■ Device control

			Dimension	Standard	Entry
Olympus	Camera	DP20, DP21, DP25, DP70, DP71, DP72	✓	✓	✓
	Microscope	BX43, BX53, BX63, BX61, BX61WI, IX81, SZX16A	✓	✓	
		IX81-ZDC, IX81-ZDC2	Multichannel 5D		
	Peripherals	BX-DSU, IX2-DSU, BX-FCB, IX-FCB	Multichannel 5D		
Hamamatsu	Camera	Orca R² (C10600-10B), Orca 03 (C8484-03G), Orca 05 (C8484-05G), Orca ER (C4742-95-12ER), Orca Flash 2.8	✓		
Q-Imaging	Camera	MicroPublisher 3.3 RTV, MicroPublisher 5 RTV	✓	✓	
		Monochrome: Exi Blue/Aqua, RETIGA (Exi, SRV, 2000R, 2000RV, 4000R, 4000RV) plus RGB slider	✓		
		Color: Exi Aqua			
Photometrics	Camera	CoolSNAP HQ2	✓		
Jenoptik	Camera	ProgRes C3, ProgRes C5	✓	✓	
Vincent Associates	Shutter	Uniblitz shutter (VCM-D1, VMM-D1, VMM-D3)	✓	✓	
CoolLED	Light Source	precisExcite (pE-1, pE-2)	✓		
EXFO	Light Source	X-Cite *exacte*	✓		
Sutter	Light Source	Lambda DG4	✓		
Prior	Motorized XY stage	Proscan (I, II, III)	Multiposition		
	Shutter, FW, Z-drive	Proscan (I, II, III)	✓		
Ludl	Motorized XY stage	Mac 6000	Multiposition		
	Shutter, FW, Z-drive	Mac 6000	✓		
Objective Imaging	Motorized XY stage controller	Oasis 4i	Multiposition		
	Z-drive controller	Oasis 4i	✓		
Märzhäuser	Motorized XY stage	Tango	Multiposition		

■ Compatible image formats

Read and write	VSI (Virtual slide image), JPEG, JPEG2000, TIFF, BMP, AVI, PNG
Read only	GIFF, PSD (Adobe Photoshop), TIFF (DP-BSW, FSX100, MetaMorph), OIF/OIB (Fluoview format), Cell, STK (MetaMorph), MRC (Medical Research Council)

■ System requirements

OS	Microsoft Windows 7 (32-bit/64-bit) Ultimate Microsoft Windows 7 (32-bit/64-bit) Professional Microsoft Windows Vista (32-bit) Ultimate with SP2 Microsoft Windows Vista (32-bit) Business with SP2 Microsoft Windows XP Professional (32-bit) with SP3
OS Language	English, Simplified Chinese, Japanese and all others with English like alphabet
CPU	Intel Pentium 4, Intel Xeon, or Intel Core Duo (or equivalent)
RAM	3 GB or more recommended (minimum 2 GB required)
Display	1280x1024 or larger recommended (1024 x768 or larger), 32-bit video card
Port	USB port for protection key
	Serial (RS232) for hardware control (BX61, IX81, SZX2-MDCU etc...)
HDD	1 GB or more of free space (at the time of installation)
Drive	DVD-ROM drive
Web Browser	MS IE 6.0 or later

OLYMPUS®
Imaging Software
cellSens

Your Vision, Our Future

Seamless Workflow. Intuitive Operation.

Adding Simplicity to Experimental Design...
For a More Streamlined Workflow...
that Leaves More Time for Research

cellSens gives you a simpler way to work.
Full control over the user interface assures that
functions are where you want them, when you want them.
This seamless operation from image capture to report creation means
more results with less effort.
Spend less time with your software. Enable more time for research.

Choosing cellSens Makes Good Sense!

Enjoy the Efficiency of a Seamless Workflow with Intuitive Operation and Upgradability

A Single Software Solution for Smooth Experimental Workflow from Start to Finish

cellSens is available in three different versions to suit individual requirements.

Dimension—comprehensive report-making capabilities streamline operations from beginning to end. Also available in a desktop version for offline analysis.

