Accelerate Your Journey
Imagine The Possibilities

Leica
BIOSYSTEMS

APERIO GT 450
SCANNER

LEADING INNOVATION WITH PROVEN TECHNOLOGY

For research use only. Not for use in diagnostic procedures.

OPTIMIZE RESEARCH WITH
PROVEN TECHNOLOGY

With over 25 years of Digital Pathology innovation, Leica Biosystems delivers performance and reliability.

Our renowned Aperio GT 450 scanner has 40+ patents designed to support flexible scanning requirements and automated workflows. With a 32 second scan speed* and output of 81 slides per hour at 40x**, scanning can be completed quickly with confidence.
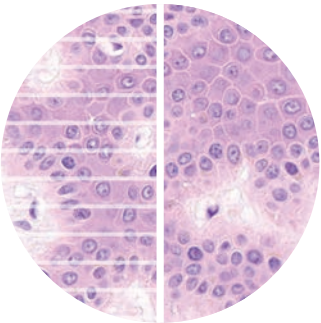
Continuous innovation, delivering scalable features,** including Manual Scan capabilities, DICOM compatible files, Extended Focus, and Aperio iQC software, provide efficient workflows and excellent image quality, ensuring seamless integration and secure, optimized delivery of your research.

*15mm x 15mm scan area @ 40x;
** Optional features available to meet your workflow

MANUAL SCAN

VALUABLE FOR YOUR WORKFLOW AND ESSENTIAL FOR HIGH-QUALITY RESULTS.

Take control of image quality with Manual Scan. Easily adjust scan settings and re-scan slides without removing them from the scanner, ensuring excellent image quality when automated scan results aren't enough.

DEFAULT CALIBRATION POINT

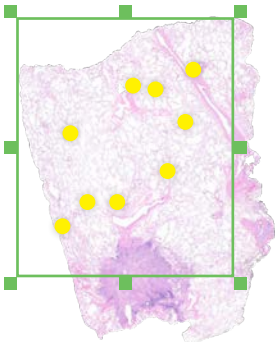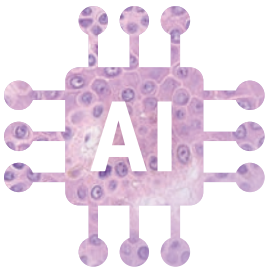### CAPTURE TRUE IMAGE QUALITY WITH NO EFFORT REQUIRED.

Prevent image striping before it occurs with Default Calibration Point. This proactive, standard feature, now on the Aperio GT 450 scanner, replaces a problematic calibration point with a default clean one, ensuring high-quality images every time.

DICOM WITH 20X, 40X AND Z-STACK

HIGH-QUALITY IMAGES WITH CONSISTENT COMPATIBILITY.

Both the 20x and 40x magnification options provide clear and detailed views of samples, while the Z-Stack feature allows for multiple focused images to be combined. Together, these features ensure compatibility with DICOM standards for pathology, demonstrating our commitment to high-quality imaging.

EXTENDED FOCUS

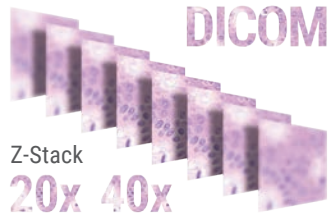### OPTIMAL IMAGE FOCUS AND QUALITY THAT MINIMIZES STORAGE SPACE.

Capture images with extended focus and greater depth of field. This feature enhances the clarity of the entire tissue by combining areas of optimal focus across multiple layers into a single composite image, helping to save on file storage space.

APERIO iQC SOFTWARE

UTILIZE AI TO HELP DETECT IMAGE ARTIFACTS AND SAVE TIME.

Aperio iQC software helps laboratory professionals detect digital and histological artifacts during the review of scanned whole slide images. This optional tool can be used alongside a comprehensive in-house image quality control workflow for optimal results.

