

Automated and Closed Cell Therapy Market - Forecast from 2026 to 2031

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Abstracts

Automated And Closed Cell Therapy Market is expected to grow at a 15.68% CAGR, increasing to USD 4.236 billion in 2031 from USD 1.768 billion in 2025.

The automated and closed cell therapy market is advancing through integration of automation in closed-system processes, enhancing scalability, safety, and consistency. Rising adoption of regenerative medicine across healthcare sectors is accelerating market expansion. Automated platforms are improving treatment efficacy in cancer immunotherapies such as CAR-T by enabling precise, high-volume production. Significant investments are flowing into compact, automated systems to lower costs, space requirements, and manual intervention.

Automated and closed cell therapy combines closed manufacturing environments with robotic or software-driven processes for cell isolation, expansion, harvesting, formulation, and fill-finish. These systems minimize contamination risks, standardize outputs, and support scalable production of personalized therapies. The market is growing steadily, driven by demand for reproducible, high-quality cellular products amid expanding indications in oncology, autoimmune diseases, and regenerative applications.

Key growth drivers include the multifaceted benefits of automation, such as process standardization for uniform therapies, enhanced scalability through higher yields in controlled settings, reduced contamination in closed environments, and cost efficiencies via lowered labor and error rates. Increasing popularity of regenerative medicine, focused on harnessing innate repair mechanisms, amplifies needs for reliable, automated manufacturing to deliver viable cell products. Growing cancer prevalence necessitates advanced immunotherapies like CAR-T, where automated closed systems

ensure consistent, patient-specific engineering at scale.

Restrains encompass infrastructure gaps, including limited cleanroom access and skilled personnel at many facilities, potentially slowing adoption. Challenges in maintaining product quality, standardizing protocols across automated platforms, and addressing perceptions of reduced human oversight may influence stakeholder acceptance.

Geographically, North America is expected to hold significant share, supported by technological leadership, digital healthcare integration, elevated cancer incidence, provider/patient awareness, and concentration of key innovators.

Leading companies include Lonza, offering the Cocoon® platform for automated, closed cell therapy manufacturing with integrated workflows. Miltenyi Biotec provides MACS technology for cell isolation and enrichment, foundational to automated processing in research and clinical pipelines.

Overall, the market is progressing robustly, positioned to overcome scalability barriers in cell therapy through closed automation, enabling broader access to transformative treatments while addressing contamination, consistency, and cost challenges in a rapidly evolving regenerative landscape.

Key Benefits of this Report:

Insightful Analysis: Gain detailed market insights covering major as well as emerging geographical regions, focusing on customer segments, government policies and socio-economic factors, consumer preferences, industry verticals, and other sub-segments.

Competitive Landscape: Understand the strategic maneuvers employed by key players globally to understand possible market penetration with the correct strategy.

Market Drivers & Future Trends: Explore the dynamic factors and pivotal market trends and how they will shape future market developments.

Actionable Recommendations: Utilize the insights to exercise strategic decisions to uncover new business streams and revenues in a dynamic environment.

Caters to a Wide Audience: Beneficial and cost-effective for startups, research institutions, consultants, SMEs, and large enterprises.

What do businesses use our reports for?

Industry and Market Insights, Opportunity Assessment, Product Demand Forecasting, Market Entry Strategy, Geographical Expansion, Capital Investment Decisions, Regulatory Framework & Implications, New Product Development, Competitive Intelligence

Report Coverage:

Historical data from 2021 to 2025 & forecast data from 2026 to 2031

Growth Opportunities, Challenges, Supply Chain Outlook, Regulatory Framework, and Trend Analysis

Competitive Positioning, Strategies, and Market Share Analysis

Revenue Growth and Forecast Assessment of segments and regions including countries

Company Profiling (Strategies, Products, Financial Information, and Key Developments among others.

Automated and Closed Cell Therapy Market Segmentation

By Therapy Type

Stem-Cell Therapy

Non-Stem-Cell Therapy

By Scale

Pre-Commercial / R&D Scale

Commercial Scale

By End-User

Pharmaceuticals & Bio-Tech Companies

Research & Academic Institute

Others

By Geography

North America

United States

Canada

Mexico

South America

Brazil

Argentina

Others

Europe

Germany

France

United Kingdom

Spain

Others

Middle East and Africa

Saudi Arabia

UAE

Israel

Others

Asia Pacific

China

India

Japan

South Korea

Indonesia

Thailand

Others

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