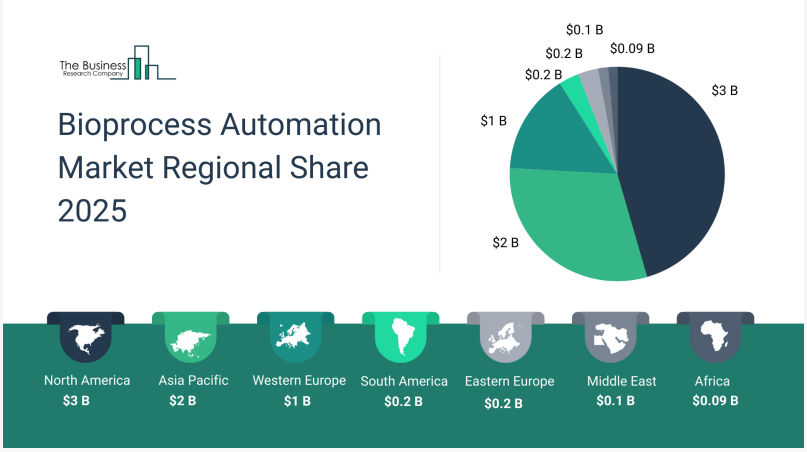
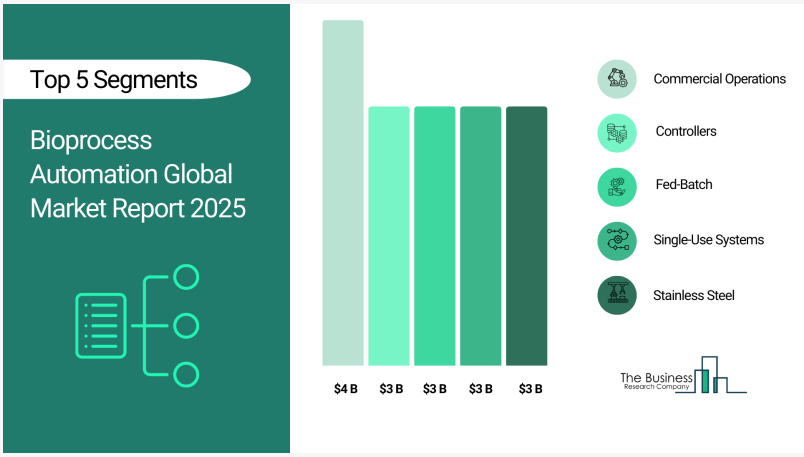
Bioprocess Automation Market In 2029

The Business Research Company's Bioprocess Automation Market In 2029

LONDON, GREATER LONDON, UNITED KINGDOM, January 12, 2026 /EINPresswire.com/ -- "Bioprocess Automation Market to Surpass $10 billion in 2029. In comparison, the Medical Laboratory Services which is considered as its parent market, is expected to be approximately $217 billion by 2029, with Bioprocess Automation market to represent around 5% of the parent market. Within the broader Healthcare Services industry, which is expected to be $10,759 billion by 2029, the Bioprocess Automation market is estimated to account for nearly 0.1% of the total market value.



bioprocess automation market growth



bioprocess automation market trends

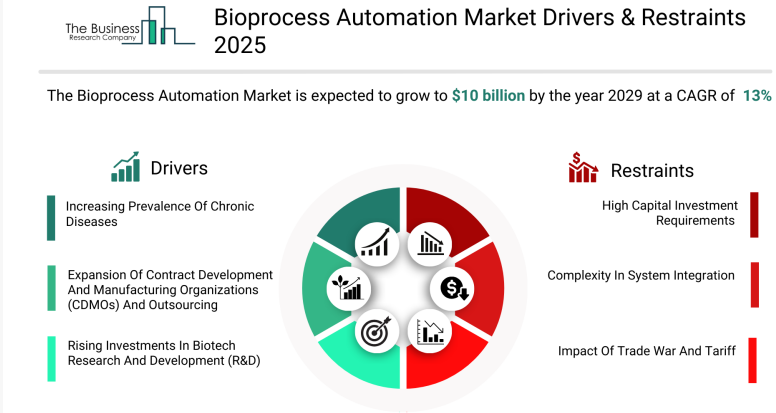
Which Will Be the Biggest Region in the Bioprocess Automation Market in 2029

North America will be the largest region in the bioprocess automation market in 2029, valued at $4,239 million. The market is expected to grow from $2,387 million in 2024 at a compound annual growth rate (CAGR) of 12%. The rapid growth in the forecast period can be attributed to the expansion of contract development and manufacturing organizations (CDMOs) and outsourcing and the rising prevalence of chronic diseases.

