PHILIPS

2025 ENABLING TECHNOLOGY LEADER

Leveraging Vital Technology to Enhance Products and Applications

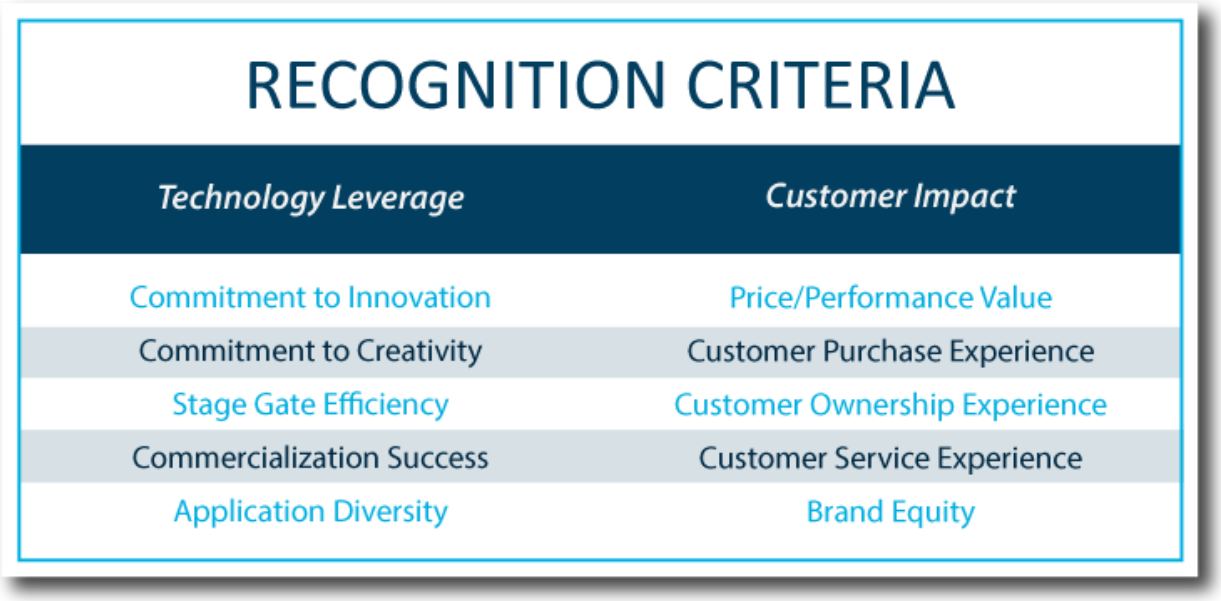
RECOGNIZED FOR BEST PRACTICES IN THE GLOBAL DIGITAL PATHOLOGY–HEALTHCARE INFORMATICS INDUSTRY

FROST & SULLIVAN

Table of Contents

Best Practices Criteria for World-class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each recognition category before determining the final recognition recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Philips Healthcare excels in many of the criteria in the digital pathology–healthcare informatics space.



The Digital Pathology Industry: A Seamless Evolution in Diagnostics

Pathology is undergoing a profound digital transformation, primarily driven by the increasing pressures on laboratories (labs) to overcome resource constraints, inefficient workflows, and the growing complexity of diagnostics. The rising global demand for pathology services, fueled by higher cancer incidence and aging populations, further exacerbates the shortage of trained pathologists. In this challenging landscape, digital pathology emerges as a critical solution, enabling labs to sustain high standards of care while simultaneously enhancing clinical decision-making and improving healthcare outcomes.

Unlike conventional histopathology, which is constrained by manual slide handling, slow turnaround times, and limited visual and interpretive capabilities, digital pathology introduces faster, more scalable, and precise diagnostics. It leverages high-throughput slide scanning, whole slide imaging, and artificial intelligence (AI)-powered analytics to enable real-time data sharing, enhanced visualization, and greater diagnostic consistency. Building on these advances, integrated platforms that combine lab information systems (LIS), machine learning algorithms, and cloud-based storage streamline diagnostic workflows and facilitate seamless collaboration across teams. As a result, digital pathology not only enhances clinical decision-making but also plays a pivotal role in accelerating drug discovery and development for pharmaceutical companies.

However, despite these advantages, several barriers hinder the widespread adoption of digital pathology solutions. High upfront costs for scanners, software, and infrastructure remain a significant obstacle, especially in low-resource settings. Additional challenges include AI bias, data interoperability issues, and the technical burden of managing large-scale digital datasets. The digital transition also demands intensive training for pathologists and often encounters regulatory and cultural resistance to workflow change.

