

# **Vietnam In-Vitro Diagnostics Market, By Product & Service (Reagents, Instruments, Software & Services), By Technique (Immunodiagnosics, Hematology, Molecular Diagnostics, Tissue Diagnostics, Clinical Chemistry, Others), By Application (Infectious Diseases, Cancer, Cardiac Diseases, Immune System Disorders, Nephrological Diseases, Others), By End User (Hospitals & Clinics, Diagnostic Laboratories, Others), By Region, Competition Forecast & Opportunities, 2019-2029F**

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## **Abstracts**

Vietnam In-vitro Diagnostics Market was valued at USD 336.07 million in 2023 and is anticipated to project steady growth in the forecast period with a CAGR of 4.60% through 2029. The In-vitro Diagnostics (IVD) market in Vietnam is witnessing significant growth, fueled by various factors reflecting the country's healthcare advancements and the evolving needs of its population. This market includes a broad spectrum of diagnostic tests conducted on biological samples such as blood, urine, and tissues, aimed at detecting diseases, conditions, and infections.

The rising incidence of chronic diseases like diabetes, cardiovascular diseases, and cancer in Vietnam has heightened the demand for early and accurate diagnostic solutions. The Vietnam IVD market is set for robust expansion, supported by favorable demographic trends, government initiatives, and technological innovations. However, addressing regulatory, economic, and educational challenges will be essential for sustaining this growth and ensuring widespread access to advanced diagnostic

solutions. Companies in this market must navigate these complexities while continuing to innovate and adapt to the evolving healthcare landscape in Vietnam.

## Key Market Drivers

### Epidemiological Shifts and Rising Chronic Disease Burden

Vietnam is witnessing a substantial increase in chronic diseases, which significantly drives the demand for In-vitro Diagnostics (IVD). Chronic diseases such as diabetes, cardiovascular diseases, and cancer have become more prevalent due to factors like aging population, urbanization, and lifestyle changes. The incidence of diabetes in Vietnam is growing at a concerning rate. This chronic condition requires continuous monitoring of blood glucose levels, which relies heavily on IVD tools. Frequent diagnostic testing helps in managing the disease, adjusting treatments, and preventing complications. As one of the leading causes of death in Vietnam, cardiovascular diseases necessitate extensive diagnostic testing for early detection, risk assessment, and monitoring of treatment efficacy. The increasing number of patients with hypertension and heart diseases translates into higher utilization of IVD tests such as lipid profiles, cardiac biomarkers, and coagulation tests. The rise in cancer cases highlights the need for early and precise diagnosis, which is crucial for effective treatment. Advanced IVD techniques, including molecular diagnostics and tissue biopsies, are essential for detecting various types of cancers, understanding their progression, and tailoring personalized treatment plans.

Vietnam's demographic trends indicate a growing aging population, which inherently leads to a higher incidence of age-related chronic conditions. Older adults are more susceptible to diseases such as diabetes, hypertension, and cancer, which require regular diagnostic monitoring and management. The elderly population typically undergoes more frequent health screenings and diagnostic tests to manage existing conditions and to detect new health issues early. This results in a higher demand for IVD services. Rapid urbanization and shifts in lifestyle habits contribute significantly to the epidemiological changes in Vietnam. The move from rural to urban living often results in decreased physical activity, unhealthy eating habits, and increased stress levels, all of which are risk factors for chronic diseases. The urban lifestyle has led to an increase in obesity and related disorders, such as diabetes and cardiovascular diseases. These conditions necessitate a comprehensive range of diagnostic tests, thereby boosting the IVD market. Urbanization also brings about occupational health risks that require regular monitoring through diagnostic tests,

contributing further to market growth.

