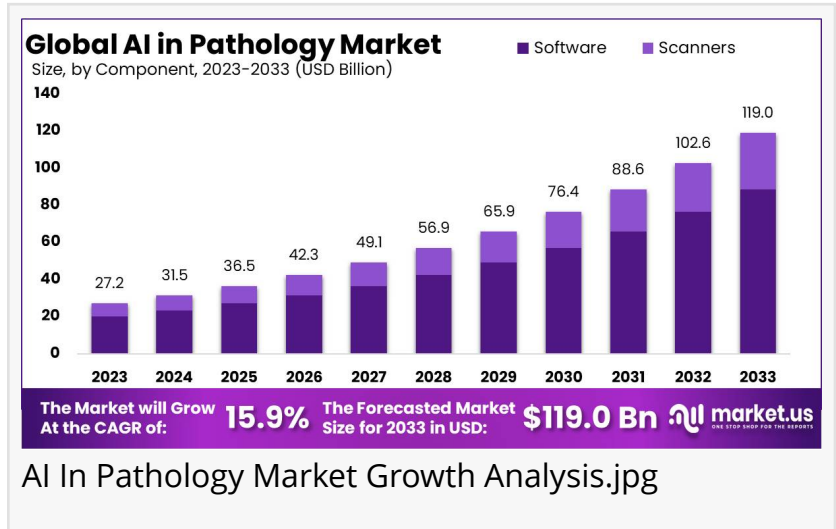


# AI In Pathology Market Forecasted to Surge to USD 119 Billion by 2033

AI In Pathology Market size is expected to reach USD 119 Billion by 2033, from USD 27.2 Billion in 2023, growing at a CAGR of 15.9% from 2024 to 2033.

NEW YORK, NY, UNITED STATES, January 29, 2025 /EINPresswire.com/ -- The [Global AI In Pathology Market](#) is forecasted to surge from USD 27.2 billion in 2023 to USD 119 billion by 2033, growing at a CAGR of 15.9%. This growth is driven by the integration of Generative Artificial Intelligence (GAI),

which automates tasks such as data mining and decision support, thereby increasing diagnostic precision and efficiency. These technological advancements are set to transform clinical pathology by making diagnostic processes faster and reducing human error.



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Asia-Pacific to dominate the market owing to high adoption of artificial intelligence in diverse pathological work in countries like India and China.”

Tajammul Pangarkar

Another significant development is the rise of digital pathology, bolstered by AI to meet the increasing demand for rapid diagnostics amidst a global shortage of pathologists. AI enhances the analysis of digital images and slides, facilitating quicker and more accurate disease diagnosis and staging. This not only improves patient outcomes but also streamlines the workflow in pathology labs.

Moreover, AI is revolutionizing pathology education and training, providing digital tools that assist both new and established pathologists. These tools serve as a second set of eyes, ensuring higher standards of diagnostic accuracy and ongoing professional development. However, the integration of AI must be managed carefully, balancing technological advancements with ethical considerations and the essential decision-making roles of medical professionals.

Overall, the expansion of AI in pathology promises enhanced diagnostic accuracy, operational

efficiency, and educational outcomes. As regulatory bodies and healthcare organizations develop supportive policies, AI's role in pathology is poised to be both impactful and transformative, heralding a new era in medical diagnostics.

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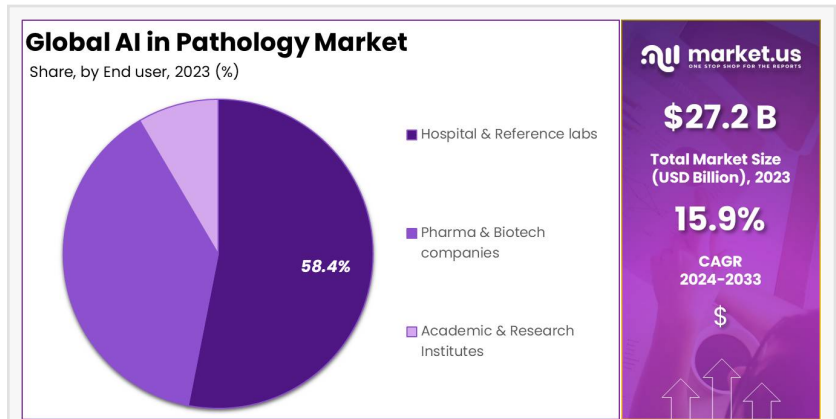
### Key Takeaway