To overcome these hurdles, solution providers are increasingly turning to more accessible business models such as "Pathology-as-a-Service," which lower financial entry barriers and make adoption more feasible for a wider range of labs. At the same time, ongoing innovation in AI-driven tools and fully integrated digital platforms is crucial to maintaining a competitive advantage. Strategic partnerships and acquisitions further enhance technological capabilities and extend market presence. As the digital pathology market continues to evolve, companies that offer flexible, scalable, and cost-efficient end-to-end solutions will be best positioned to lead the digital transformation, thereby reshaping diagnostics and redefining the future of pathology.

Philips Healthcare: Accelerating the Path from Images to Insights

Since its inception in 1891 in Eindhoven, the Netherlands, Philips has transformed over 130+ years from manufacturing affordable incandescent light bulbs into a global healthcare technology leader. The company's healthcare division, Philips Healthcare, focuses on improving people's health and well-being through innovative solutions across the healthcare continuum, from healthy living and disease prevention to precision diagnosis, personalized treatment, and home care. Philips Healthacare leads the global healthcare industry in patent applications.[1] This propensity for innovation has positioned the company at the forefront of one of the sector's fastest-growing fields: digital pathology.

> *"Philips leads the global healthcare industry in patent applications.1 This propensity for innovation has positioned the company at the forefront of one of the sector's fastest-growing fields: digital pathology. Building on this legacy, Philips Healthcare has emerged as a global leader in digital pathology."*
>
> ***- Melissa Kenig***
> ***Senior Consultant***

Building on this legacy, Philips Healthcare has emerged as a global leader in digital pathology by offering a uniquely holistic approach that addresses the full spectrum of lab digitization needs. Unlike many competitors that provide only scanners, software, or informatics, the company integrates high-performance slide scanners, a robust image management system (IMS viewer subsystem), AI-driven analytics[4,5,] cloud archiving[6], and full clinical workflow support into a single, seamless solution. This all-in-one model transforms Philips Healthcare from a technology provider into a strategic partner for labs looking to digitize with confidence and scale with ease.

At the heart of this offering is the Philips IntelliSite Pathology Solution (PIPS), the first digital pathology platform to receive the Food and Drug Administration 510(k) clearance for primary diagnosis.[2] The solution integrates digital slide acquisition, advanced informatics, real-time collaboration tools, and AI capabilities within a secure, scalable architecture. Developed to emulate traditional microscope

[1] https://www.hospitalmanagement.net/dashboards/patents/patent-activity-healthcare-industry/
[2] https://www.fda.gov/news-events/press-announcements/fda-allows-marketing-first-whole-slide-imaging-system-digital-pathology

workflows while enhancing efficiency and diagnostic accuracy, PIPS enables labs to operate faster, smarter, and more collaboratively. With more than 3,500 pathologists in over 40 countries already using PIPS, Philips Healthcare has built one of the largest installed bases globally, a true testament to the platform's clinical maturity and real-world utility.[3]

The company's success stems not only from technology, but from its deep commitment to enabling real workflow transformation. To this end, Philips Healthcare supports each implementation with structured change management programs, peer-to-peer training, and software designed with the pathologist in mind. These efforts accelerate adoption and ease the transition from microscope to monitor, ensuring labs can unlock new levels of diagnostic speed, consistency, and access, all without sacrificing quality or familiarity.

With this strong technical foundation and global presence, Philips Healthcare is committed to becoming the single partner that labs can rely on for fully digitizing their pathology services. This all-in-one model—combining scanners, informatics, AI[4,5,] and services—remains a powerful differentiator, especially in a market where many players focus on just one element of the digital workflow.

Philips IntelliSite Pathology Solution: Redefining Digital Pathology for Enhanced Patient Outcomes

Philips IntelliSite Pathology Solution 6.0 (PIPS 6.0) is more than a pathology platform; it is a continually evolving foundation that supports precision diagnostics, real-time collaboration, and scalable innovation. The March 2025 release of its latest version, PIPS 6.0 introduces a redesigned navigation, an intuitive user interface, enhanced AI integration[5], and expanded cloud functionality. [6] Tailored to the practical needs of pathology labs, this new iteration helps to accelerate diagnosis, boosts productivity, and fosters seamless collaboration, signaling a strategic shift toward more intelligent, scalable, and interoperable digital pathology workflows.

