

# **Bioprocess Automation Market Outlook 2025-2034: Market Share, and Growth Analysis By Component Of Process Control System (Sensors, Actuators, Controllers), By Scale Of Operation (Preclinical Operations, Clinical Operations, Commercial Operations), By Mode Of Operation, By Compatibility With Bioprocessing Systems**

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## **Abstracts**

The Bioprocess Automation Market is valued at USD 7.8 billion in 2025 and is projected to grow at a CAGR of 12.9% to reach USD 23.3 billion by 2034. The bioprocess automation market is a vital sector within the biopharmaceutical and biotechnology industries, focusing on the development and implementation of automated systems for controlling and optimizing bioprocesses. This market offers biopharmaceutical companies access to advanced automation technologies, such as distributed control systems (DCS), supervisory control and data acquisition (SCADA), and programmable logic controllers (PLC). The market is driven by the increasing demand for efficient and scalable biopharmaceutical manufacturing, the need for consistent product quality, and the rising adoption of Industry 4.0 technologies.

The market is witnessing a trend towards the integration of advanced automation technologies, such as artificial intelligence (AI), machine learning (ML), and digital twins, to enhance bioprocess control and optimization. The adoption of single-use technologies and continuous manufacturing processes is driving the demand for flexible and adaptable automation solutions. The market is expanding globally, with significant growth potential in emerging economies with increasing biopharmaceutical investments.

The bioprocess automation market is expected to grow significantly, driven by the

increasing demand for efficient and scalable biopharmaceutical manufacturing and the rising adoption of Industry 4.0 technologies. However, challenges related to system integration, data security, and regulatory compliance need to be addressed for sustained growth. The market's future success depends on the development of robust and reliable automation solutions and the establishment of strong partnerships between biopharmaceutical companies and automation providers.

### Key Insights Bioprocess Automation Market

Integration of AI, machine learning, and digital twins.

Adoption of single-use technologies and continuous manufacturing.

Increasing demand for flexible and adaptable automation solutions.

Growing focus on data-driven process optimization.

Expansion of the market in emerging economies.

Increasing demand for efficient and scalable biopharmaceutical manufacturing.

Need for consistent product quality and process control.

Rising adoption of Industry 4.0 technologies.

Technological advancements in automation systems.

Stringent regulatory requirements for product quality and safety.

System integration and interoperability challenges.

Data security and cybersecurity concerns.

Stringent regulatory compliance and validation requirements.

High cost of advanced automation systems.

Need for specialized expertise and training.

## Bioprocess Automation Market Segmentation

### By Component Of Process Control System

Sensors

Actuators

Controllers

### By Scale Of Operation

Preclinical Operations

Clinical Operations

Commercial Operations

### By Mode Of Operation

Batch

Fed-Batch

Perfusion

### By Compatibility With Bioprocessing Systems

Single-Use Systems

Stainless Steel

Other Bioprocessing Systems

### Key Companies Analysed

F. Hoffmann-La Roche Ltd

Thermo Fisher Scientific Corporation

Danaher Corporation

Amgen Inc.

Merck KGaA

Parker-Hannifin Corporation

CSL Behring LLC

Rockwell Automation Inc.

Agilent Technologies Inc.

Lonza Group AG

Waters Corporation

Getinge AB

Eppendorf AG

Repligen Corporation

BIONET Research S.A.

Flotek Industries Inc.

Pierre Guerin SAS

Bioengineering AG

Genedata AG

ILS Automation

INFORS AG

Synthace Limited

Automated Control Concepts Inc.

BlueSens gas sensor GmbH

DISTek Integration Inc.

Securecell AG

Flownamics Analytical Instruments Inc.

Inscripta Inc.

PendoTECH Inc.

Sartorius Stedim Biotech S.A.

## Bioprocess Automation Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

## Bioprocess Automation Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial

performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

## Countries Covered

North America — Bioprocess Automation market data and outlook to 2034

United States

Canada

Mexico

Europe — Bioprocess Automation market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Bioprocess Automation market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Bioprocess Automation market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Bioprocess Automation market data and outlook to 2034

Brazil

Argentina

Chile

Peru

*\* We can include data and analysis of additional countries on demand.*

## Research Methodology

This study combines primary inputs from industry experts across the Bioprocess Automation value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

## Key Questions Addressed

What is the current and forecast market size of the Bioprocess Automation industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

## Your Key Takeaways from the Bioprocess Automation Market Report

Global Bioprocess Automation market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Bioprocess Automation trade, costs, and supply chains

Bioprocess Automation market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Bioprocess Automation market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Bioprocess Automation market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Bioprocess Automation supply chain analysis

Bioprocess Automation trade analysis, Bioprocess Automation market price analysis, and Bioprocess Automation supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Bioprocess Automation market news and developments

## Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

*\* The updated report will be delivered within 3 working days*

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