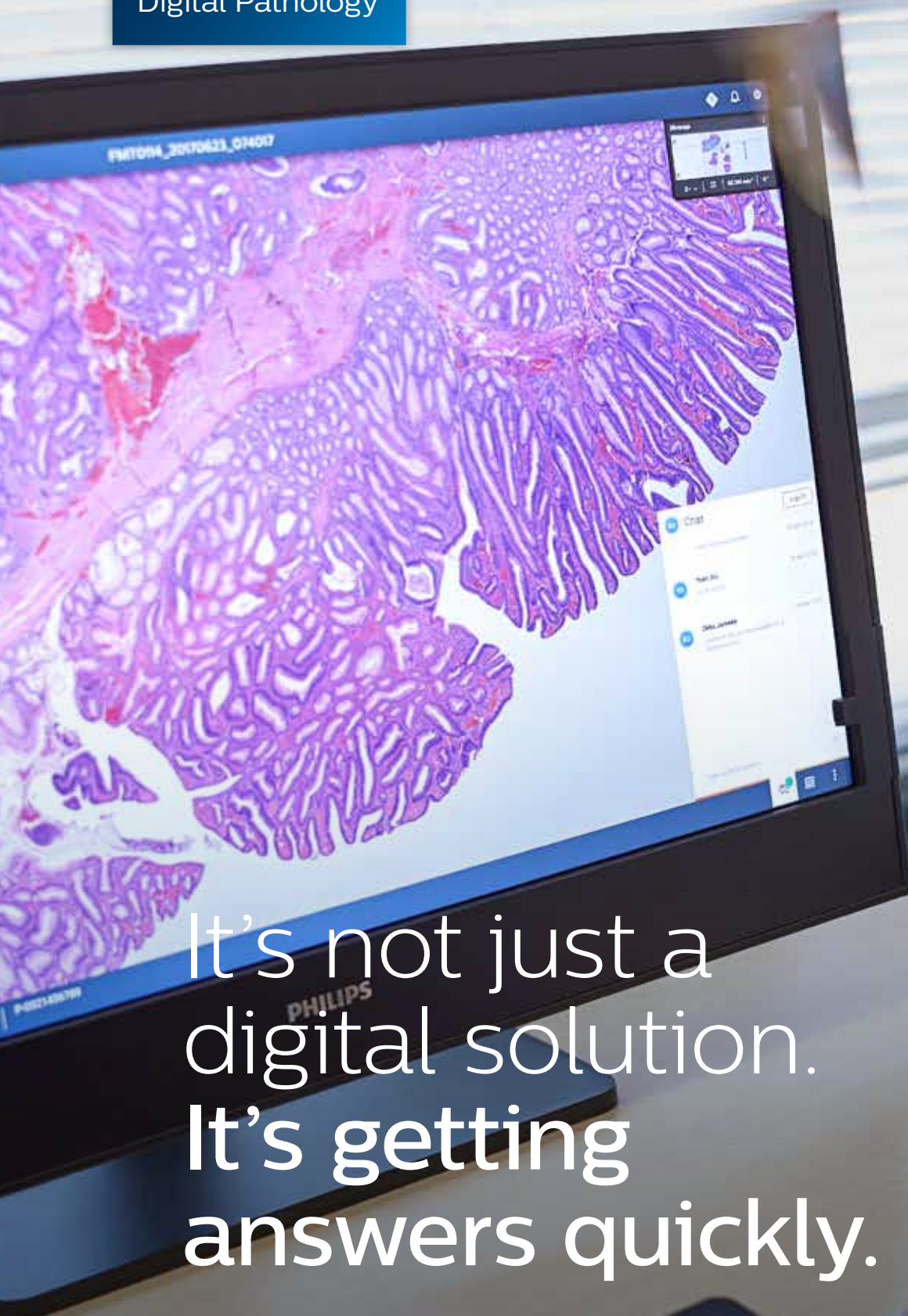


PHILIPS

Digital Pathology



It's not just a digital solution.
It's getting answers quickly.



