

LIFE SCIENCE

cellSens™ Imaging Software

Intuitive Operation. Seamless Workflow.



More Time for Research

Whether you work in a lab or are conducting complex research experiments, cellSens™ software gives you the control to create a seamless workflow tailored to your needs. Find all the tools you need in one place to focus on research and get results quickly.

Image

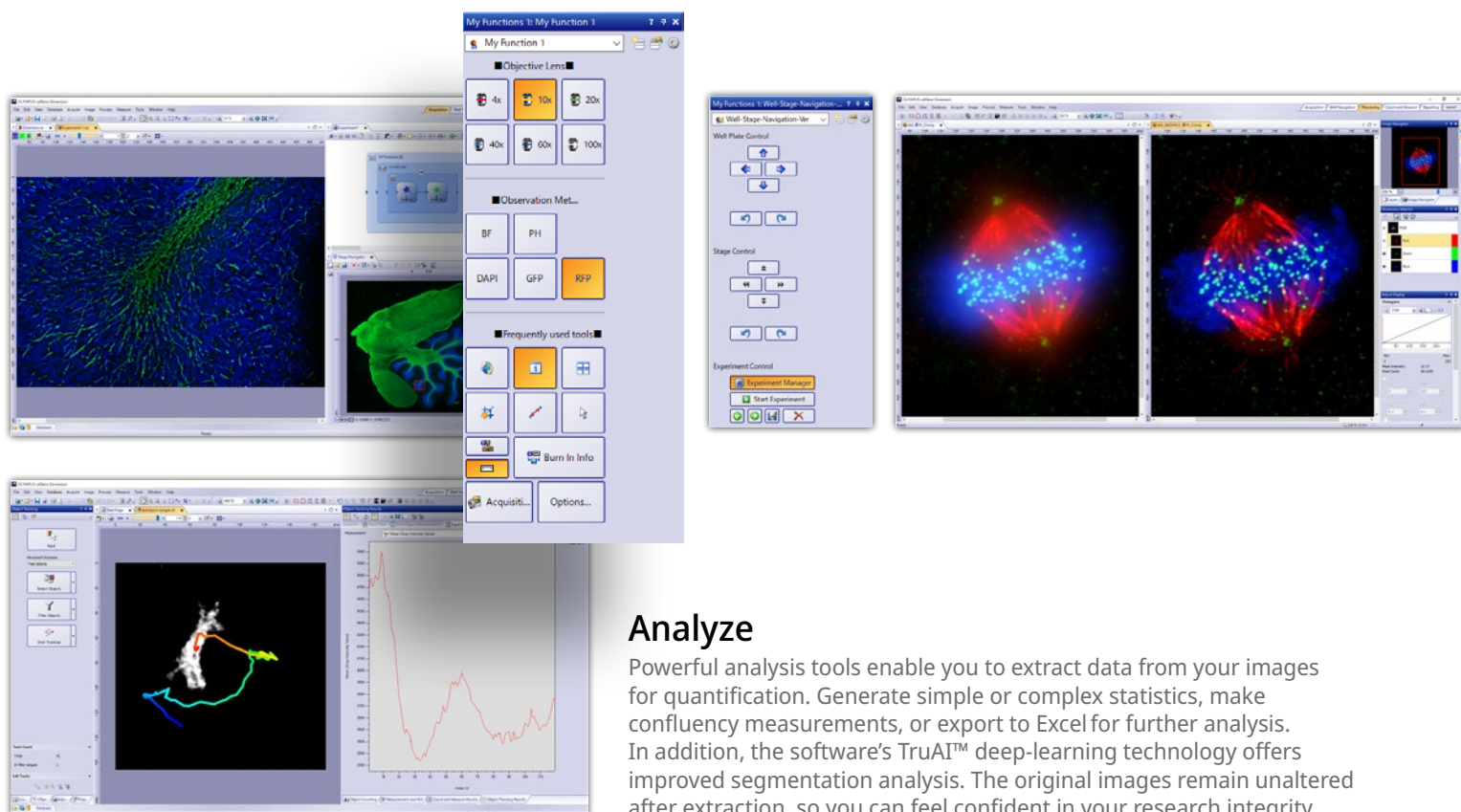
All camera controls are conveniently grouped in one toolbar for efficient imaging. Whether you're capturing a single image or imaging in six dimensions, you can easily accomplish your work using a single software package.

