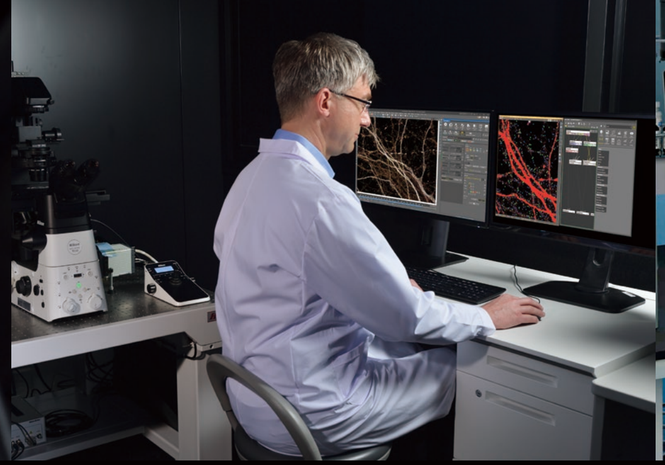

Nikon
Imaging Software
NIS Elements
Shedding New Light On MICROSCOPY




NIS-Elements is the total imaging solution for your research

Nikon's universal software platform, NIS-Elements, combines powerful image acquisition, analysis, visualization and data sharing tools. With fully customizable user interfaces and software modules, NIS-Elements can serve as a simple interface for photo-documentation and also power complex, conditional workflows with automated imaging and analysis routines.
In addition, utilizing deep learning, a subfield of AI technology, NIS-Elements can perform high-speed image processing and analysis according to the user's specific needs.

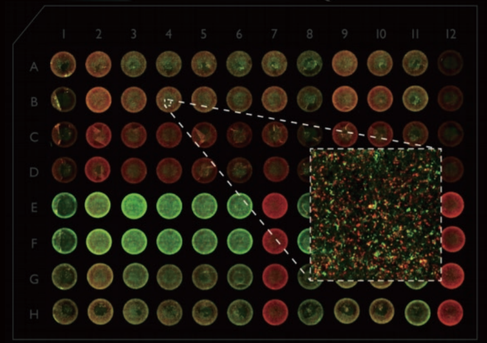
Triggering	**Confocal**	**Tracking**	NIS-Elements
Deep Learning	**Large Image Stitching**	**Deconvolution**	
Super-Resolution	**Volume Analysis**	**TIRF**	**Photostimulation**
3D Visualization	**Digital I/O**	**Photodocumentation**	**Ca^{2+} Imaging**
Time-Lapse	**High Content Analysis**	**Multiphoton**	**Optogenetics**

One software platform for all imaging systems

Nikon believes that having a single software platform for all imaging modalities is vital. NIS-Elements provides the same interface, control, workflow, and terminology whether it's used for widefield, confocal, or super resolution imaging. With one platform to learn, users can easily switch between microscope systems when their applications require different imaging modalities. Imaging results from different Nikon systems can also be easily combined and analyzed to expand your research direction.

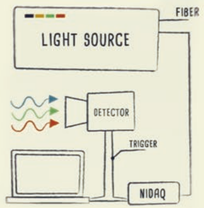
Total acquisition-to-analysis solution for high-throughput screening assay

The NIS-Elements HC (High-Content Analysis) provides streamlined high-speed, automated well-plate acquisition, data review, analysis and management for multiple well-plate experiments.
The HC interface simplifies experiment setups using setup wizards. Users can easily define acquisition parameters including well-plate configuration, plate handling, autofocusing, filter switching and detectors.

