

## **Downstream Processing - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-06-01 | 130 pages | Mordor Intelligence

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### **Report description:**

Downstream Processing Market Analysis

The global downstream processing market stands at USD 40.78 billion in 2025 and is projected to reach USD 75.47 billion by 2030, reflecting a compound annual growth rate (CAGR) of 13.10%. Capacity expansions valued above USD 50 billion in 2024-2025, including Eli Lilly's USD 9 billion Indiana site and Novo Nordisk's USD 4.1 billion North Carolina facility, have created unprecedented equipment demand and intensified competition for skilled labor. Single-use systems, continuous bioprocessing, and digital twins are now mainstream, cutting operating costs and shortening validation timelines, while suppliers race to introduce PFAS-compliant membranes before incoming regulations take effect. Outsourcing momentum further shapes pricing and technology adoption as CDMOs secure multi-year slots for niche modalities such as viral vector and lipid nanoparticle production. Meanwhile, manufacturers prioritize supply-chain resilience, driving regional sourcing strategies and dual-supplier frameworks for filters, bags, and resins.

Global Downstream Processing Market Trends and Insights

Rapid Expansion of Global Biologics Manufacturing Capacity

Samsung Biologics completed its fifth plant in April 2025, lifting global capacity to 784,000 L and reinforcing a volume race that lifts demand for large-scale chromatography systems and single-use bioreactors. Newly built lines favor continuous modalities that lower buffer consumption by as much as 40% and reduce water-for-injection requirements. Regional governments position

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biomanufacturing as a strategic growth engine, illustrated by Saudi Arabia's plan to add USD 34.6 billion to non-oil GDP by 2040. Capacity oversupply among some CDMOs temporarily suppresses utilization to below 50%, yet the throughput flexibility of intensified downstream skids allows quick re-scheduling without quality compromise. Vendors consequently bundle columns, resins, and analytical sensors to deliver integrated platforms that can switch between monoclonal and viral-vector products within hours.

#### Rising R&D Spending Among Big Pharma & Emerging Biotech

Large enterprises lift budgets even while smaller firms face capital rationing. Eli Lilly alone earmarked USD 4.5 billion for the Lilly Medicine Foundry to accelerate clinical supply, creating incremental orders for modular chromatography and tangential flow filtration systems. Venture-backed start-ups prioritise cell and gene therapy pipelines, which require low-shear clarification and nuclease removal steps that differ substantially from antibody workflows. The result is broadened demand diversity that benefits suppliers offering configurable skids and disposable flow paths. Continuous multicolumn chromatography, once niche, is now adopted by a growing number of programs because it offsets resin cost spikes with 50% smaller bed volumes per kilogram of product.

#### High Capital Cost of Large-Scale Chromatography Skids and Resins

Protein A resin still commands premium pricing, consuming up to 60% of downstream capital budgets. Purolite invested USD 200 million in a Pennsylvania plant to ease supply and blunt price volatility, yet smaller firms remain cost-constrained. Intensified multicolumn operations cut resin use by 50% and raise output per square foot, but they add automation complexity that demands trained staff. A two-tier market is emerging in which large pharma pays for premium capture resins while cost-sensitive players explore mixed-mode or continuous alternatives.

Other drivers and restraints analyzed in the detailed report include:

CMO / CDMO Outsourcing Boom, Multi-Year Capacity Deals / mRNA & Viral-Vector Vaccine Platform Scale-Up Post-COVID / Purification Bottleneck Versus Upstream Titters /

For complete list of drivers and restraints, kindly check the Table Of Contents.

#### Segment Analysis

Purification techniques accounted for 32.25% of downstream processing market revenue in 2024, confirming their centrality to biologics quality. Cell disruption registers the fastest 15.25% CAGR as microbial and intracellular expression systems gain adoption. The downstream processing market size for purification surpassed USD 13 billion in 2025 and is poised to cross USD 25 billion by 2030, supported by resin capacity expansions and multicolumn innovations. In parallel, homogenisers and microfluidisers remain the workhorses for cell disruption, but low-frequency acoustic methods are attracting pilot-scale trials because they reduce heat generation.

Continuous chromatography reduces buffer use, aligning with sustainability objectives that influence procurement in Europe. Single-use centrifuges and depth-filtration cassettes improve clarification throughput and minimise contamination risk, a feature valued in multi-product CDMO suites. Integration software that harmonises sensor readings across clarification and capture stages shortens batch release times, offering a competitive edge to early adopters.

Chromatography columns and resins commanded 35.53% revenue share in 2024 and continue as the reference standard for antibody capture. Yet filtration and membrane devices exhibit the highest 14.35% CAGR as PFAS-free polymer advances spur

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replacement cycles. The downstream processing market size for filtration products reached USD 11 billion in 2025 and is projected to hit USD 20 billion by 2030. Multi-layer depth filters reduce step count by combining clarification and fine filtration in one housing, enhancing facility productivity.

Adaptive control valves and gamma-stable flow-paths facilitate modular skid reconfiguration, appealing to CMOs juggling varied client molecules. Chromatography suppliers respond with high-throughput resin screening kits that cut process development time by 30%. Single-use hardware adoption rises despite disposal cost debates, as operators value the reduced validation burden.

The Downstream Processing Market Report is Segmented by Technique (Purification Techniques, Solid-Liquid Separation, and More), Product (Chromatography Columns and Resins, and More), Application (Antibodies Production, Vaccines Production, and More), End User (Biopharmaceutical & Bio-Similar Manufacturers, and More), and Geography (North America, Europe, and More). The Market Forecasts are Provided in Terms of Value (USD).

## Geography Analysis

North America recorded 32.82% revenue share in 2024, powered by large-scale investments such as Johnson & Johnson's USD 2 billion project in North Carolina. Regional producers adopt continuous manufacturing in 75% of new lines and plan artificial intelligence integration within three years. The downstream processing market benefits from the FDA's proactive stance on innovative manufacturing guidance, fostering investor confidence in novel purification platforms.

Asia-Pacific is the fastest growing region at 14.62% CAGR thanks to large-scale facilities in South Korea, China, Singapore, and India. Samsung Biologics adds 180,000 L capacity while Novartis expands its Singapore site, exemplifying a trend toward mega-facilities supporting global supply. Indian CDMOs position themselves as alternatives following the US Biosecure Act. Regional authorities subsidise workforce training to bridge process-engineering talent gaps and encourage local sourcing of filters and bags.

Europe maintains steady growth through the European Commission's biomanufacturing strategy that supports scale-up loans and fast-track regulatory pathways. Sanofi's EUR 1 billion multiproduct hub in France and Merck KGaA's new German QC facility underpin resilience. Middle East initiatives such as NEOM's precision-fermentation site broaden geographic diversification, while Brazil's pharmaceutical sector captures new biologics investments including Novo Nordisk's USD 1.09 billion GLP-1 expansion.

List of Companies Covered in this Report:

Thermo Fisher Scientific / Danaher / Sartorius / Merck / GE Healthcare / Solvatum Corporation / Lonza Group / Repligen / Eppendorf / Pall / Agilent Technologies / FUJIFILM / Corning / Alfa Laval AB / Parker Hannifin / Novasep Holding SAS / Asahi Kasei Corp. / Meissner Filtration Products / Kuhner Shaker AG / BD Biosciences /

Additional Benefits:

<ul> The market estimate (ME) sheet in Excel format /  
3 months of analyst support / </ul>

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