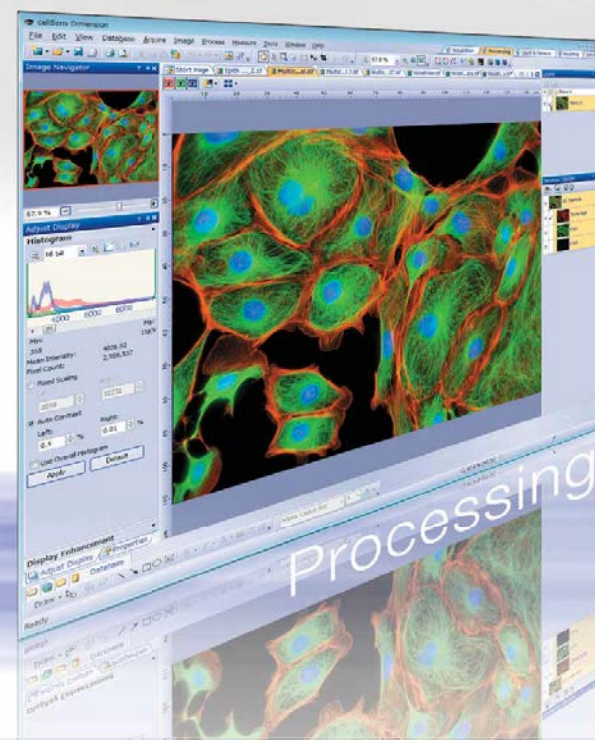*Standard*—meets the needs for basic image acquisition and analysis while simplifying operations.

Entry—introductory package for snapping and viewing an image.

Whole Series of Tasks is Completed within a Single Piece of Software
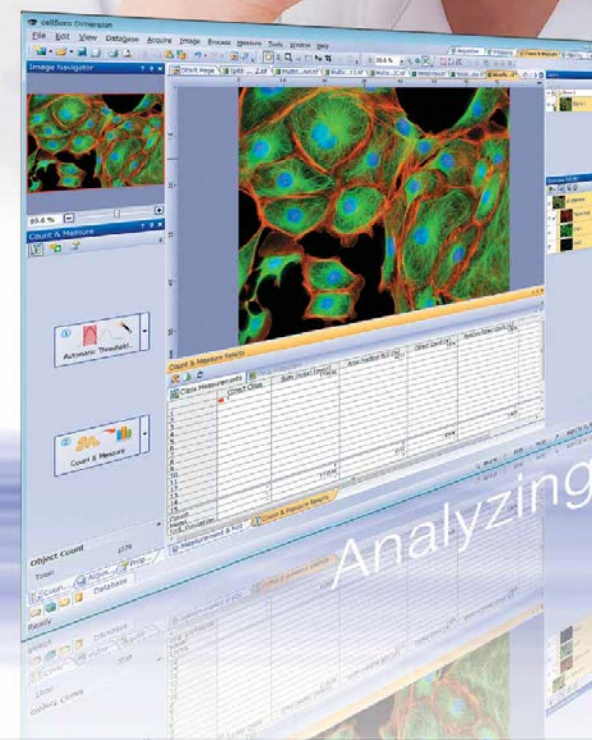

Image Capture

Capture multi-color, time lapse, and z-stack images with ease. Just select the appropriate capture button, add relevant parameters, and click "Start". The Process Manager makes it simple to perform multi-dimensional capture, even for beginners.
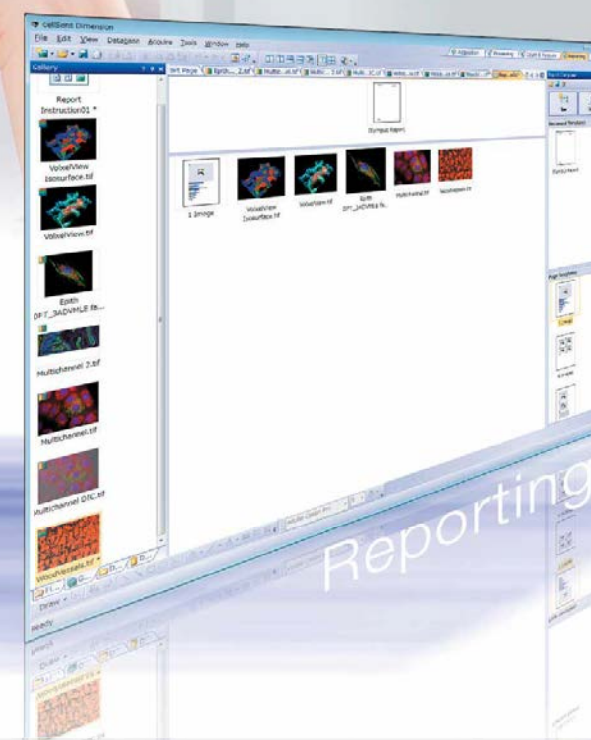
Viewing and Processing

Automatically view your data in the colors and layout you choose. Take advantage of an array of professional image processing functions, such as stitching, extended focus, deconvolution, and unmixing.