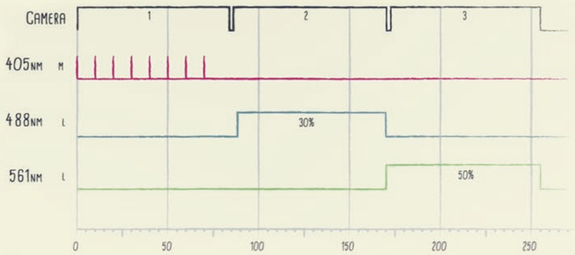


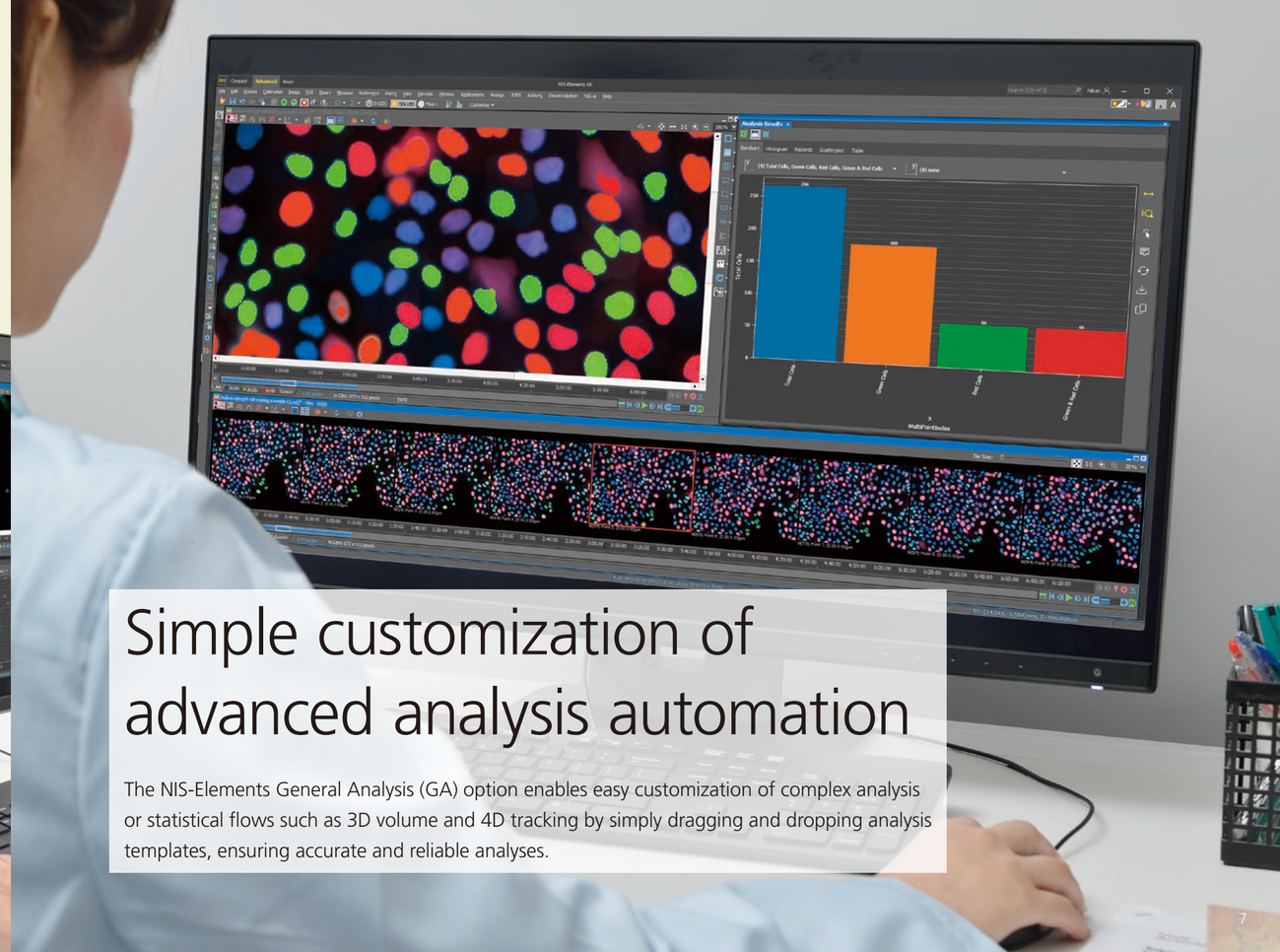
Completely customize to your research

From individual hardware selection and optimization to fine-tuning acquisitions routines and custom multi-channel binary analysis - you are in complete control of tailoring and creating a system built and inspired by your imagination.



LASER LINES	405NM	488NM
	5%	
		30%
		GREEN





Simple customization of advanced analysis automation

The NIS-Elements General Analysis (GA) option enables easy customization of complex analysis or statistical flows such as 3D volume and 4D tracking by simply dragging and dropping analysis templates, ensuring accurate and reliable analyses.

