

autoWSI Software

Motorized whole slide imaging for flexible microscope-based scanning.

autoWSI is a configurable microscope-based scanning solution for applications that require more flexibility than standard slide scanners typically provide.

It works with standard microscopes equipped with a motorized stage and controls the X-, Y- and Z-axis to create preview scans, perform autofocus and generate seamless whole slide images automatically.

This flexibility makes autoWSI particularly suitable for specialized applications such as polarized light imaging, high-magnification scanning including oil immersion, and scanning of large format slides.

Due to the modular approach, scanning with autoWSI can be cost-efficient for specialized scanning tasks compared to dedicated motorized systems.



Example autoWSI configuration: Microscope with motorized XYZ stage and digital camera, connected to a PC running autoWSI. Optional Macro Camera for label and slide imaging.

Key Capabilities



Flexible microscope-based scanning

Configure scanning around your microscope and application



Automated XYZ scanning & autofocus

Motorized positioning, preview scanning and automated focusing



Specialized imaging workflows

Polarized light, oil immersion and other non-standard modalities



Large & non-standard samples

Scan formats and samples beyond typical slide-scanner constraints

Technical Specifications

Scanning & Automation

Stage control	Motorized X-, Y- and Z-axis control
Preview scan	Low-magnification preview at 2X / 4X
Scan area	User-defined based on preview; multiple scan areas possible
Shading compensation	Active compensation of shading / vignetting
Calibration	Active calibration per objective
Focus	User-defined focus points and automated focusing; manual focusing possible if required
Scan magnification	Flexible (2X -100X), depending on microscope objective
Image acquisition	Automated tile acquisition and stitching
Label and macro image	Optional via Microvisioneer Label and Macro-Add-On

Microscope & Stage Requirements

Microscope	Olympus / Evident: BX series Zeiss: Axio series (except Axiolab) Leica: DMR, DM1000 and higher, Visoria series Nikon: Eclipse Ni and Ci series, Eclipse E400 and higher
Microscope stage	Motorized stage required
Supported stages	Prior Optiscan and ProScan series Märzhäuser EK 14 mot, EK 75x50 PILOT, Scan series
Controlled axes	X / Y / Z
Objectives	PLAN lenses or better
Supported cameras	Cameras with global shutter sensors for fast continuous scanning

Supported Imaging Workflows

Brightfield	Supported
Polarized light	Supported; depending on microscope configuration; Multi Modality Scanning (e.g. PPL + XPL) supported
Oil immersion	Supported; depending on microscope configuration
High-magnification scanning	Supported

Sample & Slide Formats

Standard microscope slides	Supported
Large-format slides	Supported; stage travel range needs to be selected accordingly
Non-standard samples	Supported; depending on microscope /stage configuration
Scan area	Flexible within available stage travel range
Multiple slides	Multiple slides supported, depending on sample holder configuration

File Formats

Output file format	*.svs, *.tiff, *.jpg
Compatible software	Compatibility with all major available software for viewing, sharing and analyzing whole slide images

Computer requirements

CPU	Intel Core or AMD Ryzen processor with at least 6 cores
RAM	16 GB
DISK	512 GB or more (SSD required)
Display	1920x1080 or higher
Operating system	Windows 11