The rising pressure on pathologists

Integrated diagnostic capabilities are a cornerstone to a precise diagnosis and personalized care pathway selection for oncology patients and only when data and specialties work together in perfect harmony can the ultimate promise of care be realized. That's why bringing together multiple pieces of the healthcare continuum – like radiology, pathology, and genomics – is the key to a new paradigm of diagnostic precision.

The diligent work that pathologists do in labs every day has a significant impact on patient treatment and care particularly in the world of oncology, where pathology plays a crucial role in diagnostics and cancer staging. In fact, it's estimated that 70% of important medical decisions affecting patients' lives involve laboratory or pathology tests.¹

But pathology is rapidly changing and becoming considerably more demanding. Pathology labs face pressure on multiple fronts: from resource shortages, to workflow inefficiencies, to a growing complexity of requests.

Limited in time and resources and expected to accomplish more at lower costs, pathology departments need to find new ways to adapt. As a result, pathology is beginning to transform to a digital discipline which is bringing exciting new possibilities that can aid, streamline, and enhance diagnostic and clinical decision making – so labs can continue to meet the highest standards, and help drive healthcare transformation forward.



Philips IntelliSite Pathology Solution

Introducing Philips IntelliSite Pathology Solutions²: our next generation of digital pathology products, a unique, dedicated solution for networked pathology designed to let you review and collaborate. Philips offers tools and resources for every stage of the pathology process, for a comprehensive, end-to-end experience with an attractive total cost of ownership per slide that allows you to:

- **Digitize your workflow** with consistently high image quality and fast first-time-right scanning capabilities, thanks to a new scanner platform with multiple high-performing models to choose from.
- **Unify patient data** in a streamlined workflow with bidirectional LIS integration, making use of an updated case viewer that enables multi-disciplinary patient data review and care pathway selection.

- **Connect your teams** with a scalable solution, via easy sharing of patient-centric histology data across organizations and between sites, and an open platform that enables new interoperability options.
- **Gain new insights** through real-time collaboration, with Image Management System (IMS) software and algorithms designed to aid, streamline, and maximize diagnostic confidence.

Gone are the days of tedious microscope viewing, inefficient slide storage, and crucial clinical decisions made in silos. Instead, experience a digital workflow that empowers your diagnosticians by eliminating inefficiencies and enabling collaboration like never before – to unlock the full possibilities of precision medicine.

¹ Report of the Second Phase of the Review of NHS Pathology Services in England, Lord Carter of Coles (2008). Results are specific to the institution where they were obtained and may not reflect the results achievable at other institutions.

² Philips IntelliSite Pathology Solution provides retrieval, viewing, and query of digitized slides. Digital storage capacity depends on solution hardware infrastructure. Physical archiving requirements are subject to local regulations.

It's not just a digital solution. It's getting answers quickly.

Designed around the need of your organization

We collaborate with you to analyze your workflow and propose a tailored end-to-end solution that includes scanners, software, IT configuration and automatic information exchange with your LIS³ through standards of communication. Philips IntelliSite Pathology Solution is scalable, and can grow as your lab grows.



SG20

SG60

SG300

IVD cleared globally

Philips IntelliSite Pathology Solution can be used for in vitro diagnostic purposes. The system can aid pathologists to review and interpret digital images of surgical pathology slides prepared from formalin-fixed paraffin embedded (FFPE) tissue. It has market clearance in EEA (European Economic Area), United Kingdom, Ireland and Singapore. Specific conditions apply to the USA market.⁴



Clinical Display for US only⁴



Image Management System (IMS) Viewer and Application Server and Storage software

The Philips IntelliSite Pathology Solution consists of:

Pathology Scanner Second Generation SG20/ SG60/ SG300

- High image quality, maximizing diagnostic confidence
- High throughput & first time right rate of 99.5%, enabling laboratory efficiency and fast turnarounds
- Load and walk away scanning that minimizes operator interaction time
- Robustness and reliability, enabling high availability and up-time
- Efficient total cost of ownership per digitized slide, making digital pathology attractive for labs of all sizes
- 3D ready technology hardware that is prepared for multi-layer scanning.

