

Lab Automation For In-Vitro Diagnostics - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 120 pages | Mordor Intelligence

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Report description:

The Lab Automation For In-Vitro Diagnostics Market size is estimated at USD 5.75 billion in 2024, and is expected to reach USD 7.80 billion by 2029, growing at a CAGR of 6.30% during the forecast period (2024-2029).

The increase in testing due to the pandemic and the development of automated in-vitro diagnostic systems for labs to provide quick, precise, and error-free diagnoses can be attributed to market growth.

Key Highlights

-Lab automation is the process of using specimen-processing equipment to conduct clinical research. This procedure is carried out in order to develop new technology in order to increase productivity and decrease time cycles. In-vitro diagnostics is used in various settings, including laboratories, clinics, educational institutions, diagnostic centers, and private homes.

-The IVD product portfolio includes devices that aid clinical chemistry and immunoassays, urinalysis, point-of-care testing, and patient self-testing devices. The market is expanding as a result of significant players introducing an increasing number of IVD (in vitro diagnostics) products.

-Lab automation is becoming more common, particularly in the development of IVD medical devices. On an unprecedented scale, technology is assisting in increasing the productivity and throughput of in vitro diagnostics. Furthermore, the IVD market is expected to benefit from cognitive machine-learning capabilities and Big Data to supplement diagnostic test information and technologies to enable seamless connectivity between multiple instrument systems. Automation solutions will be in high demand as a result of such technological advancements.

-The increase in R&D activities in the pharmaceutical industries and the increase in demand for process automation for food safety are driving the growth of lab automation for the in-vitro diagnostics market. The increased adoption of these systems as a result of workflow standardization and stringent regulatory control in the healthcare industry influences the growth of lab

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automation for the in-vitro diagnostics market.

-Significant investments in advanced technologies and business model transformation, driven by products and value-added services, are expected to propel the market. Furthermore, the rapid spread of existing diseases and the discovery of new diseases increase the demand for early treatment and diagnosis. This is expected to increase the rate of clinical diagnostic applications, fueling the adoption of lab automation solutions.

-Automating in-vitro diagnostic devices allows the healthcare diagnostic industry to drastically reduce potential errors, detect infection, diagnose medical conditions, prevent disease, and monitor drug therapies more accurately. For example, in pandemic outbreaks, robotics can be used to reduce infection exposure, distribute medications and food, assess vital signs, promote border control, and automate disinfection.

-Furthermore, incorporating AI and analytical tools into laboratory workflows expands the lab automation market's profitable opportunities. However, a lack of skilled laboratory professionals and the limited feasibility of technology integration in analytical labs will challenge and hinder the in-vitro diagnostics lab automation market.

-The COVID-19 pandemic's continued market impact and increased consumer demand can be attributed to molecular diagnostics. Flu and COVID-19, for example, have symptoms that are difficult to distinguish. Furthermore, with the outbreak of COVID-19, several regions have seen an increase in the number of tests performed to detect the virus, necessitating lab automation technologies.

Lab Automation For In-Vitro Diagnostics Market Trends

Adoption of Robotics Arms Aids the Market Growth

- In-vitro diagnostics (IVD) has become indispensable in the healthcare system by providing critical information to diagnose diseases and guide therapeutic decisions. The scope of robotic surgery, the transition from open to laparoscopic surgery, and the demand for surgeons with expertise in complex robotic medical procedures will all expand.

- Clinical diagnostics and in vitro diagnostic (IVD) markets benefit from current advancements in automation and robotics, such as enhanced liquid handling robot solutions rather than individual pipetting chores or other types of manual handling. Robotic ultrasound has been tested in various settings, including operating rooms, remote clinics, and space.

- Robotic arms are increasingly used in research laboratories for applications requiring flexibility, efficient space utilization, and seamless integration of lab peripherals. Adoption has grown over time due to the ease with which the arms can be programmed. As a result, the market will be driven by the increased adoption of robotic arms for lab automation.

- The most common application of robotics in laboratories is machine tending or pick and place to reduce labor requirements and increase productivity. However, thanks to advancements in modular equipment, even small laboratories can reap the benefits of automation. With the assistance of various vendors, laboratories of all sizes are quickly realizing the many advantages of robotic laboratory automation.