RESEARCHERS

Effortless scanning, exceptional results with excellent image quality, innovative technology and seamless integration – all driven towards faster turnaround time and accuracy for your important projects.
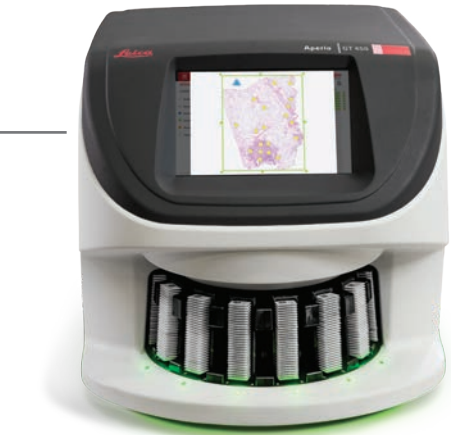
More than 40 Patents Smarter

MANUAL SCAN

Delivering researchers with an efficient solution for variability in slide preparation, Manual Scan provides:

> Faster slide delivery with immediate rescanning from the same location.

> Quick resolution of image issues by lab technicians including faintly stained IHC slides, small tissue fragments, low density tissues etc.

> High-quality slides from challenging tissues.
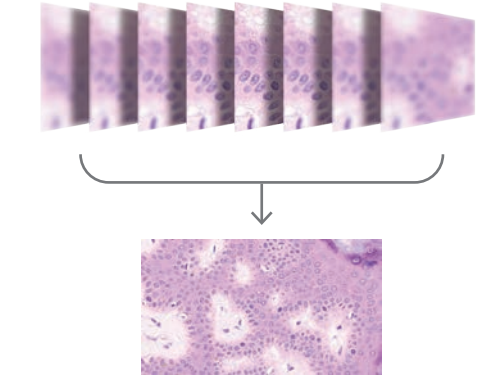
> Streamlined workflow and improved lab efficiency.

EXTENDED FOCUS

Experience an efficient imaging solution that improves image quality while reducing storage needs. Extended Focus features include:

> Viewing all cells in focus on a single image, eliminating the need to scroll through layers.

> Smaller file sizes than Z-Stack images speed up file transfers, improving collaborative activities.

> Ideal in applications where thick specimens are viewed, which make the extended depth of field of images an issue to address.
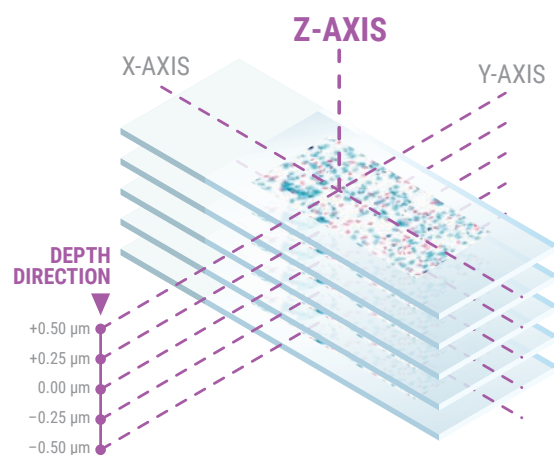
DICOM WITH 20X AND 40X MAGNIFICATION AND Z-STACK

X-AXIS

Z-AXIS

Y-AXIS

DEPTH
DIRECTION

+0.50 μm
+0.25 μm
0.00 μm
−0.25 μm
−0.50 μm

DICOM's standardized file format enables researchers to easily access and share high-quality Z-Stack and 20x and 40x magnification images for use in applications such as:

> Cancer research
> Basic cell biology research

> Toxicology research
> Drug development studies

> Immunology research
> Digital archiving

TISSUE FINDER

S-12374638

11234

2017-03-09

PERMASLIDE

Aperio GT 450 illuminates tissue from both sides of the slide resulting in a 99.5% accurate tissue finder that recognizes faintly-stained tissue while excluding:

> Pen marks
> Stain residue

> Scratches
> Dust

EXCELLENT IMAGE QUALITY
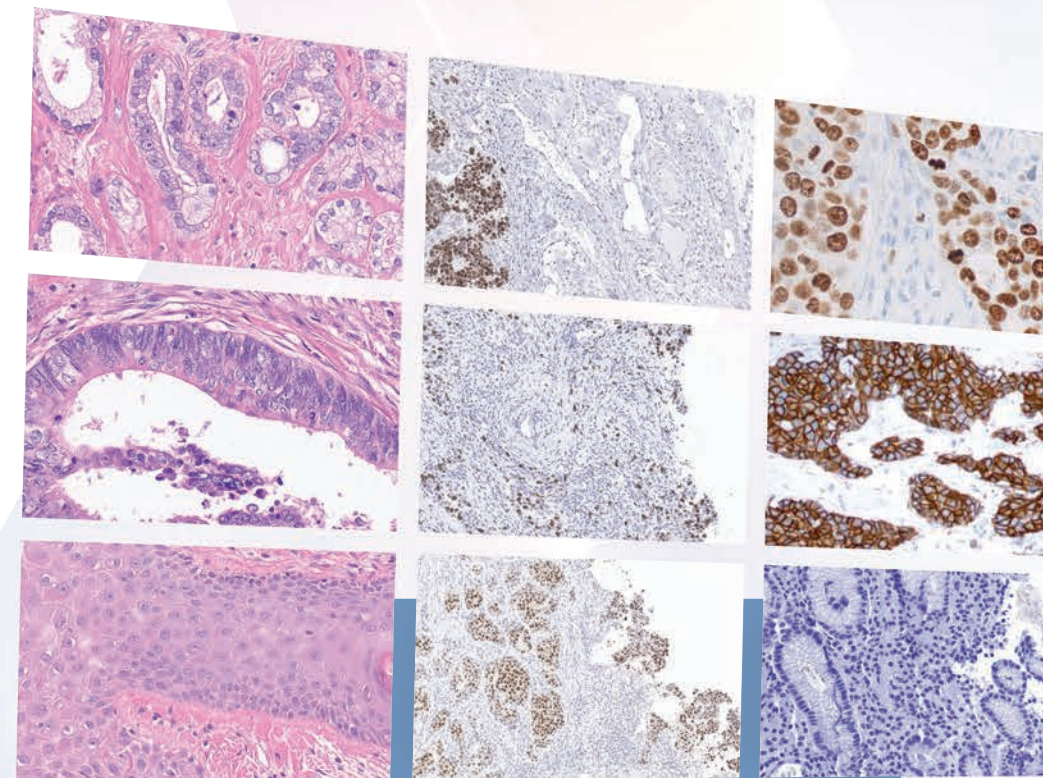
Access and organize your studies with Aperio eSlide Manager integrated into an LIS.

Aperio WebViewer

Integrated LIMS/LIS

> Cellular grooves
> Chromatin
> Intracellular bridges
> Nucleoli

> ER/PR/Her2
> Ki67
> P53

> Lung Cilia
> H Pylori

PROVEN TECHNOLOGY FOR
LAB MANAGERS

Deliver rapid results with confidence. Complete scanning quickly and easily, so you can focus on other tasks in the lab.

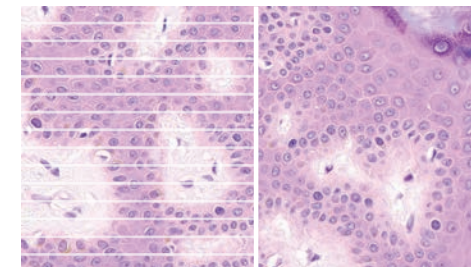## Directly load racks from coverslipper to scanner

The products shown below, the HistoCore SPECTRA Workstation, in combination with the Aperio GT 450, are for Research Use Only (RUO).

During a recent beta test conducted by one of the top pharmaceutical companies in the world, users observed a significant improvement in workflow efficiency with the Aperio GT 450.

DEFAULT CALIBRATION POINT

Aperio GT 450's Default Calibration Point reduces the chance of striping from the start, allowing lab managers to maintain image clarity and avoid corrective measures. This ensures consistently high-quality results with no extra effort.

BEFORE   AFTER

MANUAL SCAN

Providing lab technicians with an intuitive and efficient scanning solution, the benefits of Manual Scan include:

> Easy-to-learn functionality that technicians can quickly navigate. Choose the scan area, set focus points and calibrate with ease.

> Enhanced control and confidence throughout the scanning process.

> Ability to successfully scan challenging slides with greater ease.

> Improved workflow efficiency.

Assign priority cases.

Automated image quality check and slide calibration during each scan.

No-touch continuous rack loading during scanning.

450 slide capacity packed into small size.

Excellent image quality using Leica optics.

The Aperio GT 450, with open-faced design allows you to continuously load racks while scanning is in progress to maximize productivity.

32 SEC

32 sec scan speed at 40x*.