The Vietnamese government and various health organizations have launched initiatives aimed at increasing public awareness about chronic diseases and the importance of early detection and management. These initiatives often include free or subsidized screening programs that utilize IVD tests extensively. Nationwide screening programs for diseases like diabetes and cancer are increasing the use of diagnostic tests, thereby driving market growth. For example, mass screenings for hepatitis B and C, prevalent in Vietnam, are critical for early intervention and treatment, leading to higher demand for relevant IVD tests. Public health campaigns aimed at educating the population about the risks of chronic diseases and the benefits of early detection have led to an increase in health-seeking behavior, with more individuals opting for regular check-ups and diagnostic testing. Advancements in diagnostic technology have made it possible to perform more accurate, faster, and less invasive tests. These innovations are particularly beneficial for managing chronic diseases, where continuous monitoring is often required. The development of portable diagnostic devices and point-of-care testing solutions allows for immediate results, making it easier to manage chronic conditions effectively, especially in remote and underserved areas. Cutting-edge molecular diagnostics provide detailed insights into genetic predispositions and disease mechanisms, facilitating personalized medicine approaches that are becoming increasingly important in chronic disease management.

### Government Initiatives and Healthcare Infrastructure Development

The Vietnamese government has significantly increased its healthcare spending in recent years, recognizing the critical importance of improving public health outcomes. This enhanced funding has facilitated several developments that directly impact the IVD market.

Increased funding allows for the modernization and expansion of healthcare facilities across the country. Upgraded hospitals and clinics are better equipped to adopt and utilize advanced IVD technologies, thus improving diagnostic capabilities. Government investments are enabling healthcare institutions to procure state-of-the-art diagnostic equipment. This not only enhances the diagnostic accuracy and speed but also broadens the range of tests available. The Vietnamese government has launched various national health programs aimed at early disease detection and prevention, significantly driving the demand for IVD tests. Large-scale screening programs for diseases such as hepatitis, tuberculosis, HIV, and various cancers have been implemented. These programs require extensive use of IVD tests to screen

large populations, leading to increased market demand. Preventive health campaigns promote regular health check-ups and screenings. By encouraging the population to undergo routine diagnostic tests, these initiatives boost the use of IVD products.

The government has been proactive in reforming regulatory frameworks to make it easier for medical devices, including IVD products, to enter and operate in the Vietnamese market. Efforts to streamline the approval processes for medical devices reduce the time and cost associated with bringing new IVD products to market. This encourages more companies to introduce innovative diagnostic solutions in Vietnam. Aligning local regulations with international standards facilitates the entry of high-quality, globally recognized IVD products into the Vietnamese market, ensuring better diagnostic outcomes.

The government is increasingly leveraging public-private partnerships to enhance healthcare infrastructure and services, including diagnostics. PPPs enable the sharing of resources and expertise between the public and private sectors. Collaborative projects often lead to the establishment of advanced diagnostic centers equipped with the latest IVD technologies. The government offers various incentives to private investors in the healthcare sector, including tax breaks and subsidies, which encourage the development of modern diagnostic facilities. A significant portion of Vietnam's population resides in rural areas where healthcare access has traditionally been limited. The government is actively working to improve healthcare infrastructure in these regions, which drives the demand for IVD tests. The establishment of rural health clinics and mobile health units ensures that diagnostic services reach underserved populations. These facilities rely heavily on portable and easy-to-use IVD devices. Government initiatives supporting telemedicine and remote diagnostics are expanding access to healthcare services. IVD technologies play a crucial role in these setups by providing necessary diagnostic data that can be remotely analyzed by specialists.

### Technological Advancements and Innovation

Technological advancements in IVD have significantly improved the accuracy and efficiency of diagnostic tests, which is a critical driver for market growth in Vietnam. Innovations in molecular diagnostics, such as PCR (Polymerase Chain Reaction) and next-generation sequencing, allow for highly precise detection of genetic mutations, pathogens, and biomarkers. These technologies provide definitive diagnoses, enabling better patient management and personalized treatment plans. Advances in immunoassay techniques, including chemiluminescent and fluorescent immunoassays,

have increased the sensitivity and specificity of tests for various diseases. These improvements are crucial for early disease detection and monitoring, particularly in chronic and infectious diseases.