- In 2023, the software component led the market due to the increased use of AI software in pathology workflows.
- Market strength was bolstered by the traditional neural network segment according to neural network analysis.
- Drug discovery significantly impacts the market by tailoring new drug estimations to individual patients using AI.
- Hospitals and reference laboratories hold a leading position in the global AI in pathology market due to growing disease prevalence.
- Asia-Pacific leads in AI adoption in pathology, with significant contributions from India and China.

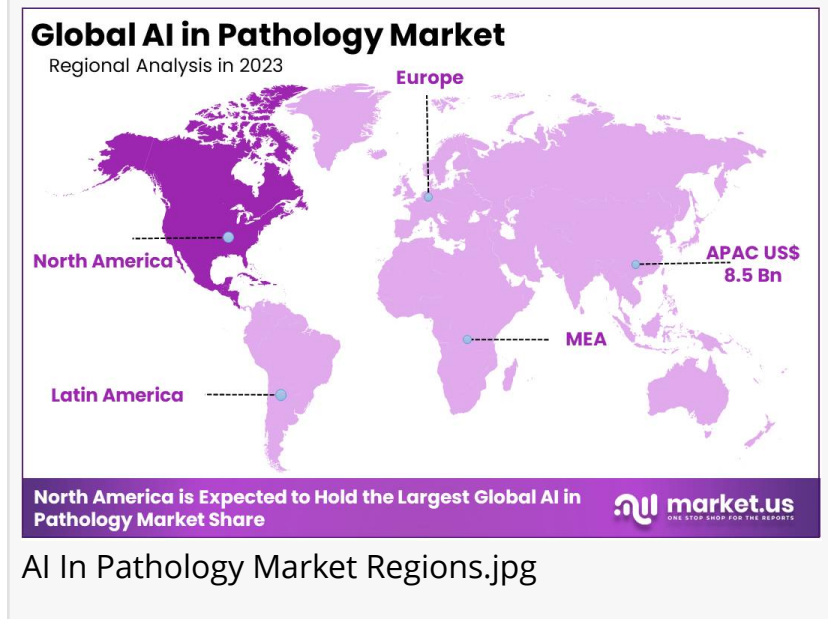
### Segmentation Analysis

In 2023, the AI in pathology market showcased significant dominance by the software segment, capturing 74.5% of the market share. This segment leads due to the increasing use of AI software in pathology, which accelerates diagnostic outcomes, enhances understanding of patient conditions, and facilitates rapid recovery planning. The software's capability to efficiently manage and retrieve patient health information further strengthens its market position, underscoring the segment's pivotal role in shaping the market dynamics of AI in pathology.

The conventional neural network segment led the neural network analysis within the AI in pathology market, securing a commanding 45.2% market share in 2023. This segment enhances pathologists' workflow by enabling AI to examine pathology slides and identify tissue patterns effectively. Such advancements not only streamline clinical trials but also improve the interpretation of results, thus driving the segment's adoption and highlighting its contribution to



AI In Pathology Market Size.jpg



AI In Pathology Market Regions.jpg

the sector's future growth.

AI's application in drug discovery claimed a significant 46.7% of the market share in 2023, propelled by its ability to optimize safety and efficacy in drug development. AI technologies are instrumental in analyzing extensive population data to identify patterns and trends, which helps in predicting drug effectiveness for individual patients. This capability is particularly crucial in addressing the increasing global incidence of illicit drug use and enhancing drug safety for consumers.

Hospitals and Reference Laboratories held the largest market share among end users, accounting for 58.4% in 2023. This segment benefits from AI's ability to manage increasing pathology caseloads effectively, reducing the need for additional pathologists and enabling rapid, accurate diagnostic results. The integration of AI into pathology practices not only streamlines workflows but also creates new opportunities for market expansion, particularly as the demand for precise diagnostic solutions continues to rise.

