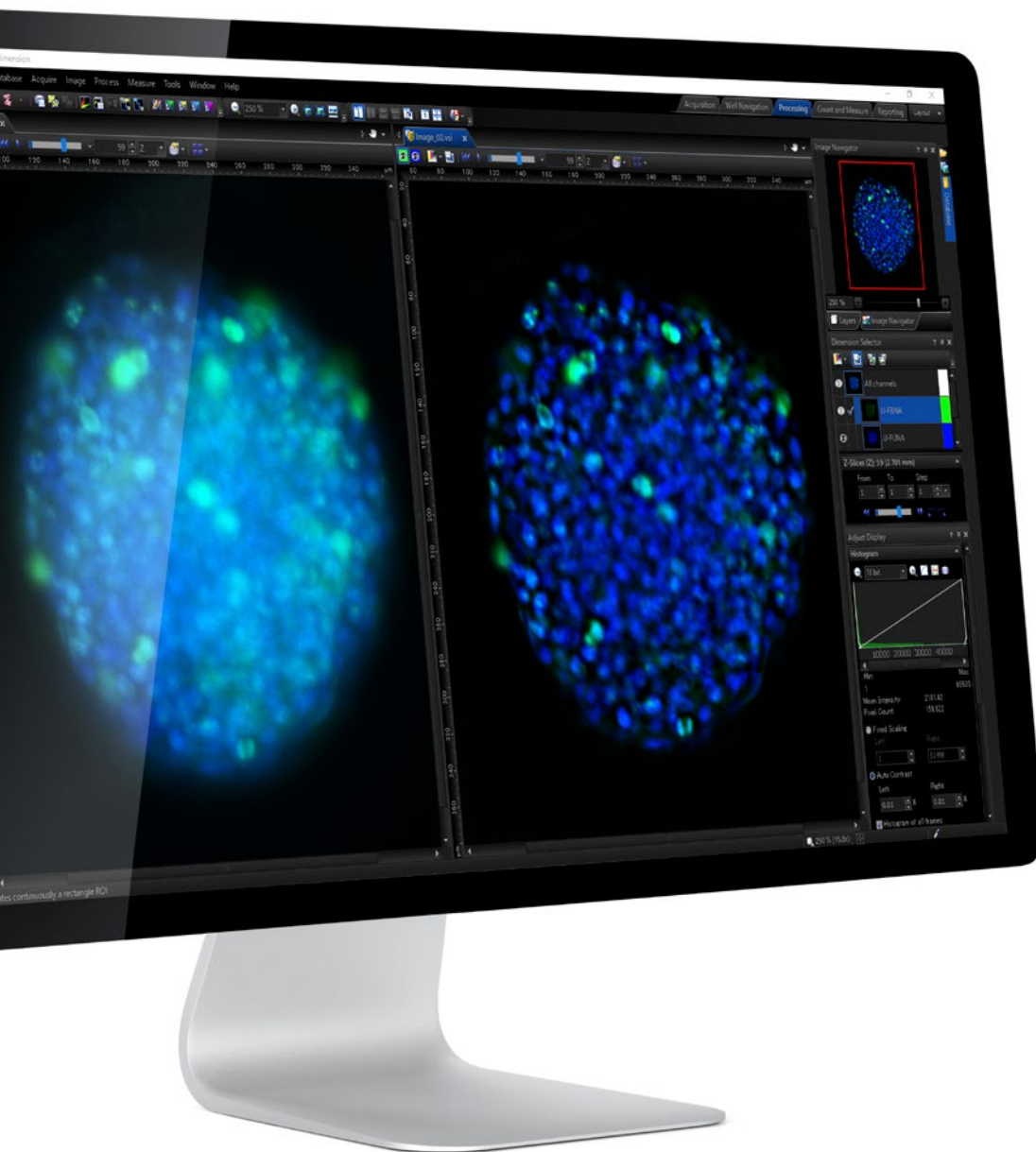
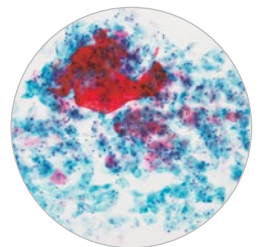
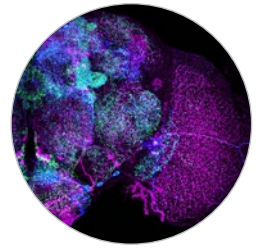


Intuitive Operation.  
Seamless Workflow.