Image Management System Viewer

- Enhanced user experience, streamlined digital workflow
- Smart case load management
- Real-time collaboration and case sharing

Image Management System Application Server and Storage Software

- Cost efficient deployment, tailored scalability
- Versatile integration
- Virtual deployments for enhanced availability

Clinical Display (for US only)⁴

- High quality 27" monitor validated with the IVD solution



³ LIS interoperability is a purchase option available for selected LIS vendors. Comprehensive solution design is a purchase service option.

⁴ The expansion of remote use of Philips IntelliSite Pathology Solution in the USA are under specific conditions and device specifications. The type of monitors is only allowed due to emergency situations. The limitations and warnings specified in device labeling are still applicable to this situation.



Experience efficiency never thought possible, for enhanced patient care

Philips digital pathology gives you the tools you need to enhance efficiency and reduce turnaround time. In fact, with the help of Philips, labs have experienced productivity gains of up to 25%.⁵

Scanners that are specifically tailored to the demands of your lab allow you to optimize productivity in new ways. Fully automated load-and-walk-away scanning offers continuous operation, freeing you and your team to focus on other tasks, with no supervision or settings adjustments needed. And you can always count on the scanners in the Philips portfolio – they've been designed to provide a first-time right of 99.5%.⁵

The ability to process more slides per day means more critical data is ready for review, without delay – so you can expedite next steps, make a greater impact through timely diagnosis and treatment, and ultimately enhance patient care.

⁵ Survey of 52 pathologists, lab managers and lab technicians in Europe, 2018. Results are specific to the institution where they were obtained and may not reflect the results achievable at other institutions.



Streamline your workflows to empower diagnostic decision making

After slides have been scanned, our PIPS IMS automatically organizes cases in folders at the patient level, through LIS interoperability. You can easily access and organize your workload, orient yourself with the clinically relevant case details, and review each image with a rich set of tools – including convenient side-by-side viewing options, so there's no need to go back and forth between microscopes, and the ability to leave detailed tissue annotations.

An integrated digital pathology system also minimizes the potential for human errors related to matching slides. Patient data is always accessible via barcode, without having to check glass labels. You're able to tag cases and slides for quick access during tumor boards, or for future education – and all images and data are easily shared for improved concordance. With digital workflows, new levels of collaboration with pathology, oncology, and radiology specialties are now possible.



With a fully digital setup, instant internal consultations are made simple, along with the ability to access an expansive digital pathology network⁶. Remote viewing is compatible with outside systems, so you can easily connect with supporting subspecialists around the world on the quest for confident treatment decisions.

⁶ Digital use of Philips IntelliSite Pathology Solution is under specific conditions and device specifications, see D000539967, available on request.



High throughput, diagnostic quality

The Pathology Scanners Second Generation are designed for maximum performance. It features continuous auto-focus technology, which means that it finds and maintains focus during scanning. Each slide is scanned at 40x equivalence (0.25 µm/pixel) for high resolution and sharpness; crucial for clinical diagnosis and a key enabler for the use of image analysis algorithms.

The Pathology Scanner series consist of the SG20, SG60 and SG300 all providing a seamless high image quality experience. Depending on your laboratory's needs, the SG20 is designed for low volume scanning, ideal for entry level spoke labs while the SG60 is designed for medium volume scanning in small batches in parallel. The series is completed by the SG300 designed for premium production scanning of slides, delivering best-in-class digitization for large laboratories.

Furthermore, the total scan time of a slide (including handling and pre scan with a 15x15 mm benchmark scan area) at a 40x resolution equivalent is 134 seconds for the SG20 and 67 seconds for both SG60 and SG300. This translates in real practice of a throughput time of 15 slides per hour with the SG20 and a throughput of 30 slides per hour for both SG60 and SG300.