At the core of PIPS 6.0 is Philips Healthcare's open[9], AI-enabled[5] architecture, built to support interoperability with third-party applications. Through its ongoing collaboration with Ibex Medical Analytics, the company embeds AI tools directly into daily workflows, enabling objective, reproducible results and greater diagnostic confidence[7.] Already in use across 35 pathology labs globally,[8] this integration has led to up to 37% productivity gains,[7] while empowering clinicians with real-time case sharing, prioritization of critical cases, and reduced diagnostic variability. These intelligent features work seamlessly with PIPS 6.0's streamlined interface to make complex workflows more manageable and scalable. The solution's capabilities are already generating real-world impact, such as a 27.6% reduction in average time to diagnosis reported by ASAN Medical Center (ASAN), underscoring the power of combining smart tools with smart infrastructure. [10]

PIPS 6.0's scalability is further enhanced by its Cloud Data Services[6] and seamless data interoperability. By supporting industry standards such as Digital Imaging and Communications in Medicine® (DICOM) with

[3] https://www.documents.Philips Healthcare.com/assets/20250313/926a6742568b4962b4abb29f00e01f26.pdf
[4] PIPS enables iSyntax files and with the Software Development Kit (SDK) third-party companies can use this for AI capabilities.
[5] With Ibex AI, Ibex AI is Research Use Only (RUO) in the U.S.
[6] With our partner AWS. Third party claims from AWS, which may not apply in all markets and may be updated from time to time. The functionalities and benefits of the solution depend on customer-specific configuration and use. Please contact your local Philips representative for (market) availability.

their latest SGi scanner[11] release, and Health Level 7, along with interoperability with Picture Archiving and Communication Systems (PACS)[12], LIS, and hospital information technology (IT) systems, the solution supports smooth connectivity across workflows. The platform's iSyntax file format delivers advanced image compression, high fidelity, and fast rendering, enabling efficient data management and responsive workflows. These capabilities are essential for labs looking to grow, scale across sites, and deploy AI tools[5] without disruption or data silos, uniquely positioning Philips Healthcare to support digital pathology both locally and at enterprise scale.

Moreover, built to support current performance needs while facilitating future flexibility demands, PIPS 6.0 includes second-generation slide scanners that deliver high image quality, three-dimensional-readiness, and full 'load-and-walk-away' automation, reducing technician workload and increasing throughput. The system's IMS Viewer subsystem offers smart case management, LIS-interoperable worklists, and real-time AI insights[5]. At the same time, the server and storage architecture are optimized for cost-efficient deployments and cloud-readiness. Combined, these elements create a digital workflow that helps to reduce turnaround time, minimize errors, and improve satisfaction for staff and clinicians.

Driving Competitive Differentiation with Continued Innovation

Philips Healthcare strengthens the competitive edge afforded by its differentiated PIPS digital pathology system through its ongoing commitment to market-led innovation. The company fuels this focus through close collaboration with global customers and partners, aligning product roadmaps with real-world needs and co-developing advanced AI tools and workflows. Such a customer-centric approach supports AI-powered image analysis and foundational models which are tailored to boost diagnostic confidence, workflow efficiency, and clinical outcomes[7]. Strategic partnerships with cloud leaders such as Amazon Web Services[13] further enable scalable, cloud-native solutions, including Cloud Data Services for advanced cloud archiving that supports departments move away from glass slide storage while facilitating seamless, secure data sharing[6].

> *"Overall, in a rapidly evolving field driven by new entrants and fast-moving technologies, Philips Healthcare continues to lead with an integrated value proposition, combining best-in-class technology, a strong service infrastructure, and deep clinical insight. With a total-solution mindset powered by AI innovation, cloud transformation, and global service capabilities, the company is well-positioned to accelerate the digitization of pathology, delivering better patient outcomes and long-term customer value."*
>
> ***- Sama Suwal***
> ***Best Practices Research Analyst***

Building on this foundation, Philips Healthcare is transforming its traditional bundled solution (PIPS) by pioneering a decoupled, interoperable model that separates scanners[11] from its IMS viewer subsystem. This innovation allows customers to integrate third-party scanners with Philips Healthcare's IMS viewer subsystem and IT infrastructure, overcoming prior regulatory hurdles and closed-system limitations. By fostering interoperability, the company empowers labs to leverage existing investments while benefiting from advanced software and services, setting a new standard for adaptable digital pathology ecosystems.