81 PER HR
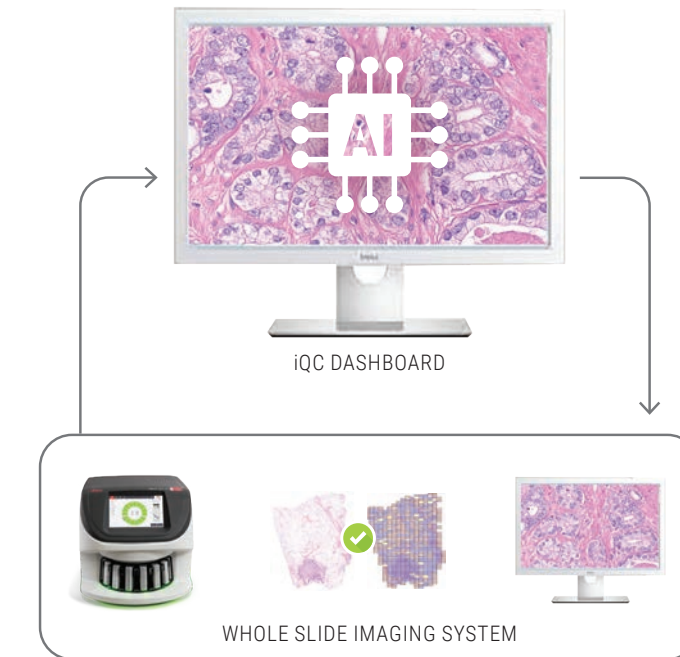
81 slides per hour at 40x*.

120,000 PER YEAR

Scan 120,000 slides per year operating the Aperio GT 450 for around 5 hours/day*.

*15mm x 15mm scan area @ 40x; assumes 5 hr. scan time per day for 300 work days per year20x magnification available**

APERIO iQC SOFTWARE

Optional Aperio iQC software enhances image quality control, ensuring confidence before scans are delivered to the researcher.

> AI-enabled detection of whole slide image (WSI) arti-facts, with notifications and a quality control dashboard to flag issues and recommend actions.

> Algorithms designed to analyze WSIs and identify potential artifacts.

> Automatic assessment to flag substandard slides, optimizing manual review and lab technicians' time.

iQC DASHBOARD

WHOLE SLIDE IMAGING SYSTEM

Stats page allows you to view slides scanned/day/month/ year, average scan area and average scan speed.

PROVEN TECHNOLOGY FOR
IT PROFESSIONALS

Exceed your expectations with proven IT architecture that delivers fast, secure and scalable results.
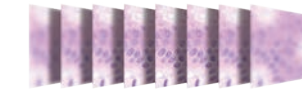
A secure, flexible and fast IT solution to scale up your Digital Pathology operations.

"The IT architecture for the Aperio GT 450, including the SAM central hub, is a gigantic leap forward to scale and support digital pathology IT operations."

– Chris Khacherian, UCLA Program Manager, Service Delivery, DGIT | Digital Technology

EDUCATIONAL CONTENT
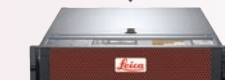Scan the QR code to view

Z-Stack

DICOM

DICOM FILE

The DICOM format enhances compatibility for Z-Stacking, 20x and 40x magnification, offering high-quality images that can be easily shared and accessed across different systems. Now available alongside .svs, DICOM enables image clarity, improved collaboration and a streamlined workflow.