Toward increasing intelligence

NIS-Elements allows high-precision, intelligent image processing and analysis using cutting-edge AI technology that employs deep learning. Advanced processes, such as distinguishing samples from noise and extracting cells from unstained samples, which in the past have required a great deal of time and experience, are now carried out automatically, dramatically increasing experiment analysis efficiency and reducing cell damage.

NIS Elements

Share your data

NIS-Elements is designed to get your data “out”. There are many options for file and data export to move files, metadata, and analysis results to other formats, other software platforms and even data sharing between programs to leverage other components of your research routines.

Evolves with your research

The software is on the move, always transforming with the demands of research. With NIS-Elements, you can continue to grow your system over time (e.g. upgrade the detector, add additional detectors, change light sources, add a confocal, add high-throughput functionality, etc.).

Nikon's flagship NIS-Elements package

Optimized for advanced research applications, Nikon's flagship software package features fully automated image acquisition, advanced device control and powerful analysis and visualization tools.

Confocal imaging package

Dedicated interface for Nikon's confocal and multiphoton systems, providing easy instrument setup and streamlined operation. Incorporates many of the features of NIS-Elements AR for advanced acquisition, image processing, analysis, visualization and data sharing capability.

Standard research application package

Developed for standard research applications such as analysis and photodocumentation of fluorescent imaging, NIS-Elements BR features up to four-dimensional acquisition and advanced device control capabilities.

Confocal resolution enhancement package

Higher resolution confocal images can be easily generated with a single click. The software assesses the captured image and automatically determines processing parameters to achieve enhanced resolution.

Photodocumentation package

Software package for photodocumentation. Include basic measuring and reporting tools.

High content analysis option

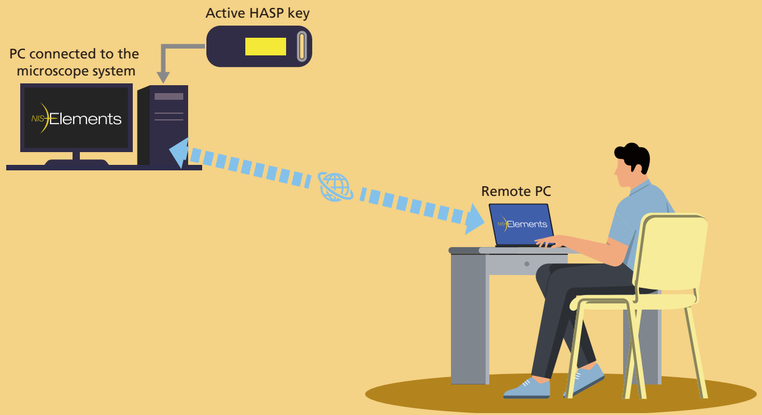
Total acquisition-to-analysis solution for high-content imaging applications. Seamless workflow from microscope and peripheral device control to data analysis and management.

Remote control and monitoring

NIS-Elements can be started and controlled from a remote PC over a network connection using Windows' Remote Desktop Protocol (RDP). Remotely operating a microscope and analyzing acquired images is possible from a PC at a location other than that of the experimental equipment. Because it allows a user to monitor experimental processes from a PC at home or elsewhere, if any trouble occurs during an experiment, the cause can be investigated without going to the laboratory, and imaging over long time periods can be performed efficiently.
Installation of NIS-Elements on the remote PC is not required, eliminating the need for excessive license protection and reducing time and cost.

* Windows is either a registered trademark or a trademark of Microsoft Corporation in the United States and/or other countries. Each device requires that given conditions be fulfilled for a remote desktop connection. Please contact us for details.

Remote control of NIS-Elements via the Internet



Package Comparison

CAPTURE		AR	BR	D	C	ER	HC (option)
Confocal support					✓	✓	option
Multidimensional Imaging	Time Lapse	✓	✓	✓	✓	✓	✓
	Z-Stack*	✓	✓	✓	✓	✓	✓
	Multi Point*	✓	✓	✓	✓	✓	✓
	Multichannel*	✓	✓		✓	✓	✓
	4D with Experimental Preview		option				
	6D with Experimental Preview	option			✓	✓	✓
Acquisition	AVI Acquisition	✓	✓	✓	✓	✓	✓
	JOBS Acquisition	option			option	option	option
	Simultaneous Dual / Triple / Quad Camera	option			option	option	option
	Triggered Device Control	option			option	option	option
	DAQ (TTL/ Analog) Control	option	option		option	option	option
	Incubation	option	option		option	option	option
	Volume Contrast	option			option	option	option

* Note: Drivers for third party device control/automation are required.