Manage your day effectively

The Image Management System (IMS) allows you to organize, access, review, manage, and present the cases with ease. All of your cases are arranged and sorted according to your preference. At a glance you can see which cases are high priority, new, completed or in progress.

Case related information such as patient name, number of slides per case, and tissue type is clearly displayed and you can easily filter your worklist by these parameters. With just a single click of the mouse you can select multiple cases for various tasks such as tagging.



Discover greater confidence in IT integration and multi-hub operations

Depending on your needs and existing systems, the Philips SDK (Software Development Kit) allows software developers and research scientists to tap into the full potential of image data stored in the iSyntax format. This can lead to new opportunities for further visualization, data mining, and image processing of histopathology images.

Philips Intellisite Pathology Solutions allow you to scale up and scale out, to support growing case volumes. With multi-site portal implementation and centralized web-based deployment, automated storage management is both cost-efficient and easily adjustable. Having the right amount of storage either on-premise or in the cloud means you are always ready to scale.

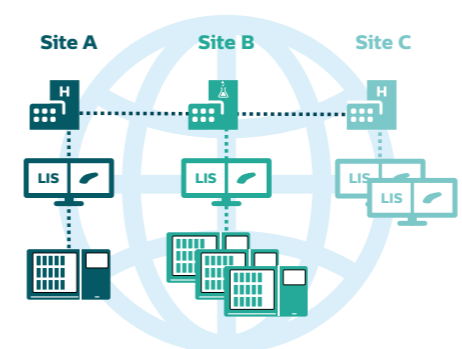
Philips systems also provide bi-directional LIS integration, resulting in integrated security and privacy controls, for added confidence in specimen tracking, data integrity, and digital accountability.



System interoperability

Philips can offer comprehensive interoperability options with your Laboratory Information System (LIS), including bi-directional and uni-directional interoperability. For example, contextual launch of the IMS Viewer from the LIS worklist or synchronization of case-related clinical data between systems can be realized.

Next to this, import of proprietary image formats from third-party scanners, such as NDPI, SVS, and MRXS are supported⁷. Screenshots and whole slide images can be exported in diverse formats. Select image analysis algorithms⁸ from third-party vendors are available directly within the IMS Viewer and does not require export to another platform.



Multi-site harmonization and security

The IMS Application Server and Storage software are supported by customizable server and storage configurations that offer management of image repositories, comprehensive LIS interoperability, and tailored network settings. The system interfaces with multiple information systems and a broad array of IT hardware to suit your organization's needs.

This true enterprise solution allows multi-site networks (hub and spoke) to create a unified virtual network out of multiple laboratories. Multiple sites, each running its own instance of software, can access each other's images, which allows workload balancing across locations.



Automated operation and scan protocols

The Pathology Scanner is designed with an intuitive 'load and walk away' operation so that the operator only needs to open the scanner door, load the slide rack, close the door, and the scanner will process all slides automatically. This simplified routine reduces costs by reducing reliance on the repetitive operation like setting scan magnification, scan area, focus points, or color enhancements. Actual scanning is executed without any user prompts, saving your lab technicians valuable time. The Pathology Scanner can be controlled via an integrated touch-screen. No additional workstation is required, and the scanner will automatically scan the barcode, detect tissue and coverslip, and begin scanning.

With its tissue shape detection, the scanner adapts the scan region to the shape of the tissue. This results in shorter scan times and smaller image data files. The automated calibration check per slide, ensures that every slide is scanned by a calibrated system and calibration is only triggered when truly necessary

Simplified case management

Based on flexible rules, you decide how to automatically archive, delete, or back up your digitized cases. The IMS software allows immediate retrieval of digital archives immediately, replacing the tedious tasks of manually searching glass slide archives. Features such as audit trail, preferences for software behavior, maintenance settings, and automatic data management policies positively impact laboratory effectiveness.