Measurement and Analysis

Make measurements using an intuitive interface. cellSens offers region of interest, phase analysis, and cell count capability. Export raw measurement data to an MS Excel or cellSens workbook format with a single click.

Collaboration and Communication

Actively collaborate with colleagues and coworkers with special tools including Database, and Reporting functions. The Database and Reporting functions make it simple to manage, share, and distribute your own image and data reports.
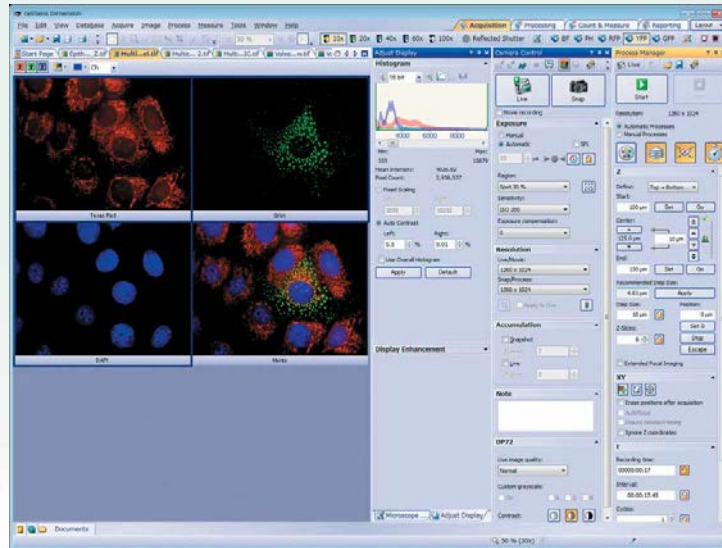
Avoid Clutter and Confusion by Displaying Only the Tools and Windows You Need

More Intuitive Window Control

Arrange Windows as You Like
Organize the tools and windows for the job at hand to create a functional layout that works best for you.
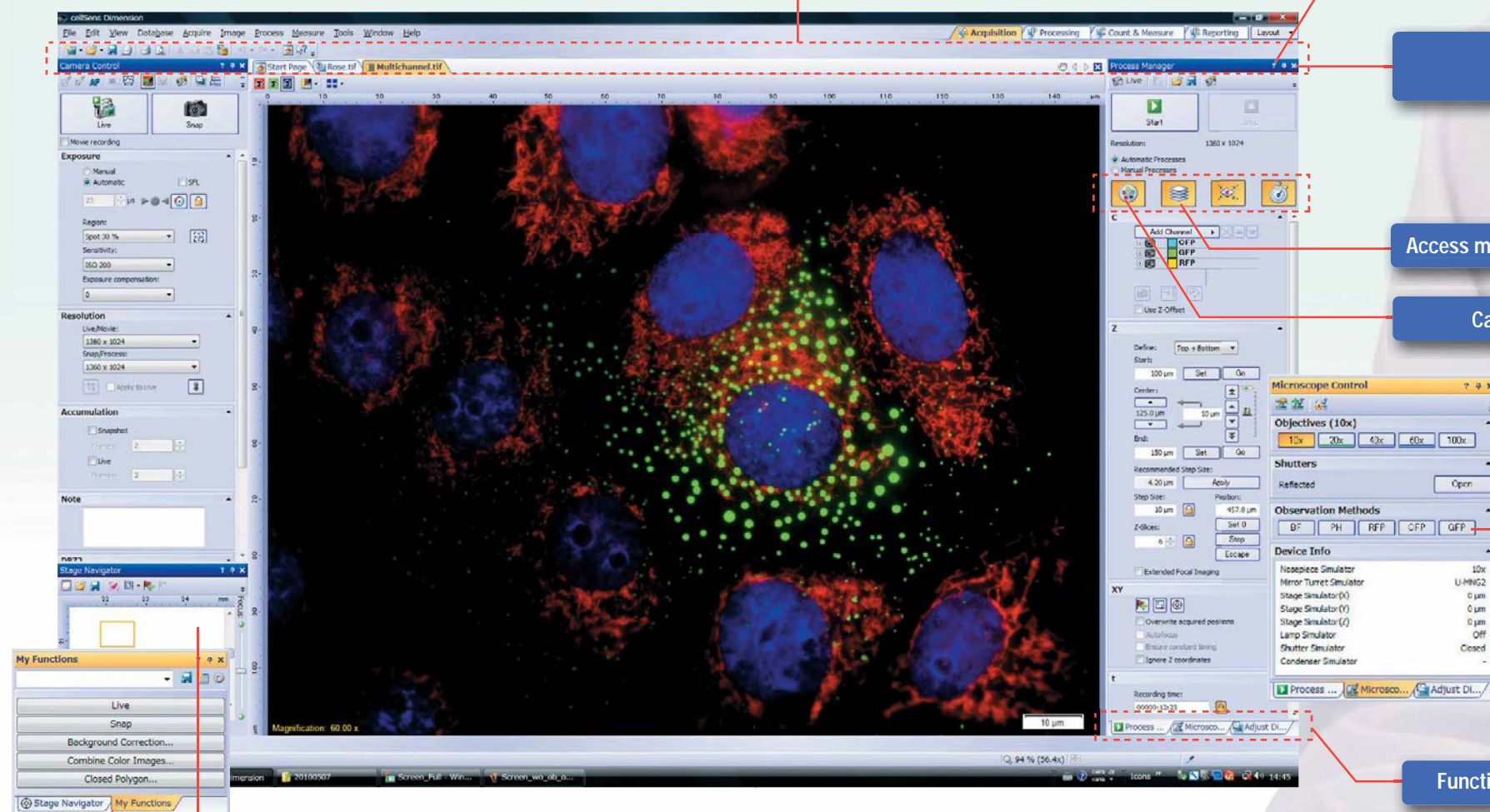