Personalize

Intuitive at all skill levels, the cellSens user interface can be fully customized to your current experiment and easily adapts as your application needs evolve. Choose from premade layouts or build your own.

Process

Prepare your images for analysis with powerful tools such as deconvolution, background subtraction, flatfield correction, image stitching, spectral unmixing, and various Z-stack displays (including maximum intensity projections).



Analyze

Powerful analysis tools enable you to extract data from your images for quantification. Generate simple or complex statistics, make confluency measurements, or export to Excel for further analysis. In addition, the software's TruAI™ deep-learning technology offers improved segmentation analysis. The original images remain unaltered after extraction, so you can feel confident in your research integrity.

Choose the Version That Suits Your Application

Entry

Designed for lab workers or researchers who primarily undertake single-shot acquisition, cellSens Entry offers simple layouts that make it easy to find all the tools you need. For collaboration, Conference Mode maximizes images that appear on the screen during wireless streaming, while annotation tools make it easy to highlight areas of interest and collaborate with colleagues around the world.

Standard

If your experiments involve fluorescence imaging, cellSens Standard is a cost-effective solution. With all the features of Entry, Standard adds powerful tools like the acquisition of 3D images that combine XY, Ch, T, and multiple points (stitching), as well as the ability to overlay multi-color images and perform simple object counts with just one click.

Dimension

Our most advanced microscope imaging solution, cellSens Dimension includes the basic features of Entry and Standard and adds functionality for researchers engaged in complex imaging experiments. It flexibly supports various applications, such as 6D image acquisition that freely combines XY, Z, Ch, T, and multiple points (stitching), as well as image processing, luminance analysis, and colocalization analysis. You can also execute image processing and analysis with one click.

Specifications

cellSens™ Solutions

		 Included	 Optional	Entry	Standard	Dimension
Manual Process	Easily create high-resolution composite images (Instant MIA) by simply moving the manual stage. You can also acquire a focused image (EFI) over the entire surface by manually shifting the Z direction.			☐	☐	☒
Encoded Device	Encoded devices (objectives, light intensity, etc.) make it easy to recall settings.			☐	☒	☒
Interactive Measurement	Draw a polyline, rectangle, or circle on top of your image to obtain exportable measurement data. Measurement results can be exported to Excel.			☐	☒	☒
Database Client	Access to the database created with the Database Core option.			☐	☐	☐
Database Core	Make data management and browsing more efficient by creating a database that can easily search and sort acquired images based on data, such as imaging conditions and acquisition date.				☐	☐
Confluency Checker	Determine the confluency of unstained live cells in culture dishes through quantitative measurements for reliable data.				☐	☒
Multiposition	Multipoint and stitched images can be acquired using the motorized stage. When combined with the motorized Z, a focus map can be created from multiple points of focus, and you can obtain stitched images with little focus deviation by removing sample tilt and distortion.				☐	☐
Count & Measure	Define the morphology of an object, and the software will identify all similar objects and present segmentation analysis results in a chart.				☐	☐
NetCam	Facilitates the transfer of live and stored images through a network for teaching, mentoring, or supervision.				☐	☐
Deep Learning	Efficient segmentation analysis powered by deep learning enables challenging target detection, such as label-free nucleus detection.				☐	☐
Well Plate Navigator ^{*1}	Easily set the capture settings for each well. The well position and name can be tagged to images, making data management easier and well plate screening more efficient.					☐
CI Deconvolution	Access to GPU based deconvolution as well as popular and custom TruSight deconvolution algorithms to improve the sharpness, contrast, and dynamic range of reconstructed images.					☐
Ratio/FRET	Obtain ratio measurements from your images as they're being acquired.					☐
Tracking ^{*2}	Measure and analyze the luminance and speed of individual cells that move and divide over time.					☐
Life Science Analysis	FRAP / FRET analysis can be performed on the acquired image.					☐
Photo Manipulation	Enables cell frap module control and FRAP analysis.					☐
Laser Control	Enables NI USB-6343 BNC to control external devices.					☐
Automated Correction Collar (ACC)	Operating automated correction collar.				☐	☐
Super Resolution for cellSens ^{*3}	Renewed super resolution (online and offline)					☐