For research and  
clinical research  
applications



Not for clinical diagnostic use.

# 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

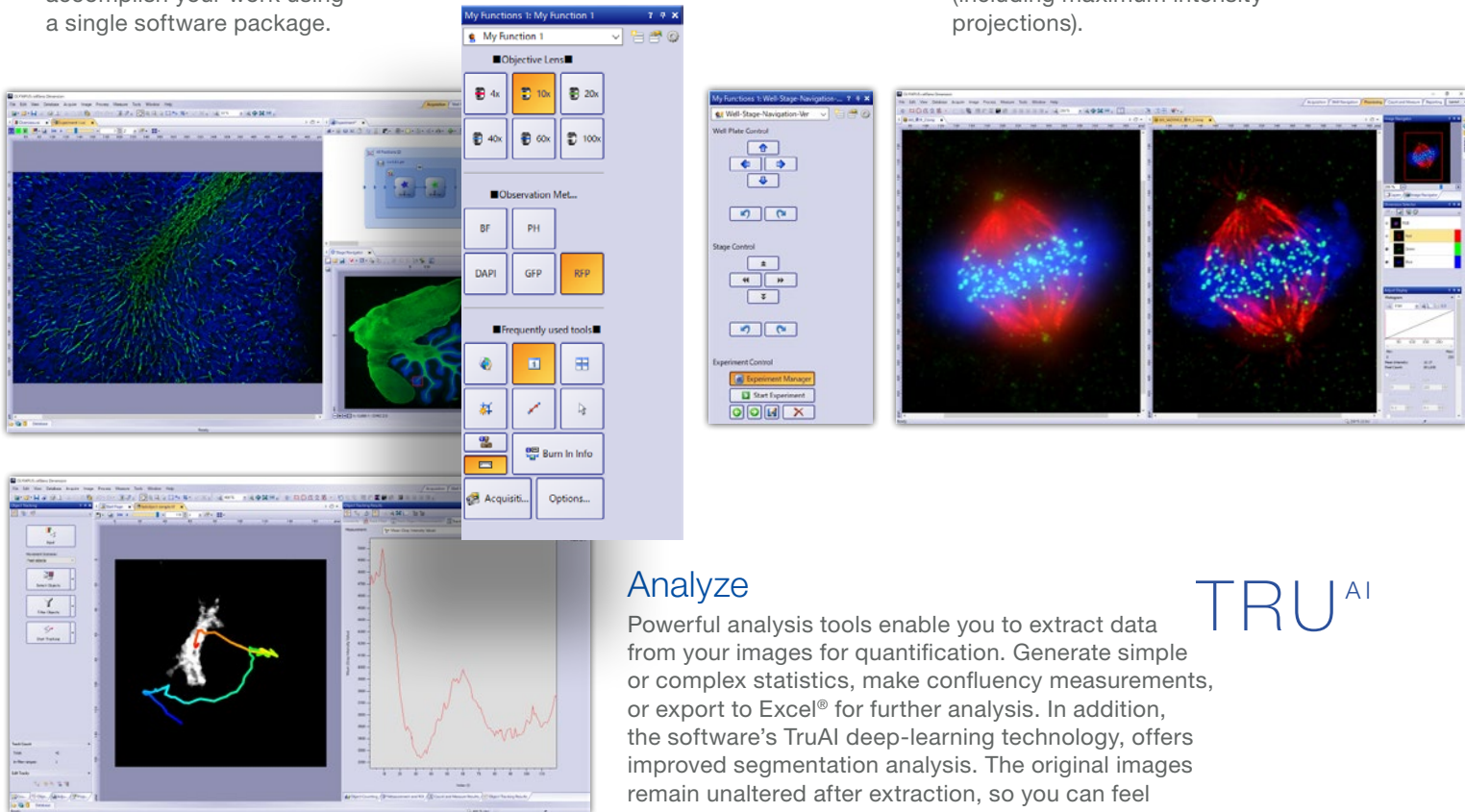
All camera controls are conveniently grouped in one toolbar for efficient imaging. Whether you're capturing a single image or imaging in six dimensions, you can easily accomplish your work using a single software package.