DISPLAY & PROCESSING		AR	BR	D	C	ER	HC (option)
AI	*Enhance.ai*	Option			Option	Option	Option
	Convert.ai	Option			Option	Option	Option
	Segment.ai	Option			Option	Option	Option
	Denoise.ai	✓			✓	✓	✓
	Clarify.ai	Option			Option	✓	Option
	*Autosignal.ai**	✓			✓	✓	
Image	Annotation	✓	✓	✓	✓	✓	✓
	Image Filters, Morphology	✓			✓	✓	✓
	Image Arithmetic	✓	✓		✓	✓	✓

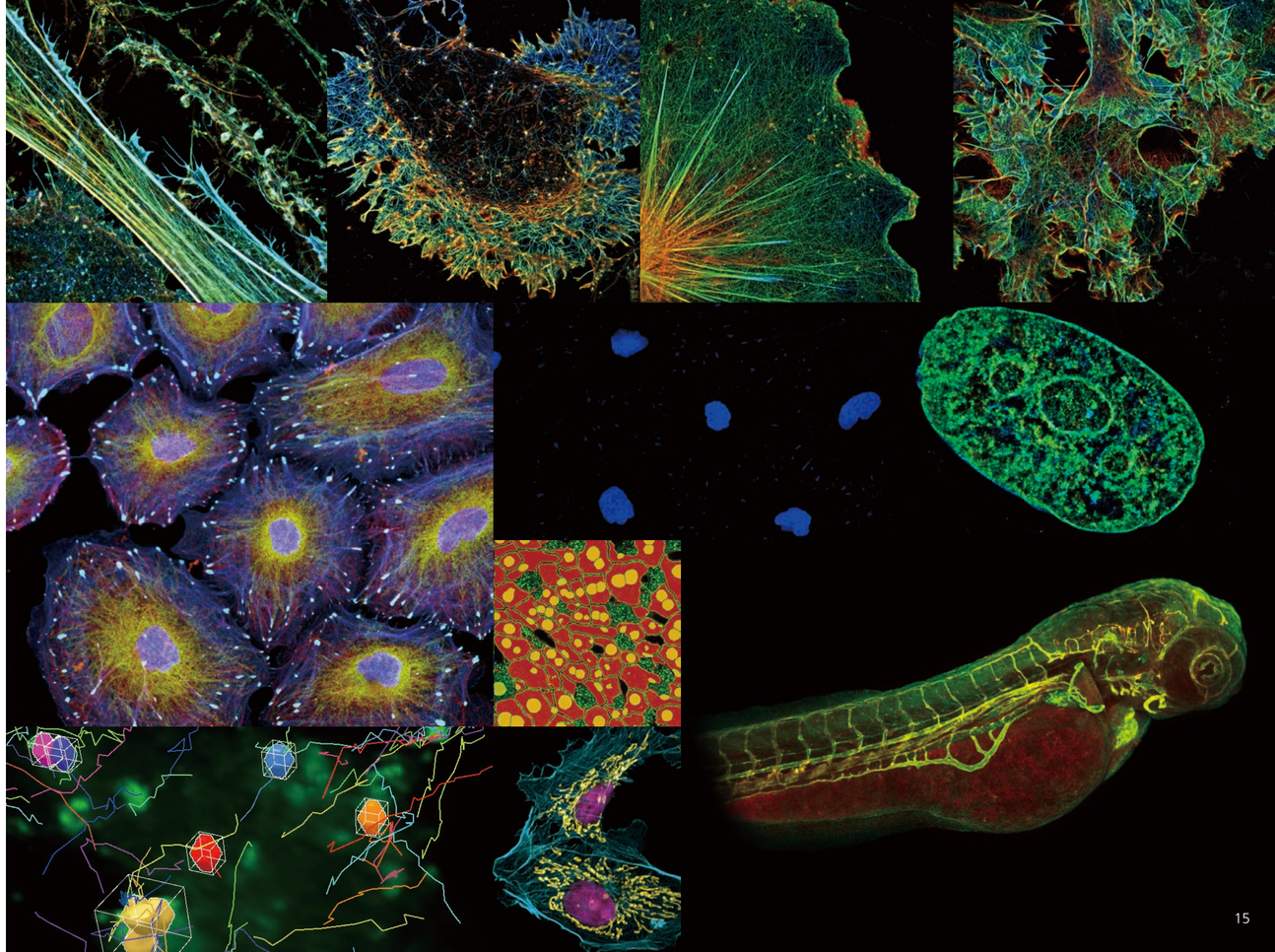
* Note: Only with the AX/AX R confocal microscope