*1 Requires Multiposition option *2 Requires Count & Measure option *3 Also for Desktop

cellSens™ Functions

		Dimension	Standard	Entry
Layout	User experience customization	•	•	•
	Overlay multiple images	•	•	-
	Document groups for side-by-side image comparison	•	•	•
View	Movie playback	•	•	•
	Tile view (multiple images in a single data set shown side-by-side)	•	•	•
	Slice view for orthogonal plane viewing of 3D or time-lapse data sets	•	-	-
	Voxel viewer for isosurface and volumetric rendering of 3D and 4D data sets	•	-	-
	Snap/movie acquisition	•	•	•
	Time-lapse at specified interval	•	•	-
	Automated multiwavelength	•	•	-
	Z-stack	•	-	-
	Multidimensional (XYTZ and wavelength)	•	-	-
	Graphical Experiment Manager	•	-	-
	Manual panoramic imaging (Instant MIA and Manual MIA)	•	Manual Process	Manual Process
	Intelligent shading correction	•	•	-
Image Acquisition	Multiposition visitation and stage navigator	Multiposition	Multiposition	-
	Automated panoramic imaging (Auto MIA, requires motorized stage)	Multiposition	Multiposition	-
	Instantly create EFI image (manual or motorized Z)	•	Manual Process	Manual Process
	Simultaneous multicolor Imaging (requires two identical cameras** or image splitter)	•	-	-
	Live deblurring	•	-	-
	High dynamic range imaging (HDRI)	•	-	-
	Multiwell plate acquisition	Well Plate Navigator and Multiposition	-	-
	Automated correction collar (ACC)	ACC	ACC	-
	Super-resolution filter with renewed algorithm	Super Resolution	-	-
	Geometry/combine/filter processing	•	•	-
	Fluorescence unmixing	•	-	-
	Brightfield unmixing	•	-	-
Image Processing	Deblurring (No/Nearest Neighbor, Wiener Filter)	Count & Measure	-	-
	Kymograph	•	-	-
	2D deconvolution	•	-	-
	3D deconvolution (constrained iterative deconvolution with GPU processing)	CI Deconvolution	-	-
Deep Learning (TruAI)	Training of neural networks	Deep Learning	Deep Learning	-
	Inference using trained neural networks (offline/online)	Deep Learning or Count & Measure	Deep Learning or Count & Measure	-

		Dimension	Standard	Entry
Image Analysis	Phase analysis	•	-	-
	Object analysis and classification	Count & Measure	Count & Measure	-
	Interactive 2D measurement	•	•	•*
	Intensity plot over time/z	•	-	-
	Colocalization	•	-	-
	Object counting (manual)	•	•	•
	Object tracking	Tracking and Count & Measure	-	-
	Online ratio and kinetics	Ratio/FRET	-	-
	Ratio analysis (offline)	•	-	-
	FRET analysis	Ratio/FRET or Life Science Analysis	-	-
	FRAP analysis	Photo Manipulation or Life Science Analysis	-	-
	Cell count and confluency measurements	•	Confluency Checker	-
Documentation and Collaboration	Automatically compose MS Word reports	•	-	-
	Database image and data management solution for microscopy	Database Core	Database Core	-
	Open database and load records/documents from database	Database Client	Database Client	Database Client
Remoting	Remote live image viewing	NetCam	NetCam	-

*Three-point angle, four-point angle, arbitrary line, closed polygon, polyline, and perpendicular line only. Interactive measurement option is needed to add other measurement tools and make exporting Excel spreadsheets possible.
 **Supported cameras: iXon Ultra 897, Zyla 5.5 (USB 3.0), Zyla 4.2 (USB 3.0/CamLink), Neo, iXon Ultra 888, ImagEM X2, ORCA-Flash 4.0 (V3), Prime 95B, Prime BSI, Prime BSI Express, Sona4.2B-11, Kinetix, Kinetix 22, ORCA-Fusion, ORCA-Fusion BT, ORCA-QUEST.