[7] https://www.usa.Philips Healthcare.com/healthcare/customer-story/digital-pathology-at-asan-medical-center

[8] https://www.usa.Philips Healthcare.com/healthcare/customer-story/digital-pathology-at-asan-medical-center

This shift in system architecture aligns with Philips Healthcare's broader vision of integrated diagnostics, where pathology data converges with other clinical disciplines such as radiology. For instance, by allowing interoperability of IMS viewer subsystem with PACS[12], the company creates unified data repositories that enable cross-disciplinary workflows, especially in oncology, where combining radiology and pathology insights enhances diagnostic accuracy and clinical decision-making[12]. As a result, clinicians gain access to comprehensive patient timelines merging imaging and pathology data, fostering more informed, efficient, and collaborative care.

Furthermore, Philips Healthcare's focus on openness and scalability also addresses a vital industry demand for standardization and enterprise-grade solutions. The adoption of DICOM for digital pathology mirrors the proven radiology model, enabling large-scale, multi-site deployments. The company demonstrated this capability in projects like NYU Langone Health, where over 200 pathologists adopted a unified digital environment and went live in less than five months.[14] Overall, Philips Healthcare's enterprise informatics approach, paired with vendor-agnostic flexibility, differentiates the company from competitors offering siloed or modular systems, reinforcing its position as a best-in-class, end-to-end pathology partner.

Looking forward, Philips Healthcare will continue to expand its digital pathology portfolio to potentially include diverse clinical applications such as cytology, which require specialized scanning and interpretation techniques. By integrating cytology workflows with existing histopathology solutions, the company may enable full lab digitization under a single platform. Combined with ongoing AI innovation and cloud transformation, this strategy positions Philips Healthcare to meet the evolving needs of pathology labs worldwide, driving productivity, interoperability, and ultimately, improved patient care.

Customer Experience: A Differentiated Standard of Care

Philips Healthcare delivers strong customer experiences grounded in performance, reliability, and clinical impact. Over 3,500 pathologists worldwide rely on the company's digital pathology platform, with more than 30 labs transitioning to fully digital workflows and over 38 million slides scanned globally.[15] This scale reflects the strength of Philips Healthcare's technology and its deep commitment to global accessibility, regulatory compliance, and operational excellence. For instance, the PIPS platform is In Vitro Diagnostic-cleared for primary diagnosis in nearly 50 countries, including the United States (US), Canada, Japan, and much of Europe, enabling tailored, scalable deployments that meet local requirements while enhancing care through seamless LIS integration, multidisciplinary team collaboration, and multi-site case coordination.

This consistency and adaptability are reflected in Philips Healthcare's exceptional customer satisfaction metrics. With a Net Promoter Score of over 75,[16] well exceeding business-to-business healthcare benchmarks, the company demonstrates measurable success in client engagement and loyalty. Moreover, surveyed pathologists using its platform unanimously reported that digital workflows improve diagnostic consensus and that they would not return to analog microscopy.

[9] Frost & Sullivan's discussion with Philips Healthcare

[10] https://www.documents.philips.com/assets/20250313/926a6742568b4962b4abb29f00e01f26.pdf

Clinical confidence is further validated by less than 1% intra-observer variability, underscoring the system's diagnostic reliability and its ability to support high-quality patient outcomes.[17]

"We chose Philips because we needed a trusted partner to guide our digital transformation. Today, we perform digital diagnosis across multiple specialties with higher efficiency and quality."
Dr. Joon-Yong Chung, Head of Pathology, ASAN[10]

"Philips IntelliSite system is a perfect system for telepathology because, in real time—and that's very important—it's possible to share images via online streaming between two pathologists and also make the anatomical pathological diagnosis.

After the laboratory and digital pathology systems were unified, the digital pathology system was implemented in just 60 days. This is in contrast to other groups in Spain, working with a different system that reportedly requires years to digitize even 30-40% of their cases."

- Dr. Raimundo Garcia Del Moral, Director of the Provincial Laboratory of Pathological Anatomy, Granada University Hospitals[18]

Philips Healthcare also sets itself apart through a globally unified service model that delivers excellent support. Its centralized organization of service teams across 62 countries ensures consistent expertise, rapid response times, and locally relevant assistance. Unlike fragmented regional support models, the company's global structure allows its best clinical and professional service experts to be deployed where they are needed most. This has led to notable improvements in service delivery, especially in previously underserved markets like the US West Coast, reinforcing Philips Healthcare's value among large institutions such as NYU Langone Health, where digital pathology has become central to operations. As full-lab digitization becomes mission-critical, the company's ability to ensure high system uptime and responsive service remains a key differentiator in a market increasingly crowded by lower-cost, less-integrated solutions.

