

Lab Automation Market Assessment, By Product [Automated Workstations, Automated Integrated Workstations, Pipetting Systems, Reagent **Dispensers, Microplate Washers, Multimode** Microplate Readers, Filter Based, Monochromator Based, Hybrid, Single Mode Microplate Reader, Fluorescence, Absorbance, Luminescence, Off the Shelf Automated Work Cells, Software, Robotic System, Automated Storage Retrieval System, Other Lab Automation Equipment] By Application [Drug **Discovery**, **Diagnostics**, **Genomic Solutions**, **Proteomics Solutions, Microbiology, Other** Applications], By End User [Biotechnology and **Pharmaceutical Companies, Hospital and Diagnostic** Laboratories, Research and Academic Institutes, Forensic Laboratories, Environmental and Testing Laboratories, Food and Beverage Industries], By Region, Opportunities and Forecast, 2016-2030F

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Abstracts

Global Lab Automation Market size was valued at USD 5.75 billion in 2022 and is expected to reach USD 9.82 billion in 2030 with a CAGR of 6.92% for the forecast



period between 2023 and 2030. Lab automation is a cutting-edge and interdisciplinary method employed in labs to enhance productivity, minimize time consumption, and improve efficiency in laboratory procedures. The market for lab automation is expected to experience significant growth in the foreseeable future, primarily driven by advancements in technology about laboratory equipment and the increasing adoption of automated laboratory systems in pharmaceutical and research and development (R&D) institutes. Furthermore, the growing demand for compact processing equipment is also a contributing factor to the expansion of the market. However, the substantial initial investment requirement impeded the market's growth.

The lab automation market is witnessing a surge in demand globally, driven by the rapid advancement of technology. Lab automation equipment and tools are extensively utilized in the healthcare sector. With healthcare expenditures rising due to various factors, prominent pharmaceutical and healthcare companies are being propelled to automate their laboratories. This enables them to provide advanced healthcare services conveniently and efficiently, saving time and bringing healthcare services closer to people's doorsteps.

The surging demand for healthcare services has fueled intense competition among leading healthcare and pharmaceutical companies globally to undergo lab automation. This competition has increased the utilization of equipment, analyzers, and software in laboratory settings. Market players are primarily focused on offering a wide range of tools, equipment, machines, and techniques to facilitate the development and manufacturing of automated laboratory infrastructure. To achieve this, market players are making substantial investments and securing funding to develop advanced technologies and methodologies.

Growing Investments and Strategic Initiatives by Market Players

The lab automation market is witnessing significant growth due to the high demand for specialized and advanced automated services that eliminate human errors. Both market players and companies prioritize providing diverse tools, equipment, machines, and techniques to support the development and manufacturing of automated laboratory infrastructure. This market expansion is driven by the increasing demand for specialized advanced automated services that can effectively eliminate human error. To capture a larger global market share, market players are making additional investments and securing funding to develop advanced technologies and methodologies. Their primary focus is to reduce manual efforts and hands-on time in traditionally labor-intensive processes.



In June 2022, BD announced the successful completion of the acquisition of Straub Medical AG, a privately owned company. This acquisition has enabled BD to gain valuable expertise and experience of Straub Medical AG while expanding its product portfolio.

In January 2022, Qiagen made two partnership announcements. The first collaboration was with Atila BioSystems, aimed at offering non-invasive prenatal testing solutions to Qiagen's dPCR franchise. The second announcement involved a co-exclusive licensing and co-marketing agreement with Actome GmbH, a life sciences start-up from Germany. This agreement expanded Qiacuity's scope beyond genomics and proteomics.

Laboratory Robotics has Emerged as a Pivotal Segment

Laboratory robotics has emerged as a transformative force in the lab automation market, presenting an excellent opportunity for substantial market growth. Integrating robotics in laboratory processes has revolutionized scientific experiments and tasks, offering numerous advantages over traditional manual methods. By automating repetitive and time-consuming tasks, laboratory robotics boosts efficiency and reduces the risk of human error, enhancing overall data accuracy and reliability. The increasing complexity of scientific research and the growing demand for high-throughput screening have accelerated the adoption of laboratory robotics in various industries, including pharmaceuticals, biotechnology, healthcare, and research institutions.

With exceptional precision and speed, these robotics systems can handle various tasks, such as sample handling, liquid handling, plate manipulation, and data analysis. Additionally, laboratory robotics facilitate improved resource management, as they can operate around the clock, optimizing the utilization of expensive lab equipment and reagents. This, in turn, leads to cost savings and higher productivity, making them an attractive investment for companies and institutions seeking to streamline their laboratory workflows.