#### By Component

- Software
- Scanners

#### By Neural Network

- Generative adversarial networks
- Convolutional neural networks
- Conventional neural network
- Recurrent neural networks
- Other

#### By Application

- Drug discovery
- Disease diagnosis and prognosis
- Clinical workflow
- Training and education

#### By End User

- Pharmaceutical and Biotechnology companies
- Hospitals and Reference laboratories
- Academic and Research Institutes

#### Regional Analysis

The Asia-Pacific region has strengthened its presence in the AI-based pathology market. This is mainly due to the increasing use of artificial intelligence in healthcare, particularly in countries like India and China. These countries lead the way, propelling the region to prominence over other geographies. With a substantial market share of 31.4%, Asia-Pacific is a major player in the

global AI in pathology market.

Artificial intelligence in pathology is known for its ability to handle routine tasks swiftly, which traditionally took pathologists longer periods to complete. This efficiency allows pathologists to allocate their time more effectively, focusing on complex analyses rather than mundane tasks. The capability of AI to streamline these processes is a key factor behind its rising adoption in the region.

The demand for AI in pathology is also driven by the need for support among pathologists at lower levels. In regions like Asia-Pacific, where there might be a shortage of highly skilled pathologists, AI tools help in managing diverse tasks. These tools ensure that pathologists can handle a wider range of responsibilities, thus enhancing overall productivity and accuracy in diagnoses.

A notable example of AI's impact is seen at Xiangya Hospital of Central South University in China. By the end of April 2019, the hospital's remote pathology diagnosis platform had successfully completed 10,254 cases of remote pathology consultations. This milestone highlights the effective integration of AI in improving healthcare delivery and diagnostic accuracy across the region.

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## Market Players Analysis

The AI in pathology market is witnessing dynamic growth driven by strategic collaborations and innovations aimed at enhancing cancer diagnostics. A notable collaboration was established between 3DHISTECH and Epredia, launching a pathology innovation incubator. This initiative is designed to accelerate advancements in cancer diagnostic solutions, highlighting the sector's focus on impactful technological integrations.

Among the key players shaping the AI in pathology landscape are Akoya Biosciences, Indica Labs, and PathAI. These companies stand out due to their significant contributions to the field, particularly in developing AI-driven tools and solutions that improve the accuracy and efficiency of pathology diagnostics.

Other influential companies in the market include Aiforia Technologies, Ibx Medical Analytics, and PROSCIA, along with Roche Tissue Diagnostics and Visiopharm. These firms are pioneering in areas such as AI application in tissue diagnostics and digital pathology, pushing the boundaries of what's possible in pathology practices.

Recent developments within the sector include a significant agreement in April 2023, where Indica Labs Inc. partnered with Lunit Inc. This partnership focuses on creating interoperable solutions between Lunit's AI pathology products and Indica Labs' HALO AP image management

software. Additionally, in November 2023, Leica Biosystems enhanced its digital pathology workflows globally, integrating AI technologies with its Aperio GT 450 slide scanners, developed in collaboration with Paige.

The Primary Entities Identified In This Report Are:

- Aiforia Technologies
- Ibex Medical Analytics
- PROSCIA
- Roche Tissue Diagnostics
- Visiopharm
- Deep Bio
- Mindpeak
- Hologic
- Aiosyn
- Lumea

\*We offer customized market research reports tailored to meet your specific business needs and requirements.

The global AI in Pathology market is poised for substantial growth, driven by advancements in generative artificial intelligence and digital pathology. This surge enhances diagnostic precision and operational efficiency, significantly reducing human error in clinical pathology. As AI tools increasingly support pathologists by accelerating diagnostic processes and offering educational benefits, the sector is transforming, ensuring more accurate and quicker disease diagnosis. However, the integration of such technologies must be balanced with ethical considerations and the preservation of critical decision-making roles by medical professionals. As the market evolves, supportive policies from healthcare organizations and regulatory bodies will be crucial in harnessing AI's full potential, marking a transformative era in medical diagnostics.

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