

# **Lab Automation In Drug Discovery Market Outlook 2025-2034: Market Share, and Growth Analysis By Type (Automated Liquid Handlers, Automated Plate Handlers, Robotic Arms, Automated Storage And Retrieval Systems, Other Types), By Component (Instruments, Software, Services), By Application, By End-User**

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## **Abstracts**

The Lab Automation In Drug Discovery Market is valued at USD 8.5 billion in 2025 and is projected to grow at a CAGR of 5.8% to reach USD 14.1 billion by 2034. The Lab Automation in Drug Discovery Market encompasses technologies and systems that automate routine laboratory processes in pharmaceutical R&D, including high-throughput screening (HTS), compound management, liquid handling, and data integration. These solutions improve accuracy, speed, reproducibility, and scalability in identifying potential drug candidates. Automation tools—ranging from robotic arms and plate readers to integrated data analytics platforms—help researchers efficiently manage complex workflows and large compound libraries. As pharmaceutical companies face increasing pressure to reduce discovery timelines and costs, lab automation has become an essential tool for enhancing productivity, minimizing human error, and facilitating advanced techniques such as AI-driven drug screening and genomics-based research. The lab automation in drug discovery market experienced strong momentum driven by growing investments in personalized medicine, biologics, and high-throughput analytics. Major pharmaceutical firms and biotech startups deployed automated systems to accelerate target validation and screening processes. Integrated robotic platforms became increasingly common in compound storage, retrieval, and liquid dispensing. Cloud-based LIMS (Laboratory Information Management Systems) and ELN (Electronic Lab Notebooks) facilitated real-time collaboration across geographically

dispersed R&D teams. Vendors like Thermo Fisher Scientific, Beckman Coulter, and Hamilton Company expanded their automation portfolios with AI-ready modules and plug-and-play designs tailored for modular lab environments. Funding surged in AI-assisted drug discovery platforms, amplifying automation demand. The lab automation in drug discovery market is expected to benefit from convergence with digital twin technology, edge computing, and robotic process optimization. The rise of decentralized R&D hubs will necessitate scalable, cloud-integrated automation systems capable of supporting cross-border collaboration. Companies will prioritize systems that combine hardware flexibility with AI-powered decision-making, reducing bottlenecks in early-stage drug discovery. As precision medicine and rare disease research intensify, demand will grow for customizable platforms that handle cell-based assays, CRISPR editing, and multi-omics workflows. Regulatory agencies are expected to provide clearer digital compliance guidelines, further catalyzing automation deployment in drug development pipelines.

### Key Insights Lab Automation In Drug Discovery Market

OG Analysis highlights the growing trend of integrating artificial intelligence with automated lab systems to enhance compound screening accuracy and streamline predictive modeling in drug discovery.

Cloud-based LIMS and ELN systems are trending, allowing global R&D teams to collaborate in real-time and manage data seamlessly across automated laboratory platforms.

According to OG Analysis, modular automation systems are trending, providing scalable solutions that can adapt to changing experimental needs and laboratory footprint constraints.

Digital twins and in-silico modeling are trending as labs replicate virtual experiments to reduce reliance on physical trials and accelerate decision-making in early discovery phases.

Automated CRISPR and gene-editing workflows are trending, supporting the growing focus on targeted therapies, genetic research, and functional genomics screening.

OG Analysis identifies the increasing complexity of drug discovery workflows and the need to accelerate time-to-market as primary drivers for adopting lab

automation technologies.

The surge in biologics and cell-based therapies is driving demand for precision automation tools capable of handling sensitive and high-throughput workflows, says OG Analysis.

OG Analysis notes that digital transformation initiatives in pharma R&D are pushing investment toward integrated automation solutions that combine data, robotics, and AI analytics.

Government funding and strategic collaborations between tech companies and pharma players are accelerating the deployment of automation in preclinical and discovery labs.

OG Analysis highlights the high initial investment and maintenance costs of sophisticated automation systems, which can be a deterrent for small and mid-sized biotech firms.

According to OG Analysis, integration challenges between legacy systems and new automation platforms can result in workflow disruptions and inefficiencies during digital transitions.

## Lab Automation In Drug Discovery Market Segmentation

### By Type

Automated Liquid Handlers

Automated Plate Handlers

Robotic Arms

Automated Storage And Retrieval Systems

Other Types

### By Component

Instruments

Software

Services

#### By Application

High-Throughput Screening

Compound Management

Sample Preparation

Other Applications

#### By End-User

Biotechnology And Pharmaceutical Industries

Research Institutes

Other End-Users

#### Key Companies Analysed

Thermo Fisher Scientific Inc.

Abbott Diagnostics

Roche Holdings Inc.

Beckman Coulter

Siemens Healthineers

Becton Dickinson and Company

Agilent Technologies Inc.

PerkinElmer Inc.

Endress+Hauser

Shimadzu Corporation

Waters Corporation

Bio-Rad Laboratories Inc.

QIAGEN

Beckhoff Automation GmbH & Co. KG

Eppendorf AG

Tecan Group Ltd.

Brooks Automation Inc.

Hamilton Company

AbCellera Biologics Inc.

Hudson Robotics Inc.

OpenTrons Labworks Inc.

Quanterix Corporation

The Technology Partnership

HighRes Biosolutions Inc.

Biosero Inc.

Peak Analysis and Automation Ltd.

Aurora Biomed Inc.

Arctoris

Inveox GmbH

Synthace

Synchron Lab Automation

## Lab Automation In Drug Discovery 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.

## Lab Automation In Drug Discovery 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 — Lab Automation In Drug Discovery market data and outlook to 2034

United States

Canada

Mexico

Europe — Lab Automation In Drug Discovery market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Lab Automation In Drug Discovery market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Lab Automation In Drug Discovery market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Lab Automation In Drug Discovery 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 Lab Automation In

*Lab Automation In Drug Discovery Market Outlook 2025-2034: Market Share, and Growth Analysis By Type (Automate...*

Drug Discovery 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 Lab Automation In Drug Discovery 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 Lab Automation In Drug Discovery Market Report

Global Lab Automation In Drug Discovery market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Lab Automation In Drug Discovery trade, costs, and supply chains

Lab Automation In Drug Discovery market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Lab Automation In Drug Discovery market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Lab Automation In Drug Discovery market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Lab Automation In Drug Discovery supply chain analysis

Lab Automation In Drug Discovery trade analysis, Lab Automation In Drug Discovery market price analysis, and Lab Automation In Drug Discovery supply/demand dynamics

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

Latest Lab Automation In Drug Discovery 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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