Opentrons, a leader in lab automation, launched Opentrons Flex robot in May 2023. Opentrons Flex robot is a new generation, affordable and easy-to-program liquidhandling lab robot designed to level the playing field for labs of all sizes and bring advanced lab automation to more researchers than ever before.

Technological Advancements

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The global lab automated market is witnessing remarkable technological advancements, revolutionizing laboratory processes and research methodologies. One key area of progress is the integration of robotics and automation systems, which has significantly improved the efficiency and accuracy of laboratory tasks. Robotic systems can perform repetitive and complex operations with precision, reducing human errors and increasing productivity. Moreover, developing advanced sensors, software, and connectivity solutions has facilitated real-time monitoring, remote access, and seamless data exchange, fostering collaboration among researchers worldwide.

In November 2022, F. Hoffmann -La Roche Ltd. entered into a collaboration with PathAI to improve patient care through utilization of artificial intelligence-based digital pathology applications. As per the agreement for development and distribution, the companies will collaborate on creating an integrated image analysis process specifically designed for pathologists. This process will enable pathologists to use PathAI image analysis algorithms directly within Roche's uPath enterprise software, specifically its cloud-based NAVIFY Digital Pathology version.

Increasing Use of Automated Instruments for Drug Discovery and Development

The global lab automation market has witnessed a substantial rise in using automated instruments for drug discovery and development. This trend reflects the growing recognition of the advantages offered by automation in enhancing efficiency, accuracy, and productivity in laboratory workflows. In recent years, drug discovery has witnessed a substantial increase in the integration of lab automation, revolutionizing the way pharmaceutical research is conducted. With the ever-growing demand for novel and more effective therapeutics, automation has emerged as a crucial tool to accelerate the drug development process and improve overall efficiency. Automation streamlines various aspects of drug discovery, including high-throughput screening of potential drug compounds, compound synthesis and optimization, and data analysis.

Insilico Medicine, a clinical-stag e company focusses on utilizing artificial intelligence (AI) throughout the drug discovery process, revealed the successful conclusion of its Series D funding round. The company raised USD 60 million from a syndicate of global investors. The capital raised in the round further bolstered Insilico's financial position and fuelled the growth of its advancing pipeline. This included their lead program, which was undergoing a Phase I study at the time, as well as the continued development of their Pharma AI platform.



Impact of COVID-19

COVID-19 had a significant impact on the Global lab automation market. The virus outbreak increased the demand for diagnostic testing and research on potential treatments and vaccines. As a result, laboratories worldwide faced a surge in workload and the need for faster and more efficient processes. Lab automation technologies were crucial in meeting these demands by enabling high-throughput testing, sample processing, and data analysis. Automation systems streamlined workflows, reduced manual labour, and minimized the risk of human error, ensuring accurate and timely results. Additionally, the pandemic highlighted the importance of remote monitoring and operation of lab equipment, leading to adoption of cloud-based automation solutions.

In January 2022, the Hubrecht Institute and Genmab developed the 'STRIP-1' test robot, which can analyze 20,000 samples for SARS-CoV-2 testing within a span of 24 hours. This makes the STRIP-1 significantly faster than any other existing system. STRIP-1 can operate effectively with minimal volumes, utilizing smaller quantities of the currently scarce materials worldwide. Additionally, the expenses associated with each test conducted using STRIP-1 will be significantly lower compared to the prevailing testing costs.

Key Players Landscape and Outlook

The global lab automation market presents a dynamic landscape with several key players driving innovation and growth. Major companies such as Thermo Fisher Scientific, Agilent Technologies, Siemens Healthineers, and PerkinElmer dominate the market due to their extensive product portfolios and strong market presence. These players continuously invest in research and development to introduce advanced automation technologies and solutions. The global lab automation market outlook remains promising as the demand for streamlined laboratory workflows, enhanced efficiency, and improved data accuracy continues to rise. Technological advancements, such as robotic systems, artificial intelligence, and cloud-based automation platforms, are expected to shape the market's future. Moreover, collaborations, partnerships, and strategic acquisitions will likely intensify competition and further fuel market growth.

PerkinElmer, Inc. introduced readily available Adeno-associated Virus Vectors (AAV) Detection Kits in 2022, assisting scientists in gene therapy research for diverse severe illnesses. These high-throughput viral assays are purposefully developed to expedite and simplify the characterization of viral vector particles, aiding researchers in making informed decisions for secure and effective gene transfer.



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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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