Which Will Be The Largest Country In The Bioprocess Automation Market In 2029?

USA will be the largest country in the bioprocess automation market in 2029, valued at $3,959 million. The market is expected to grow from $2,250 million in 2024 at a compound annual growth rate (CAGR) of 12%. The rapid growth in the forecast period can be attributed to rising vaccine production and the rising incidence of chronic diseases.

Request a free sample of the Bioprocess Automation Market report: https://www.thebusinessresearchcompany.com/sample_request?id=14058&type=smp



bioprocess automation market drivers

What will be Largest Segment in the Bioprocess Automation Market in 2029?

The bioprocess automation market is by component of process control system into sensors, actuators, and controllers. The controller's market will be the largest segment of the bioprocess automation market segmented by component of process control system, accounting for 39% or $3,871 millions of the total in 2029. The controller's market will be supported by the need for centralized management of bioprocess workflows, increasing demand for integrated process control systems, rising adoption to maintain uniform quality across multiple production sites, growing use in regulatory documentation and audit readiness, demand for higher throughput with fewer deviations and adoption in advanced therapies where precision is critical.

> Expected to grow to $10.22 billion in 2029 at a compound annual growth rate (CAGR) of 12.6%"
>
> *The Business Research Company*

The bioprocess automation market is segmented by scale of operation into preclinical operations, clinical operations, and commercial operations. The commercial operations market will be the largest segment of the bioprocess automation market segmented by scale of operation, accounting for 66% or $6,620 millions of the total in 2029. The commercial operations market will be supported by the rising demand for large-scale biologics manufacturing, growing emphasis on reducing production costs through efficiency, increasing importance of uninterrupted supply chains, higher adoption by contract manufacturers to serve multiple clients, demand for sustainable and standardized operations across regions and the need to ensure global regulatory compliance for marketed drugs. Commercial Operations is the largest segment, as it represents large-scale drug production.

The bioprocess automation market is segmented by mode of operation into batch, fed-batch, and perfusion. The fed-batch market will be the largest segment of the bioprocess automation market segmented by mode of operation, accounting for 49% or $4,908 millions of the total in 2029. The fed-batch market will be supported by its dominant role in monoclonal antibody and protein production, increasing demand for optimized nutrient feeding strategies, rising emphasis on maximizing yield and productivity, greater need for real-time monitoring and

control, adoption in both clinical and commercial production and the scalability of fed-batch systems across different operation sizes.

The bioprocess automation market is segmented by compatibility with bioprocessing systems into single-use systems, stainless steel, and other bioprocessing systems. The single-use systems market will be the largest segment of the bioprocess automation market segmented by compatibility with bioprocessing systems, accounting for 54% or $5,353 millions of the total in 2029. The single-use systems market will be supported by the rising preference for flexibility in multiproduct facilities, increasing need to reduce cleaning and sterilization costs, growing adoption by CDMOs for faster changeovers, demand for smaller footprint operations, reduced cross-contamination risks and higher alignment with personalized medicine and small-batch production needs.

What is the expected CAGR for the Bioprocess Automation Market leading up to 2029?
The expected CAGR for the bioprocess automation market leading up to 2029 is 13%.

What Will Be The Growth Driving Factors In The Bioprocess Automation Market In The Forecast Period?
The rapid growth of the global bioprocess automation market leading up to 2029 will be driven by the following key factors that are expected to reshape biopharmaceutical manufacturing, upstream and downstream processing, and overall production efficiency worldwide.

Increasing Prevalence Of Chronic Diseases- The increasing prevalence of chronic diseases will become a key driver of growth in the bioprocess automation market by 2029. The growing burden of chronic diseases such as diabetes, cardiovascular disorders, autoimmune conditions, and cancers is driving demand for biologic therapies, including insulin, monoclonal antibodies, recombinant proteins and cell and gene therapies. These biologics are highly complex to manufacture and require precise control of living systems, which cannot be reliably achieved through manual processes alone. Bioprocess automation ensures reproducibility, reduces variability, and maintains compliance with stringent regulatory standards, making it a critical enabler of scalable production. As more patients globally require advanced biologics to manage chronic conditions, automation will become indispensable for meeting both quality and volume requirements. As a result, the increasing prevalence of chronic diseases is anticipated to contributing to a 1.0% annual growth in the market.