## 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.

TRU<sup>AI</sup>

# 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

<b>Manual Process</b>	Easily create a 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Encoded Device</b>	Encoded devices (objectives, light intensity, etc.) make it easy to recall settings.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Interactive Measurement</b>	Draw a polyline, rectangle, or circle on top of your image to obtain exportable measurement data. Measurement results can be exported to Excel.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Database Client</b>	Access to the database created with the Database Core option.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Confluency Checker</b>	Determine the confluency of unstained live cells in culture dishes through quantitative measurements for reliable data.	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Multiposition</b>	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.	-	-	<input type="checkbox"/>
<b>Count &amp; Measure</b>	Define the morphology of an object, and the software will identify all similar objects and present segmentation analysis results in a chart.	-	<input type="checkbox"/>	<input type="checkbox"/>
<b>Database Core</b>	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.	-	<input type="checkbox"/>	<input type="checkbox"/>
<b>NetCam</b>	Facilitates the transfer of live and stored images through a network for teaching, mentoring, or supervision.	-	<input type="checkbox"/>	<input type="checkbox"/>
<b>Deep Learning</b>	Efficient segmentation analysis powered by deep learning enables challenging target detection, such as label-free nucleus detection.	-	<input type="checkbox"/>	<input type="checkbox"/>
<b>Well Plate Navigator*1</b>	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.	-	-	<input type="checkbox"/>
<b>CI Deconvolution</b>	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.	-	-	<input type="checkbox"/>
<b>Ratio/FRET</b>	Obtain ratio measurements from your images as they're being acquired.	-	-	<input type="checkbox"/>
<b>Tracking*2</b>	Measure and analyze the luminance and speed of individual cells that move and divide over time.	-	-	<input type="checkbox"/>
<b>Life Science Analysis</b>	FRAP / FRET analysis can be performed on the acquired image.	-	-	<input type="checkbox"/>
<b>Photo Manipulation</b>	Enables cell frap module control and FRAP analysis.	-	-	<input type="checkbox"/>

\*1 Requires Multiposition option \*2 Requires Count & Measure option

## cellSens Functions

		Dimension	Standard	Entry
Layout	User experience customization	•	•	•
	Overlay multiple images	•	•	-
View	Document groups for side-by-side image comparison	•	•	•
	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 (XYZT and wavelength)	•	-	-
Image Acquisition	Graphical Experiment Manager	•	-	-
	Manual panoramic imaging (Instant MIA and Manual MIA)	•	Manual Process	Manual Process
	Multiposition visitation and stage navigator	Multiposition	-	-
	Automated panoramic imaging (Auto MIA, requires motorized stage)	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 (HDR)	•	-	-
	Multiwell plate acquisition	Well Plate Navigator and Multiposition	-	-
	Image Processing	Geometry/combine/filter processing	•	•
Fluorescence unmixing		•	-	-
Brightfield unmixing		Count & Measure	-	-
Deblurring (No/Nearest Neighbor, Wiener Filter)		•	-	-
Kymograph		•	-	-
2D deconvolution		•	-	-
3D deconvolution (constrained iterative deconvolution with GPU processing)		CI Deconvolution	-	-
Training of Neural Networks		Deep Learning	Deep Learning	-
Deep Learning	Inference using trained Neural Networks (offline/online)	Deep Learning or Count & Measure	Deep Learning or Count & Measure	-

		Dimension	Standard	Entry
	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	-
	Automatically compose MS Word reports	•	-	-
Documentation and Collaboration	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 points angle, four points 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 (V2/V3), Prime 95B, Prime BSI, Prime BSI Express, Sona4.2B-11, ORCA-Fusion, ORCA-Fusion BT