Common Functions can be Grouped in a Single Tab
All necessary functions are placed where you want, when you want them. Layout tabs allow easy selection of functions according to your workflow. For instance, display camera control features in your Acquisition layout, and then remove them from view when you switch to the Processing layout.

Create Flexible Workflow Toolbars for Repetitive Operations
cellSens Dimension lets you create custom toolbars for your most frequently used functions and then save them to the My Functions window. Custom buttons are also easy to use, with handy tab access that further enhances workflow efficiency.

Display only those functions you need on the toolbar

Need help? Online help is just a click away

Display or hide windows as you require, or use auto-hide for clean operation

Access multidimensional acquisition settings in a single panel

Capture multi-color images with a single click

Switch between observation methods at the touch of a button

Functional panels are grouped in tabs for easier access

Place windows where you want them and switch between them with tab action

Create flexible workflow toolbars for frequently used functions and save them as favorites
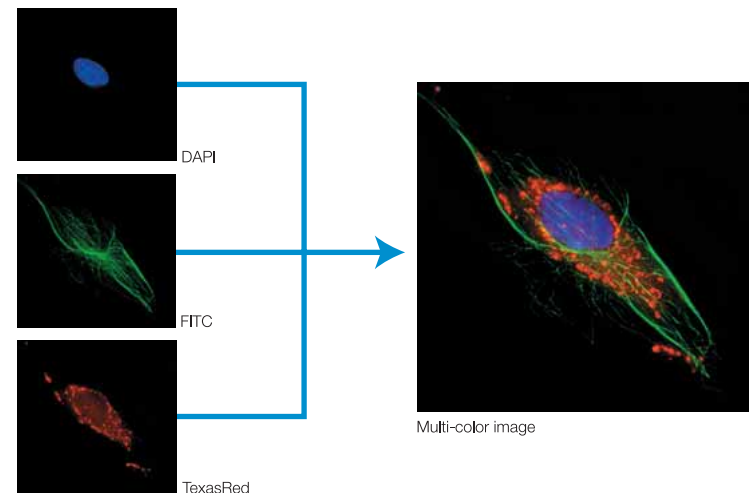
An Array of Easy-to-Use Functions
to Turn Research Findings into Compelling Presentations

Image Capture

Dimension + 5D Acquisition
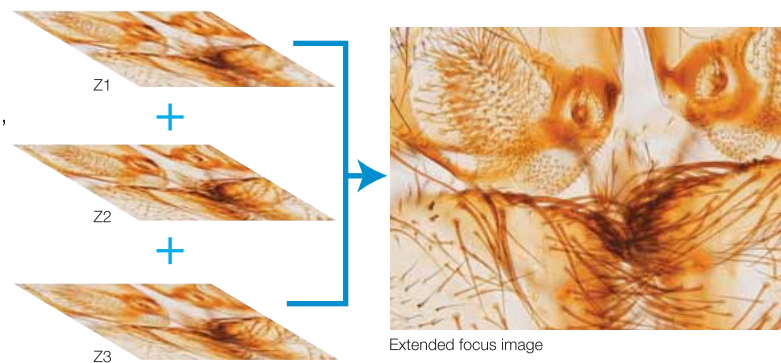
Capture Multidimensional Images with Ease