Products with Confirmed Functionality

			Dimension	Standard	Entry
Olympus/Evident	Camera	DP23, DP23M, DP28, DP74, DP75, DP80, XM10, UC90, LC20, LC30, LC35, SC50, SC180	•	•	•
	Microscope	BX43, BX53, BX63, BX61, BX61WI, IX83, IX85, IX73, IX81, SZX16A	•	•	-
	Peripherals	IX81-ZDC, IX81-ZDC2	•	-	-
	Light Source	BX-DSU, IX3-DSU, IX3-ZDC, IX3-ZDC2, IX2-DSU, IX2-ZDC, IX2-ZDC2, U-CBF, cellTIRF (multiline, single line), USB-ODB converter, Real Time Controller (U-RTCE)	•	-	-
Hamamatsu	Camera	ImagEMX2, ORCA-Flash 4.0 V3, ORCA-Flash 4.0 LT PLUS, ORCA-Flash 4.0 LT3, ORCA-Fusion, ORCA-Fusion BT, ORCA-QUEST	•	-	-
	Image Splitter	ORCA-Spark	•	•	-
Q-Imaging	Image Splitter	W-View Gemini	•	-	-
Teledyne/Photometrics	Camera	Retiga 6000	•	-	-
	Image Splitter	Prime (PCI-Express), Prime 95B, Prime BSI, Prime BSI Express, Moment, Kinetix, Kinetix22	•	-	-
Andor	Camera	Dual View DV2 / QuadView QV2	•	-	-
	Camera	iXon Ultra 897, iXon Ultra 888, iXon Life 888, iXon Life 897, Sona4.2B-11 Zyla4.2/Zyla4.2 PLUS (Camera-link,USB3.0), Zyla5.5 (Camera-link 10tap,USB3.0), ZL41 Cell 4.2 (Camera-link,USB3.0), Neo 5.5	•	-	-
Vincent Associates	Shutter	Uniblitz shutter (VCM-D1, VMM-D1, VMM-D3)	•	•	-
CoolLED	Light Source	pE-1, pE-2, pE-800, pE-4000	•	-	-
	Light Source	pE-300white, pE-300ultra, pE-340fura	•	•	-
Excelitas	Light Source	X-Cite120LED, X-Cite XYLLS, X-Cite TURBO	•	-	-
Lumencor	Light Source	SOLA SEII, SEII 365, Spectra X	•	-	-
Sutter	Shutter, FW	Lambda 10-3/10-B	•	-	-
Prior	Motorized XY Stage	ProScan III, Optiscan III	Multiposition	-	-
	Shutter, FW, Z-drive	ProScan (I, II, III), Optiscan III	•	-	-
	Piezo Z (Control via Real Time Controller)	NanoScanZ NZ100	•	-	-
Ludl	Motorized XY Stage	Mac 6000	Multiposition	-	-
	Shutter, FW, Z-drive	Mac 6000	•	-	-
Märzhäuser	Motorized XY Stage	Tango, Pilot Stage	Multiposition	-	-
	Z-drive Controller	Tango	•	-	-
Physik Instrumente	Piezo Z (Control via Real Time Controller)	PIFOC P-721	•	-	-
	Motorized XY Stage	MS-2000	Multiposition	-	-
Applied Scientific Instrumentation	Z-drive Controller	MS-2000	•	-	-
	Digital TTL Device	NI USB-6501	•	-	-
National Instruments	CSU	NI USB-6343 BNC	Laser Control	-	-
	Magnification Changer	CSU-X1, CSU-W1	•	-	-
Yokogawa	CSU	IX SPIN-SR	•	-	-
CrestOptics	CSU	X-Light V3	•	-	-

For details on Windows OS compatibility, please contact your Evident sales representative.

Compatible Image Formats

Read and write	JPEG, JPEG2000, TIFF, BMP, AVI, PNG, VSI, PSD (Adobe Photoshop), Big TIFF, OIR
Read only	GIF, OIF/OIB (FLUOVIEW format), Cell, STK (MetaMorph), MRC (Medical Research Council)

System Requirements

OS	Microsoft Windows 10 Pro (64-bit) (22H2), Microsoft Windows 11 Pro (64-bit) (23H2)
OS Language	English, Simplified Chinese, Japanese, German, and Italian (Entry and Standard)
CPU	Intel Core i5, Intel Core i7, Intel Xeon; Recommended for high-speed image acquisition: QuadCore
RAM	8 GB for general applications, 16 GB or more is recommended for high-speed image acquisition (for DP23/DP28/DP23M cameras, dual memory is recommended for high frame rate imaging), 32 GB or more is recommended for deep learning
HDD	Up to 7 GB for installation
	Recommended for high-speed image acquisition: solid state drive (SSD)
Web Browser	Recommended: Microsoft Edge

Software Version Update

A version update is available for the next version following the version written on the license card (excludes updating sub-minor versions). An update that spans two or more major or minor versions requires an update license, which provides access to the latest version of cellSens software after the above period.



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EVIDENT CORPORATION is ISO14001 certified.

For details on certification registration, visit <https://www.olympus-lifescience.com/en/support/iso/>

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