability Office, NIH funded multiple R&D activities, with approximately USD 51 billion, contributing to drug development in 2022. The rise in funding can contribute to more research and development activities related to drug development, expanding the market for automated cell culture systems in the coming years.

Apart from this, the launch of automated cell culture systems with respect to drug development is thriving in the market. For instance, CELLINK launched BIO CELLX to automate 3D cell cultures in March 2022. This product was launched to eliminate the difficulties faced by automating 3D cell-based assays in targeted drug discovery. This would further drive the growth of this particular segment of the market.

Automated systems enable the rapid screening of thousands of compounds or drug candidates to identify potential leads that interact with a specific target or biological pathway. The above-mentioned factor would help with the significant growth of this segment in the coming years.

North America is Expected to be a Dominant Region Over the Forecast Period

North America is expected to dominate the automated cell culture systems market during the forecasted period. This can be explained by factors such as the high demand for automated cell culture systems and advancements in cell cultures.

North America has a significant biopharmaceutical industry, with a high demand for automated cell culture systems to support drug discovery, development, and production processes. Ongoing investments in research and development by pharmaceutical, biotechnology, and academic institutions in North America have driven the adoption of automated cell culture systems for innovative research.

For instance, in May 2022, the University of Colorado Anschutz Medical Campus announced an investment of around USD 200 million over the following five years to establish a research and treatment center that will aim to develop new therapies, whether regenerative, cellular, or genetic for the treatment of a variety of chronic illnesses. Also, in July 2023, the California Institute for Regenerative Medicine (CIRM) invested approximately USD 50 million to fund clinical-stage research projects. This research will be focused on advancing

stem cell and gene therapy treatments. The applicability of automated cell culture systems in cellular therapies, regenerative medicines, and other research areas increases its demand in this region. These parameters would be responsible for fueling the growth of the market in this region.

The region is a hub for technological innovation, with companies continuously developing advanced automation technologies for cell culture systems, enhancing efficiency and precision. The advances in cell culture using 3D dynamic cell culture systems have been addressed with improvised automated cell culture systems. For instance, Corning launched Organoid Counting Software for the Corning Cell Counter in order to meet the requirements of the researchers working with predictive and complex 3D cell cultures, as mentioned in the articles published on the website in May 2022. The advances in cell cultures may be a major factor in this region's market.

Therefore, owing to the above-mentioned factors, such as the increased demand for automated cell culture systems and strategic initiatives by market players, growth of the market is expected in the North American region.

Automated Cell Culture Systems Industry Overview

The automated cell culture systems market is competitive. Market players invest significantly in R&D to develop advanced automated cell culture systems that offer improved functionality, ease of use, scalability, and compatibility with a wide range of cell types. Continuous innovation is crucial to stay competitive and meet the changing requirements of users. Some market players are Danaher (Beckman Coulter, Inc., Cytiva), Thermo Fisher Scientific Inc., Hitachi Ltd, Becton, Dickinson and Company (BD), and Sartorius AG.

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