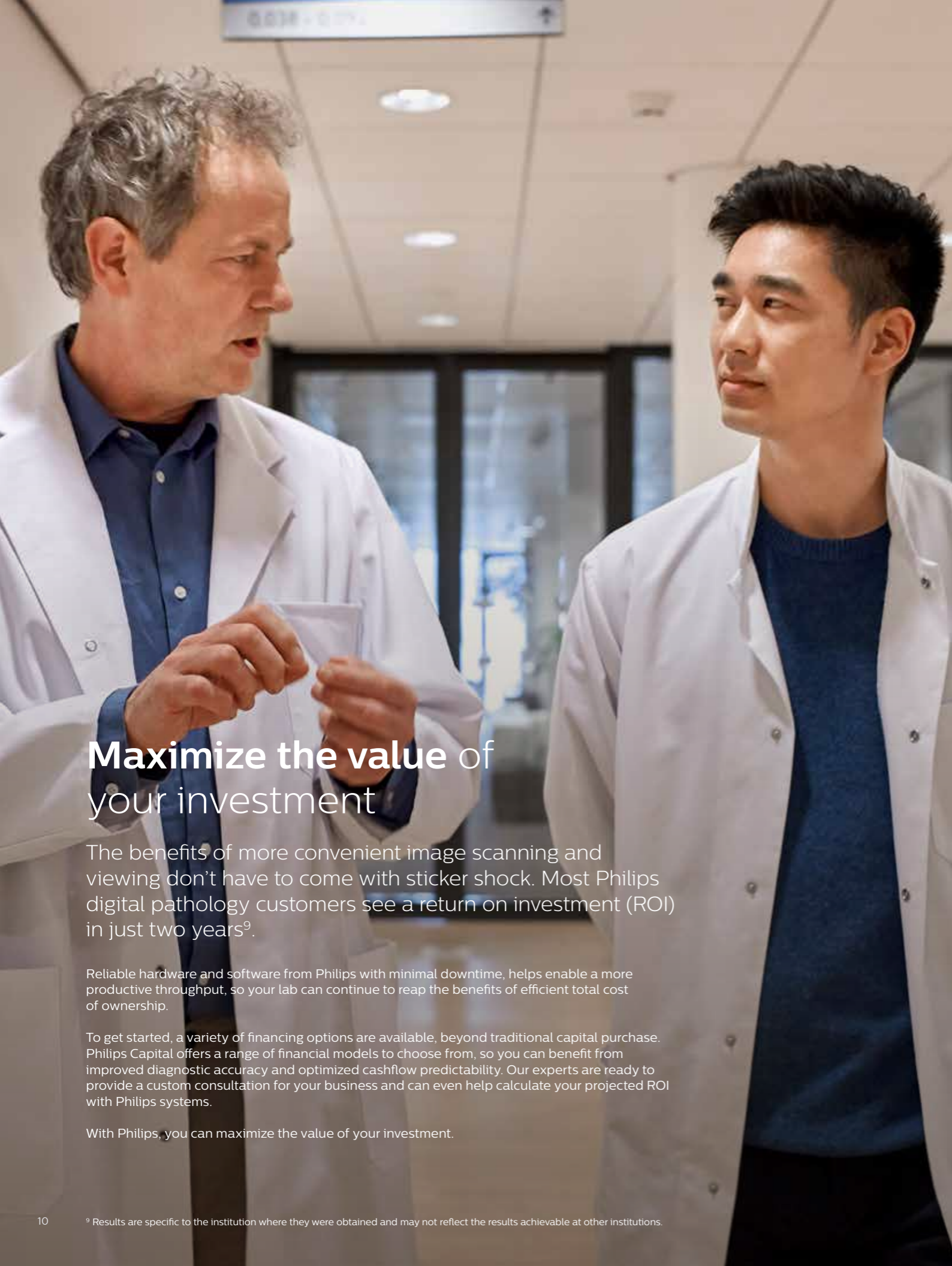
Focus on the tissue

The IMS Viewer supports you to review tissue images with advanced user options. In addition to the main screen, at the area in the center of the screen you will see the following:

- a) you'll see a mini-map in the upper right indicating your current location on the slide,
 - b) a toolbar on the left,
 - c) and case, slide, and patient information across the bottom.
- The viewer includes a rich set of tools for making accurate measurements and annotations, which creates a gallery of highlighted tissue features. Slides can also be tagged and organized for follow up in secondary workflows such as tumor board or panel discussions.