The emergence and development of point-of-care testing (POCT) devices have revolutionized the IVD market by enabling immediate diagnostic results at the site of patient care. POCT devices offer rapid turnaround times, which is particularly beneficial in emergency and critical care settings. Immediate results can lead to faster clinical decision-making and improved patient outcomes. Portable and easy-to-use POCT devices enhance diagnostic accessibility, especially in rural and remote areas where laboratory infrastructure may be lacking. This accessibility is vital for expanding healthcare services to underserved populations. Automation and the integration of AI in IVD are transforming laboratory operations and diagnostic capabilities. Automated diagnostic systems streamline laboratory workflows, reduce manual errors, and increase throughput. These systems can handle high volumes of tests efficiently, meeting the growing demand for diagnostic services in Vietnam. AI and machine learning algorithms are being integrated into diagnostic platforms to analyze complex data sets and provide accurate interpretations. AI-driven diagnostics can identify patterns and anomalies that may be missed by human analysis, enhancing the reliability of test results.

Technological advancements in sample collection and processing are improving the efficiency and comfort of diagnostic testing. The development of non-invasive and minimally invasive sample collection methods, such as saliva-based tests and micro-sampling, reduces patient discomfort and encourages more frequent testing. This is particularly important for chronic disease management and population screening programs. Innovations in sample preservation and transport technologies ensure the integrity of biological samples from collection to analysis, which is crucial for accurate diagnostic outcomes. The integration of digital health technologies with IVD is enhancing the overall diagnostic process and patient management. Digital platforms enable telemedicine and remote monitoring, where patients can use home-based diagnostic kits and share results with healthcare providers via digital channels. This approach increases convenience for patients and allows continuous monitoring of chronic conditions. The integration of IVD results with EHRs facilitates comprehensive patient data management, enabling healthcare providers to make informed decisions based on a complete medical history.

## Key Market Challenges

## Regulatory Hurdles and Compliance Issues

The regulatory landscape for medical devices, including IVD products, in Vietnam can be complex and stringent, posing significant challenges for market entry and expansion. The approval process for new diagnostic products is often lengthy and involves multiple bureaucratic layers. This can delay the introduction of innovative diagnostic technologies into the market, limiting the availability of advanced diagnostic tools. Ensuring compliance with local regulatory standards, which may differ from international norms, can be challenging for multinational companies. This often requires additional adjustments to products and documentation, increasing time and costs. The regulatory environment in Vietnam is evolving, with frequent updates and changes. Keeping up with these changes requires continuous monitoring and adaptability, which can be resource-intensive for companies.

## Economic Disparities and Limited Healthcare Access

Economic disparities and limited healthcare access, particularly in rural and underserved areas, present significant barriers to the widespread adoption of IVD technologies. Significant income disparities exist between urban and rural populations. High costs of advanced diagnostic tests may not be affordable for a large segment of the population, restricting the market reach of IVD products. Rural areas often lack the necessary healthcare infrastructure, including diagnostic laboratories and trained personnel, to effectively utilize advanced IVD technologies. This limits the penetration of IVD services outside major urban centers. Although healthcare insurance is expanding, coverage for diagnostic tests remains limited. Out-of-pocket expenses for diagnostic services can be prohibitively high for many patients, reducing the demand for these services.

## Shortage of Skilled Healthcare Professionals

The effective utilization of advanced IVD technologies requires a skilled workforce, which is currently in short supply in Vietnam. There is a shortage of healthcare professionals trained in the latest diagnostic technologies. This gap affects the quality and reliability of diagnostic services, as well as the ability to fully leverage advanced IVD tools. Rapid technological advancements in the IVD sector necessitate continuous education and training for healthcare providers. The current educational infrastructure is often inadequate to keep pace with these needs, resulting in a skills gap. Retaining skilled professionals is challenging due to better opportunities and compensation packages in other countries. This brain drain further exacerbates the shortage of

qualified personnel in Vietnam's healthcare sector.