DISPLAY & PROCESSING		AR	BR	D	C	ER	HC (option)
Image layers	Multi-dimensional image viewer	✓	✓	✓	✓	✓	✓
	Binary Layers	✓	✓	option	✓	✓	✓
2D/3D image creation	Snapshot	✓	✓	✓	✓	✓	✓
	Movie	✓	✓	✓	✓	✓	✓
	Interactive Movie / Volume Rendering	✓	✓		✓	✓	✓
Interactive image display / Image manipulation	Tiling View	✓	✓	✓	✓	✓	✓
	Max / Min Projections	✓	✓		✓	✓	✓
	Ratio Viewing and Graphing	✓			✓	✓	✓
	Plate View, Heat Maps, Sample Labeling	option			option	option	✓
	Volume View: 3D ND Crop	✓	✓		✓	✓	✓
	Manual Channel Alignment	✓	✓	✓	✓	✓	✓

CAPTURE, DISPLAY & MULTIFUNCTION		AR	BR	D	C	ER	HC (option)
Multi functional imaging	Live Compare	✓	option	option	✓	✓	✓
	HDR (High Dynamic Range)	✓	option	option	✓	✓	✓
	EDF / Real Time EDF	option	option	option	option	option	option
	2D Large Image Stitching (Free shape)	✓	✓	✓	✓	✓	✓
	3D Large Image Stitching (Free shape)	✓	✓		✓	✓	✓
	FRET/Custom Equation Editor	option			option	option	option
	Deconvolution (2D Real Time/2D/3D)	option			option	✓	option
Macro	Macro Creation	✓	✓	✓	✓	✓	✓
	Macro Debugger & Variable View	✓	option	option	✓	✓	✓
User management	Multi-User Environment	✓	✓	✓	✓	✓	✓

CAPTURE, DISPLAY & MULTIFUNCTION		AR	BR	D	C	ER	HC (option)
Database	High Content Database	option			option	option	✓
	Image Database (non HC)	option	option	option	option	option	
Report	Report Generator	✓	✓	✓	✓	✓	✓

MEASUREMENT		AR	BR	D	C	ER	HC (option)
General measurement	Segmentation	✓			✓	✓	✓
	Automated Measurement	✓	✓	option	✓	✓	✓
	ROI(Region of Interest) Tools & Statistics	✓	✓		✓	✓	✓
Multi-dimentional measurement	Time-Measurement	✓	option		✓	✓	✓
	Volume Measurement	✓			✓	✓	✓
	3D Volume Measurements	option			option	option	option
	Z profile & 3D EDF Measurements	option	option	option	option	option	option
	Kymograph	✓			✓	✓	✓
Tracking	2D/3D Object Tracking	option			option	option	option
Classifier	Pixel Classifier	✓	✓	option	✓	✓	✓
	Object Classifier-Advanced Segmentation	option			option	option	option
	Colocalization	✓			✓	✓	✓
High content	Cell Counting	option			option	option	✓
	General Analysis (Automated image analysis)	option			option	option	✓
Industrial	Grain Sizing, Cast Iron & Filter Analysis	option	option	option	option	option	



NIS-Elements is not for clinical diagnostic use.

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. May 2024

⚠ WARNING	TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.

N.B. Export of the products* in this catalog is controlled under the Japanese Foreign Exchange and Foreign Trade Law. Appropriate export procedure shall be required in case of export from Japan.
*Products: Hardware and its technical information (including software)
Monitor images are simulated.

Biological microscope website

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