Overall, in a rapidly evolving field driven by new entrants and fast-moving technologies, Philips Healthcare continues to lead with an integrated value proposition, combining best-in-class technology, a strong service infrastructure, and deep clinical insight. With a total-solution mindset powered by AI innovation, cloud transformation, and global service capabilities, the company is well-positioned to accelerate the digitization of pathology, delivering better patient outcomes and long-term customer value.

[12] Information provided by Philips.
[13] Ibid.
[14] **Results are specific to the institution where they were obtained and may not reflect the results achievable at other institutions. Results in other cases may vary.**

[16] **Information provided by Philips**

Conclusion

Technology integration is a critical success factor for the digital pathology – healthcare informatics space. Yet, with a wide array of digital pathology solutions available, healthcare organizations must choose platforms that deliver meaningful clinical and operational impact. With its artificial intelligence (AI)-powered[5], cloud-enabled[6] Philips IntelliSite Pathology Solution (PIPS), Philips Healthcare empowers labs to improve diagnostic accuracy and scale efficiently across multi-site networks. The system drives productivity gains of up to 37%[7] and reduces time to diagnosis by over 25%[18], while supporting real-time collaboration and seamless interoperability with hospital information technology systems.

Philips Healthcare stands out from competitors through its consistent focus on innovation, adaptability, and practical application. Its PIPS system is already deployed across diverse care environments, from national reference labs to large academic medical centers, demonstrating its flexibility and robustness. Moreover, its open architecture enables vendor-agnostic interoperability with third-party scanners and AI tools, expanding its reach and impact. Combined with a customer-centric service model and global implementation expertise, Philips Healthcare has earned a strong reputation as a trusted leader in the digital pathology market, driving the future of diagnostics through intelligent, connected, and scalable solutions.

With its strong overall performance, Philips Healthcare earns Frost & Sullivan's 2025 Global Enabling Technology Leadership Recognition in the digital pathology–healthcare informatics industry.

What You Need to Know about the Enabling Technology Leadership Recognition

Frost & Sullivan's Enabling Technology Leadership Recognition is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Recognition Analysis

For the Enabling Technology Leadership Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Customer Impact

Price/Performance Value: Products or services offer the best ROI and superior value compared to similar market offerings

Customer Purchase Experience: Purchase experience with minimal friction and high transparency assures customers that they are buying the optimal solution to address both their needs and constraints

Customer Ownership Excellence: Products and solutions evolve continuously in sync with the customers' own growth journeys, engendering pride of ownership and enhanced customer experience

Customer Service Experience: Customer service is readily accessible and stress-free, and delivered with high quality, high availability, and fast response time

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty, which is regularly measured and confirmed through a high Net Promoter Score®

Best Practices Recognition Analytics Methodology

Inspire the World to Support True Leaders

This long-term process spans 12 months, beginning with the prioritization of the sector. It involves a rigorous approach that includes comprehensive scanning and analytics to identify key best practice trends. A dedicated team of analysts, advisors, coaches, and experts collaborates closely, ensuring thorough review and input. The goal is to maximize the company's long-term value by leveraging unique perspectives to support each Best Practice Recognition and identify meaningful transformation and impact.

		VALUE IMPACT	
STEP		WHAT	WHY
1	**Opportunity Universe**	Identify Sectors with the Greatest Impact on the Global Economy	Value to Economic Development
2	**Transformational Model**	Analyze Strategic Imperatives That Drive Transformation	Understand and Create a Winning Strategy
3	**Ecosystem**	Map Critical Value Chains	Comprehensive Community that Shapes the Sector
4	**Growth Generator**	Data Foundation That Provides Decision Support System	Spark Opportunities and Accelerate Decision-making
5	**Growth Opportunities**	Identify Opportunities Generated by Companies	Drive the Transformation of the Industry
6	**Frost Radar**	Benchmark Companies on Future Growth Potential	Identify Most Powerful Companies to Action
7	**Best Practices**	Identify Companies Achieving Best Practices in All Critical Perspectives	Inspire the World
8	**Companies to Action**	Tell Your Story to the World (BICEP*)	Ecosystem Community Supporting Future Success

*Board of Directors, Investors, Customers, Employees, Partners

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Generator™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

Learn more.

Key Impacts:

- **Growth Pipeline:** *Continuous Flow of Growth Opportunities*
- **Growth Strategies:** *Proven Best Practices*
- **Innovation Culture:** *Optimized Customer Experience*
- **ROI & Margin:** *Implementation Excellence*
- **Transformational Growth:** *Industry Leadership*

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Megatrend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)