In combination with a motorized microscope and the 5D Mutidimensional Imaging Module, the Process Manager makes it easy to capture multi-color and multidimensional images. With the optional Multiposition Module, you can automatically capture multi-point and large area images.

DAPI

FITC

TexasRed

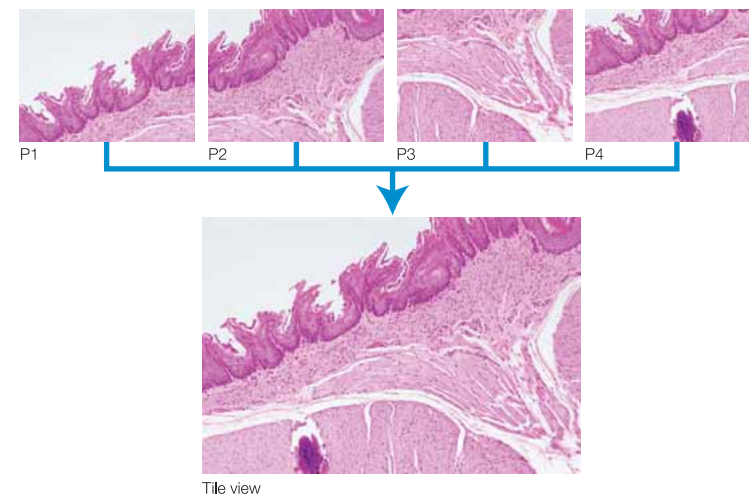Multi-color image

Dimension

Extended Focus Imaging

By recording image data while gradually changing focus, EFI creates a single plane image with sharp, in-focus detail. Such EFI composites can also be created by combining collections of previously captured images.

Z1
+
Z2
+
Z3

Extended focus image

Dimension Standard

Image Stitching

Dimension enables easier sample observation over a large area. The Manual MIA function composes a single montage image as you traverse the specimen. Multiple saved images with adjoining components can also be combined into a single image.
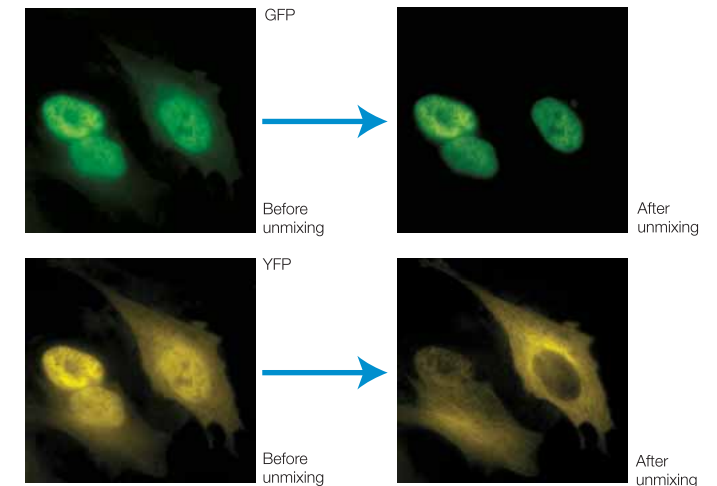
P1 P2 P3 P4

Tile view

Viewing and Processing

Dimension + 5D Acquisition + Count & Measure Complete
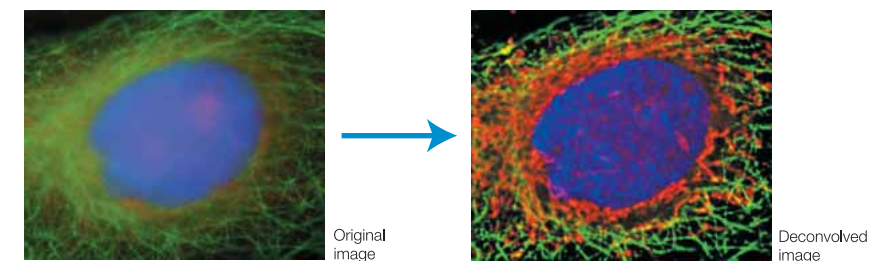
Unmixing

With the linear unmixing algorithm in cellSens Dimension plus the 5D Multidimensional Acquisition Module, you can readily separate fluorochromes which overlap in their emission spectra — such as GFP and YFP— to produce crosstalk-free fluorescent images. This linear unmixing tool can also separate autofluorescence-related background. Brightfield image unmixing is available as part of the Count and Measure Complete Module.