Products with Confirmed Functionality

			Dimension	Standard	Entry
Olympus	Camera	DP22, DP23, DP23M, DP27, DP28, DP73, DP74, DP80, XM10, XC10, XC30, XC50, UC30, UC50, UC90, LC20, LC30, SC50, SC100, SC180	•	•	•
	Microscope	BX43, BX53, BX63, BX61, BX61WI, IX83, 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), MT20, USB-ODB converter, Real Time Controller (U-RTCE), U-FCB, U-STC	•	-	-
Hamamatsu	Camera	U-LGPS	•	•	-
	Image Splitter	ORCA R2, ORCA-Flash 2.8, ImagEMX2, ORCA-Flash 4.0 V2, ORCA-Flash 4.0 V3, ORCA-Flash 4.0 LT, ORCA-Flash 4.0 LT PLUS, ORCA-Fusion, ORCA-Fusion BT	•	-	-
Q-Imaging	Camera	ORCA-Spark	•	•	-
Photometrics	Camera	W-View Gemini	•	-	-
	Image Splitter	Retiga 6000	•	-	-
Andor	Camera	CoolSNAP HQ2, Prime (PCI-Express), Prime 95B, Prime BSI, Prime BSI Express, Moment	•	-	-
	Shutter	Dual View DV2 / QuadView QV2	•	-	-
Vincent Associates	Shutter	iXon X3 897, 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), Neo 5.5	•	-	-
CoolLED	Light Source	Uniblitz shutter (VCM-D1, VMM-D1, VMM-D3)	•	•	-
Excelitas	Light Source	pE-1, pE-2, pE-800, pE-4000, pE-340fura	•	-	-
	Light Source	pE-300white, pE-300ultra,	•	•	-
Lumencor	Light Source	X-Cite 120 PC, X-Cite exacte, X-Cite 110LED, X-Cite 120LED, X-Cite XYLIS, X-Cite TURBO	•	-	-
Sutter	Light Source	SOLA SEII, SEII 365, Spectra X	•	-	-
	Shutter, FW	Lambda DG4	•	-	-
Prior	Motorized XY Stage	Lambda 10-3/10-B	•	-	-
	Shutter, FW, Z-drive	ProScan III, Optiscan III	Multiposition	-	-
	Piezo Z (Control via Real Time Controller)	ProScan (I, II, III), Optiscan III	•	-	-
Ludl	Motorized XY Stage	NanoScanZ NZ100	•	-	-
	Shutter, FW, Z-drive	Mac 6000	Multiposition	-	-
Objective Imaging	Motorized XY Stage Controller	Mac 6000	•	-	-
	Z-drive Controller	Oasis 4i	•	-	-
Märzhäuser	Motorized XY Stage	Tango, Pilot Stage	Multiposition	-	-
	Z-drive Controller	Tango	•	-	-
Physik Instrumente	Piezo Z (Control via Real Time Controller)	PIFOC P-721	•	-	-
Applied Scientific Instrumentation	Motorized XY Stage	MS-2000	Multiposition	-	-
	Z-drive Controller	MS-2000	•	-	-
National Instruments	Digital TTL Device	NI USB-6501	•	-	-
Yokogawa	CSU	CSU-X1, CSU-W1	•	-	-

Compatible image formats

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

System requirements

OS*	Microsoft Windows 10 Pro (64-bit)
OS Language	English, Simplified Chinese, Japanese, German, Russian (Entry and Standard) and Italian (Entry and Standard)
CPU	Intel Core i5, Intel Core i7, Intel Xeon Recommended for high-speed image acquisition: QuadCore
RAM	8GB for general applications, 16GB or more is recommended for high-speed image acquisition, 32GB or more is recommended for Deep learning (For DP23/DP28/DP23M, dual memory is recommended for high frame rate imaging)
HDD	1 GB for installation
Web Browser	Recommended for high speed image acquisition: Solid State Drive (SSD)
	Recommended: Microsoft Edge

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