## Key Market Trends

### Adoption of Personalized Medicine and Precision Diagnostics

The shift towards personalized medicine is a critical trend that will significantly drive the growth of the IVD market in Vietnam. Advances in genomic testing and molecular diagnostics are enabling more precise identification of genetic mutations and biomarkers associated with various diseases. This trend supports the development of targeted therapies, enhancing treatment efficacy and patient outcomes. As the Vietnamese healthcare system adopts these technologies, the demand for sophisticated IVD tests will increase. Personalized medicine involves tailoring treatment plans to individual patients based on their genetic profile and specific disease characteristics. This approach relies heavily on accurate and comprehensive diagnostic information provided by advanced IVD tests. As healthcare providers in Vietnam increasingly move towards personalized treatment strategies, the utilization of IVD technologies will expand. Personalized medicine is particularly beneficial for managing chronic diseases such as cancer, diabetes, and cardiovascular diseases. By using IVD tests to monitor disease progression and treatment response, healthcare providers can make more informed decisions, leading to better patient management and outcomes. This will drive continuous demand for IVD solutions.

### Integration of Digital Health and Telemedicine

The integration of digital health technologies and telemedicine is transforming the delivery of healthcare services in Vietnam, creating new opportunities for the IVD market. The rise of telemedicine and remote healthcare services, especially accelerated by the COVID-19 pandemic, has increased the need for remote diagnostic capabilities. Home-based diagnostic kits and portable IVD devices that patients can use at home and share results with their healthcare providers remotely are becoming more popular. This trend is likely to continue, boosting the demand for user-friendly and reliable IVD products. Digital health platforms are increasingly incorporating data analytics and artificial intelligence (AI) to enhance diagnostic accuracy and efficiency. AI algorithms can analyze large datasets from IVD tests to identify patterns and provide actionable insights. This not only improves diagnostic outcomes but also streamlines workflows in clinical settings. The integration of AI and data analytics in IVD will drive market growth by improving the value proposition of diagnostic solutions. The push for interoperable healthcare systems and connected devices is facilitating better data

sharing and integration across various healthcare platforms. This connectivity ensures that diagnostic information from IVD tests is readily accessible and usable by healthcare providers, enhancing the overall efficiency and effectiveness of patient care. The trend towards greater interoperability will support the widespread adoption of IVD technologies.

### Expansion of Point-of-Care Testing (POCT) and Decentralized Diagnostics

The expansion of point-of-care testing (POCT) and decentralized diagnostic solutions is a significant trend driving the growth of the IVD market in Vietnam. POCT devices provide rapid and accurate diagnostic results at the site of patient care, such as clinics, community health centers, and even at home. This accessibility is particularly important in Vietnam, where rural and underserved areas may lack advanced laboratory facilities. The convenience and immediacy of POCT are driving their adoption across various healthcare settings. POCT devices are crucial for the ongoing monitoring of chronic diseases, allowing for regular and immediate assessment of conditions such as diabetes and cardiovascular diseases. This continuous monitoring helps in timely intervention and better disease management, thus increasing the reliance on POCT solutions. Advances in POCT technologies, including miniaturization, enhanced sensitivity, and integration with mobile health platforms, are making these devices more effective and user-friendly. Innovations such as multiplexing capabilities, which allow multiple tests to be conducted simultaneously on a single device, are expanding the range of applications for POCT. This technological progress will continue to drive the growth of the IVD market by making diagnostic testing more versatile and accessible.

### Segmental Insights

#### Technique Insights

Based on the category of Technique, the Immunodiagnosics segment emerged as the dominant player in the Vietnam market for In-vitro Diagnostics in 2023.

Immunodiagnostic tests, such as enzyme-linked immunosorbent assays (ELISAs) and rapid immunochromatographic assays, are widely used for screening and diagnosing hepatitis B and C, as well as HIV. The high prevalence of these diseases drives consistent demand for immunodiagnostic testing. The rise of emerging infectious diseases, including zoonotic infections and tropical diseases, further propels the need for immunodiagnostic tests. These tests are crucial for early detection and outbreak management, thereby supporting public health initiatives.