SAM SERVER

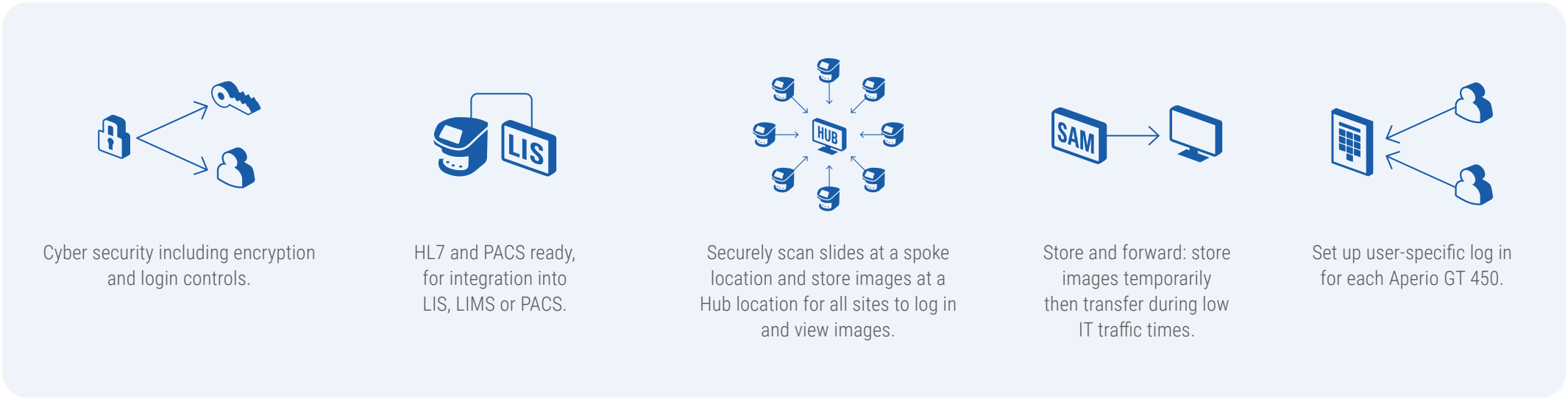IT OFFICE
SAM APPLICATIONS SOFTWARE

IT ROOM
SAM SERVER

LAB

No more workstations needed. A centralized Scanner Admin Manager (SAM) will allow IT professionals to scale up Digital Pathology operations securely and efficiently.
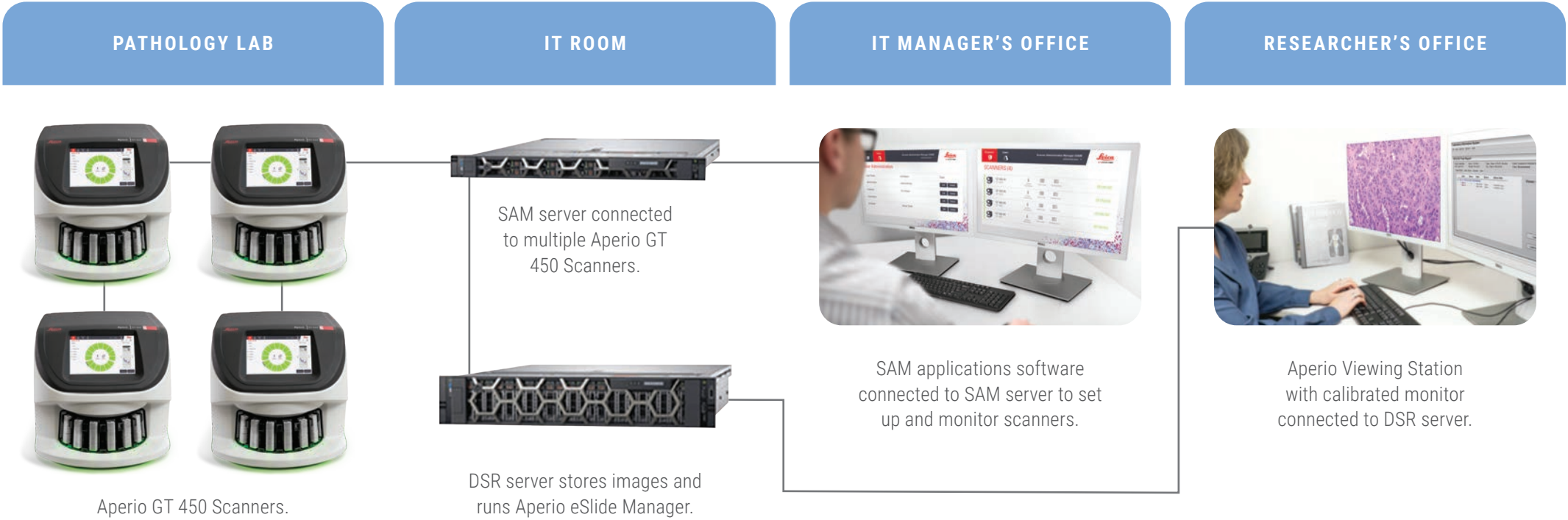
SAM server and software allow IT managers to set up and monitor Aperio GT 450 scanners via the network, including dashboard status views, PIN controls and log out times.