- Because of technological advancements and increased demand for results, laboratories are increasingly utilizing automated systems. Because of its precision, improved data management capabilities, reduced repetitiveness, and eventually less human intervention, lab automation is becoming more popular, resulting in higher throughput and accuracy. For example, a robot arm for sorting blood samples reduces hospital diagnostic center personnel's workload while ensuring safety.

- Moreover, IoT-enabled systems provide server control and monitoring of various sensors and can be easily configured to handle additional hardware interface modules. Sensors installed in robots and loaded onto devices may aid data collection and communication with cloud servers and other devices. Furthermore, laboratories can maintain data with high levels of security while providing accurate and unaltered data via IoT.

North America to Hold the Largest Market Share

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- North America dominates the lab automation for the in-vitro diagnostics market due to the presence of large pharmaceutical companies and the rapid increase in investment in the drug discovery and genomics sectors. The United States, on the other hand, is expected to have a significant growth rate during the forecast period due to the increased development of novel technologies, rapid population growth, and continuous technological advancements.
- North America has been a leader in clinical research for many years. Pfizer, Novartis, GlaxoSmithKline, J&J, and Novartis are among the major pharmaceutical companies headquartered in this region. In addition, the area has the greatest concentration of contract research organizations (CROs). Some significant CROs are Laboratory Corp. of America Holdings, IQVIA, Syneos Health, and Parexel International Corp.
- Because of the availability of government funds, stringent FDA regulations, the growing use of molecular diagnostics in genetic disorders and cancer screening, and most of the major players in this region, the region is expected to account for a major market share.
- Additionally, the growing number of surgeries and the prevalence of various chronic diseases drive demand for automation in the clinical diagnostics industry. The American Orthopedic Surgeons (AAOS) predicts that approximately 3.0 million total knee arthroplasty surgeries will be performed in the United States by 2030. The diagnosis of these and other chronic conditions necessitates sample collection, which increases demand for the market under consideration.
- Moreover, increased access to superior technologies, increased demand for laboratory automation, and the expansion of molecular diagnostics for genetic disorders and cancer screening in the United States may all boost market demand in North America. SmartLabs, a Boston-based Laboratory-as-a-Service (LaaS) leader, announced plans to open its first facility in the city in August 2022, in addition to SmartLabs' advanced resourcing in Boston and the Bay Area, which is expected to become the city's most prominent life sciences research and production space upon completion in 2025.
- Furthermore, with the outbreak of COVID-19, the region saw an increase in the number of tests performed to detect the virus. In February 2022, the American government launched the Cancer Moonshot to increase cancer screening rates to find cases that had gone undiagnosed due to the COVID-19 pandemic. The government intends to cut cancer deaths by half in the next 25 years through early detection and treatment, which will increase demand for cancer IVD tests.
- Diagnostic Robotics, a leading provider of Artificial Intelligence and Care Management solutions for Healthcare plans and providers, today announced the closing of a USD 45M Series B funding round led by StageOne investors, which will help to drive vastly improved care management for members in July 2022. Such investments will encourage the use of automation solutions in medical laboratories.

Lab Automation For In-Vitro Diagnostics Industry Overview

Lab automation for the in-vitro diagnostics market is a consolidated market. The entry cost for setting up lab infrastructure remains high, and hence, only a few major players dominate the market. Moreover, this market has undergone a round of consolidation already. The major players in this market are Cognex Corporation, Roche Holding AG, Thermo Fisher Scientific Inc., and Abbott Laboratories. Market domination through innovative product launches and strategic agreements continues across this industry.

In January 2022, Fujirebio, a global leader in IVD testing, announced the commercial launch of the RoboBlot instrument, a closed system for the automated processing of the widely used INNO-LIA Score assays. The system's preprogrammed test protocols automate sample addition to strip processing, image capture, and result interpretation, as well as laboratory information system (LIS) communication where applicable.

In February 2022, Automata, which began by developing a robotic arm for individual tasks, raised USD 50 million to automate entire lab processes from beginning to end. Octopus Ventures led the round, which included Hummingbird, Latitude Ventures, ABB

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Technology Ventures, Isomer Capital, In-Q-Tel, and others. The company believes transitioning from partial to full automation will result in significant time savings and increased throughput.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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