⁷ Images that are imported from third party scanners are not for diagnostic use.

⁸ Visiopharm AS is the legal manufacturer of the breast IHC applications (HER2, ER, PR, Ki67). The applications are IVD for EEA and India, and Research Use Only for the United States.



Maximize the value of your investment

The benefits of more convenient image scanning and viewing don't have to come with sticker shock. Most Philips digital pathology customers see a return on investment (ROI) in just two years⁹.

Reliable hardware and software from Philips with minimal downtime, helps enable a more productive throughput, so your lab can continue to reap the benefits of efficient total cost of ownership.

To get started, a variety of financing options are available, beyond traditional capital purchase. Philips Capital offers a range of financial models to choose from, so you can benefit from improved diagnostic accuracy and optimized cashflow predictability. Our experts are ready to provide a custom consultation for your business and can even help calculate your projected ROI with Philips systems.

With Philips, you can maximize the value of your investment.



Your partner in digital pathology – every step of the way

Philips is proud to serve you before, during, and after your digital transformation. Our teams have deep experience in workflow consultation, change management, training, and transition support – so you can rest assured that digitalizing your lab will be predictable and straightforward from the start.

Consultation and solution mapping:

If you're considering evolving to digital, we'll work with you to see what workflow and implementation will best suit your laboratory's unique needs. We understand pathology operations like no other – but equally important are your specific goals. We take both into account to map the best way forward, including suggested process improvement measures and projected return on investment (ROI).

Convenient financing:

Philips Capital is your one-stop shop for financial solutions. From traditional capital expenditures to customized managed services, you can enhance the value of your pathology investment and manage both your technology and your financing with ease.

Minimally disruptive implementation:

Comprehensive planning and training helps ensure a smooth, efficient transition once you're ready to make a digital upgrade – so your pathologists can acclimate quickly, with minimal disruption. Philips offers a proven 6-month production-ready implementation window and a 1-month user migration period. In fact, a recent survey at a major digital pathology lab found that most lab staff felt fully accustomed to Philips digital pathology systems in one week or less. And 100% of pathologists who have gone digital say they would never go back.¹⁰

Continuous re-optimization:

Even once your institution is up and running, we're there to ensure a continually smooth experience. Expert workflow consultation is always available and covers all aspects of your digital pathology systems – from IT, to workflow, to LIS integration – so you'll never have to go it alone, regardless of what issues you need help with.



Pave the way to the future of pathology, with Philips

Pathology labs are increasingly choosing to transition to digital, and for good reason. Of pathologists surveyed¹⁰:

- All said digital pathology helps them reach a diagnostic consensus
- 96% experienced increased efficiency
- 100% said they do not want to return to the microscope

But going digital isn't just a simple software and equipment upgrade. That's why we offer tried-and-true expertise, paired with custom-tailored plans and ongoing support – so you can make the most of your transition, avoid critical pitfalls, and tap into the full power of the digital revolution.

Around the world, Philips has helped more than 20 labs – and counting upgrade to fully digital operations. That's over 200 pathologists and over 20 million scanned slides – and we're just getting started.

When you're ready to make the care-changing transformation to fully digital, Philips is ready to serve as your trusted partner. We're here to help you achieve efficiency, consistency, and integrated diagnostic capabilities in your pathology lab – and unlock concordance across all specialties, for the benefit of patients.





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How to reach us

Please visit www.philips.com/digitalpathology