Exceed your expectations with our 25 years of scanner technology innovations and expertise, including a dedicated, in-house team of application and field engineers, to help ensure your investment is safeguarded and guides you toward Research Excellence.

Cyber security including encryption and login controls.

HL7 and PACS ready, for integration into LIS, LIMS or PACS.

Securely scan slides at a spoke location and store images at a Hub location for all sites to log in and view images.

Store and forward: store images temporarily then transfer during low IT traffic times.

Set up user-specific log in for each Aperio GT 450.

The Aperio GT 450 standard and optional features serve to improve image quality and flexible scanning solutions in research settings.

APERIO GT 450 SUMMARY OF SPECIFICATIONS

Maximum Slide Capacity	450
Rack capacity	15 racks of 30 slides, 15 racks of 20 slides
Racks compatible with Leica HistoCore SPECTRA Workstation	Yes
Continuous rack loading while scanning	Yes
Priority rack scanning	Yes
Manual Scan	Yes
DICOM compatible with 20x, 40x and Z-Stack	Yes
Extended Focus	Yes
Intelligent Quality Control	Yes
Default Calibration Point	Yes
Automated Narrow Stripe	Yes
Z-Stacking	Yes
Magnification	20x, and 40x
Resolution	0.26 µm/pixel at 40x
Scan speed (15mm x 15mm area at 40x)	32 sec
Sustained throughput (15mm x 15mm area at 40x)	81 slides/hr
Automated Image Quality Check	Yes
Slide sizes accepted	1x3
Field of View (FOV)	1mm
Bar code engines	1D and 2D symbology
Dimension	20.8" (52.83 cm) W x 28" (71.12 cm) L x 19.5" (49.53 cm) H
Weight	140 lbs (63.5 kg)

PART NUMBER	DESCRIPTION
23GT450	Aperio GT 450 Scanner
23GT450SAM	Aperio GT450 Scanner Admin Manager (SAM) Server
23GT450SAMSW	Aperio GT450 Scanner Admin Manager (SAM) Applications Software
23Dell740XD21TB	Dell 740 XD image storage DSR 21 Terabytes
23Dell740XD42TB	Dell 740 XD image storage DSR 42 Terabytes
23Dell740XD85TB	Dell 740 XD image storage DSR 85 Terabytes
23Dell740XD138TB	Dell 740 XD image storage DSR 138 Terabytes
23VS101	Aperio viewing station (includes calibrated monitor, workstation, Aperio ImageScope viewer and optimized ICC file)
23GT450ZSTACKSW	Feature Pack: Z-Stack, 20x and Automated Narrow Stripe
23GT450MANSCANSW	Manual Scan SW upgrade option
23GT450EXTFOCUSSW	Extended Focus SW upgrade option

From the lab to the IT room the Aperio GT 450 was designed for Researchers, Lab Managers and IT Professionals

PATHOLOGY LAB	IT ROOM	IT MANAGER'S OFFICE	RESEARCHER'S OFFICE

Aperio GT 450 Scanners.

SAM server connected to multiple Aperio GT 450 Scanners.

DSR server stores images and runs Aperio eSlide Manager.

SAM applications software connected to SAM server to set up and monitor scanners.

Aperio Viewing Station with calibrated monitor connected to DSR server.

For research use only. Not for use in diagnostic procedures.

For research use only. Not for use in diagnostic procedures.

We envision a world where comprehensive insights enrich cancer diagnosis and offer reassurance to all patients.

Accelerate Your Journey, Imagine the Possibilities.

For research use only. Not for use in diagnostic procedures.

LEICA BIOSYSTEMS IS AN INTERNATIONAL COMPANY WITH A STRONG NETWORK OF WORLDWIDE CUSTOMER SERVICES
For detailed contact information on your nearest sales office or distributor please visit our website: LeicaBiosystems.com

Leica Biosystems is a cancer diagnostics company and a global leader in workflow solutions. The company offers a comprehensive product range for each step in the pathology process, from sample preparation and staining to imaging and reporting. As the only company to own the full workflow from biopsy to diagnosis, Leica Biosystems is uniquely positioned to break down the barriers between each step. The company's mission of "Advancing Cancer Diagnostics, Improving Lives" is at the heart of its corporate culture.

230234 Rev E • 01/2025