Increase In The Expansion Of Contract Development And Manufacturing Organizations (CDMOs) And Outsourcing- The increase in the expansion of contract development and manufacturing organizations (CDMOs) and outsourcing will emerge as a major factor driving the expansion of the bioprocess automation market by 2029. The rising reliance on CDMOs for biopharmaceutical manufacturing is fuelling adoption of automation technologies. CDMOs cater to multiple clients simultaneously, each requiring consistent, high-quality, and regulatory-compliant production. To manage diverse projects efficiently, CDMOs increasingly turn to bioprocess automation tools like robotic sample handling, automated chromatography, SCADA (supervisory control and data

acquisition) or DCS (distributed control system) systems and advanced analytics. These tools allow them to improve throughput, minimize error, shorten timelines, and enhance scalability. As outsourcing continues to grow, CDMOs' investments in automation will be critical in maintaining competitiveness and meeting biopharma clients' expectations for cost-effective and reliable production. Consequently, the increase in the expansion of contract development and manufacturing organizations (CDMOs) and outsourcing is projected to contributing to a 0.9% annual growth in the market.

Rising Investments In Biotech Research And Development (R&D)-The rising investments in biotech research and development (R&D) as a major factor driving the expansion of the bioprocess automation market by 2029. As biotech R&D funding expands, more novel therapeutic modalities are entering the pipeline, including next-generation vaccines, cell therapies, gene therapies, and advanced protein therapeutics. These products demand new approaches to process development, optimization, and scale-up. Automation plays a key role here by enabling high-throughput experimentation, process analytical technologies (PAT), digital twins and AI (artificial intelligence) and ML (machine learning)-driven optimization. By reducing time from discovery to clinical manufacturing and increasing the success rate of scale-up, automation helps translate R&D into commercially viable therapies faster. Thus, higher R&D investment naturally accelerates demand for advanced bioprocess automation solutions to support innovation. Consequently, rising investments in biotech research and development (R&D) is projected to contributing to a 0.6% annual growth in the market.

Expansion Of Vaccine Production- The expansion of vaccine production will emerge as a major factor driving the expansion of the bioprocess automation market by 2029. Vaccine production will continue to expand as new vaccine platforms, such as mRNA, recombinant protein and viral vector technologies, move beyond COVID-19 applications into areas like influenza, RSV (respiratory syncytial virus), cancer immunotherapy, and emerging infectious diseases. This growth will create sustained demand for highly scalable and flexible manufacturing systems. Bioprocess automation will play a central role by enabling faster changeovers between vaccine types, reducing the risk of contamination, and ensuring consistent quality at high volumes. Automated bioreactors, filtration and chromatography systems and robotic fill-finish operations will allow manufacturers to rapidly adjust to fluctuating global health needs. Moreover, automation platforms integrated with process analytical technology (PAT) and data-driven control systems will support regulatory compliance while improving efficiency and throughput. Consequently, the expansion of vaccine production is projected to contributing to a 0.3% annual growth in the market.

Access the detailed Bioprocess Automation Market report here:
https://www.thebusinessresearchcompany.com/report/bioprocess-automation-global-market-report

What Are The Key Growth Opportunities In The Bioprocess Automation Market in 2029?
The most significant growth opportunities are anticipated in bioprocess automation &

commercial operations market, bioprocess automation & single-use systems market, bioprocess automation & fed-batch systems market, and bioprocess automation & sensors market. Collectively, these segments are projected to contribute over $10 billion in market value by 2029, driven by accelerating adoption of automated biomanufacturing workflows, increasing demand for flexible and scalable production platforms, and advancements in sensor technologies enabling real-time process monitoring. Enhanced process control, reduced variability, and higher throughput are fuelling widespread integration of automation across upstream and downstream operations. This surge reflects the industry's shift toward data-rich, closed, and digitally managed bioprocessing environments, powering transformative growth within the broader bioprocess automation landscape.

The bioprocess automation & commercial operations market is projected to grow by $2,882 million, the bioprocess automation & single-use systems market by $2,806 million, the bioprocess automation & fed-batch systems market by $2,300 million, and the bioprocess automation & sensors market by $1,792 million over the next five years from 2024 to 2029.

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