The increasing incidence of chronic diseases, such as diabetes, cardiovascular diseases, and cancers, in Vietnam is another significant factor contributing to the dominance of the immunodiagnostics segment. Immunodiagnostic tests are essential for detecting cardiac biomarkers (e.g., troponins, BNP) that aid in diagnosing and managing heart diseases. The growing prevalence of cardiovascular conditions amplifies the need for these tests. Immunodiagnostics also plays a critical role in oncology, with tests designed to detect specific tumor markers (e.g., PSA for prostate cancer, CA-125 for ovarian cancer). Early detection and monitoring of cancer through these tests are vital for improving patient outcomes. Continuous technological advancements in immunodiagnostics enhance test sensitivity, specificity, and overall diagnostic accuracy, making them more reliable and attractive for widespread use. Innovations in assay design, such as chemiluminescent immunoassays (CLIAs) and time-resolved fluorescence immunoassays (TRFIAs), provide higher sensitivity and specificity, which are crucial for accurate diagnosis and monitoring. The development of multiplex immunoassays allows simultaneous detection of multiple analytes from a single sample, increasing efficiency and reducing costs. This capability is particularly beneficial in comprehensive screening programs.

## Regional Insights

South Vietnam emerged as the dominant region in the Vietnam In-vitro Diagnostics market in 2023, holding the largest market share in terms of value. South Vietnam, particularly major cities like Ho Chi Minh City (formerly Saigon), functions as the country's economic and financial nucleus. This region possesses sophisticated healthcare infrastructure, comprising contemporary hospitals, clinics, and diagnostic laboratories equipped with state-of-the-art IVD technologies. The concentration of healthcare facilities in South Vietnam facilitates widespread access to diagnostic services for a substantial portion of the population.

South Vietnam exhibits a higher population density compared to other regions, characterized by both urban and suburban areas. This dense demographic creates a sizable market for healthcare services, including diagnostic testing. Additionally, South Vietnam attracts skilled healthcare professionals, encompassing doctors, laboratory technicians, and researchers, who actively contribute to the advancement and application of advanced IVD technologies within the region. The southern region of Vietnam, particularly urban centers like Ho Chi Minh City, stands at the forefront of technological advancements and innovation within the healthcare sector. The presence of eminent research institutions, medical universities, and biotechnology companies cultivates an environment conducive to innovation, driving the development of

pioneering diagnostic solutions. South Vietnam thus serves as a focal point for research and development endeavors related to IVD technologies, facilitating the introduction of cutting-edge diagnostic products into the market.

### Key Market Players

F. Hoffmann-La Roche Ltd

Abbott Laboratories GmbH

Siemens Vietnam

ThermoFisher Scientific Inc

Natera, Inc.

Agilent Technologies, Inc

BD Vietnam Co. Ltd

### Report Scope:

In this report, the Vietnam In-vitro Diagnostics Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

#### Vietnam In-vitro Diagnostics Market, By Product & Service:

Reagents

Instruments

Software & Services

#### Vietnam In-vitro Diagnostics Market, By Technique:

Immunodiagnosics

Hematology

Molecular Diagnostics

Tissue Diagnostics

Clinical Chemistry

Others

Vietnam In-vitro Diagnostics Market, By Application:

Infectious Diseases

Cancer

Cardiac Diseases

Immune System Disorders

Nephrological Diseases

Others

Vietnam In-vitro Diagnostics Market, By End User:

Hospitals & Clinics

Diagnostic Laboratories

Others

Vietnam In-vitro Diagnostics Market, By Region:

South Vietnam

North Vietnam

Central Vietnam

## Competitive Landscape

**Company Profiles:** Detailed analysis of the major companies present in the Vietnam In-vitro Diagnostics Market.

## Available Customizations:

Vietnam In-vitro Diagnostics market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## Company Information

Detailed analysis and profiling of additional market players (up to five).

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