GFP

Before unmixing   After unmixing

YFP

Before unmixing   After unmixing

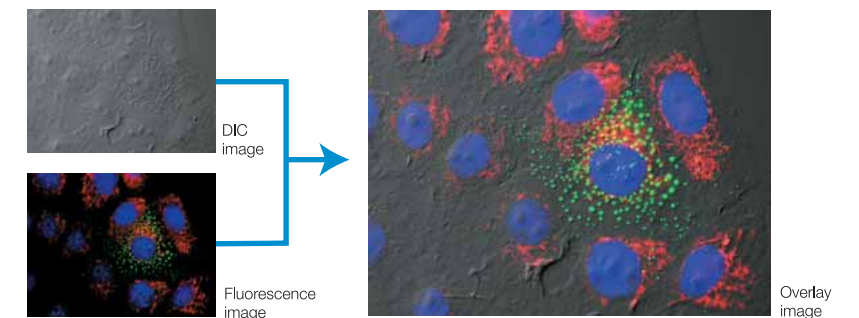### Dimension + CI Deconvolution

Deconvolution

A Live 2D deconvolution algorithm is available for use during image preview and acquisition to enable better focusing. Additional deblurring techniques are available in cellSens to remove out-of-focus data. The optional CI Deconvolution Module employs the latest in Constrained Iterative Deconvolution technology to produce improved resolution, contrast and dynamic range with industry-leading speed.

Original image   Deconvolved image

Dimension Standard

Image Overlay

This convenient function synthesizes a single image from multiple images captured using different observation methods or taken at different excitation wavelengths. Overlay DIC and fluorescence images to further assist the exploration of sample morphology and localization of your structures of interest.

DIC image

Fluorescence image

Overlay image

Dimension Standard

Filtering

Dimension makes image filtering easy; providing effects such as edge enhancement, smoothing, and sharpening. Functions for easy image optimization, such as shading correction and contrast control, are included in the Standard version. And because original images can be simultaneously viewed alongside effect previews, processing results can be checked while you work.

Measurement and Analysis
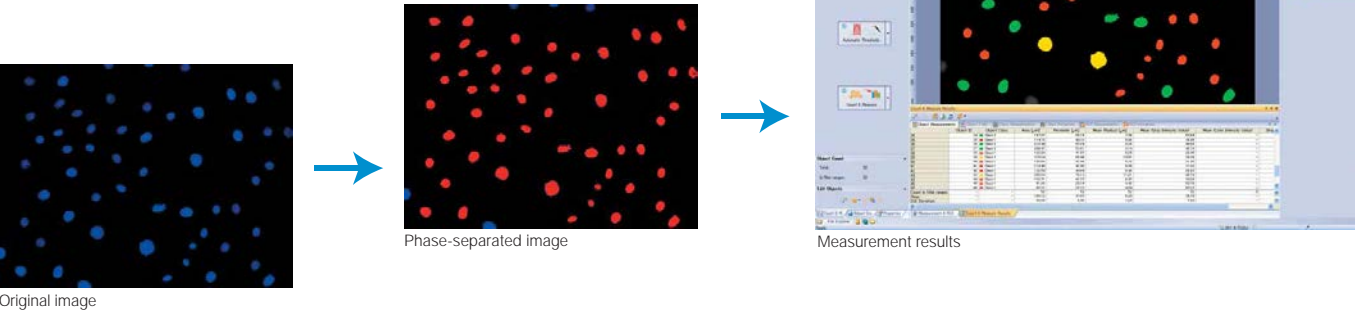
Manual Measurement

Various kinds of measurements are now easier, such as point position, distance, angle, polygon area, and boundary area. Measurement data is saved as an image layer that can be exported to MS Excel and cellSens workbook formats, or viewed using the free cellSens Viewer software.

Dimension   + Count & Measure Complete

Areas, Counts and Classification

Count cells, measure areas, and calculate intensity profiles in the base Dimension package. Perform advanced object analysis and multiparameter classification with the Count & Measure Complete option.
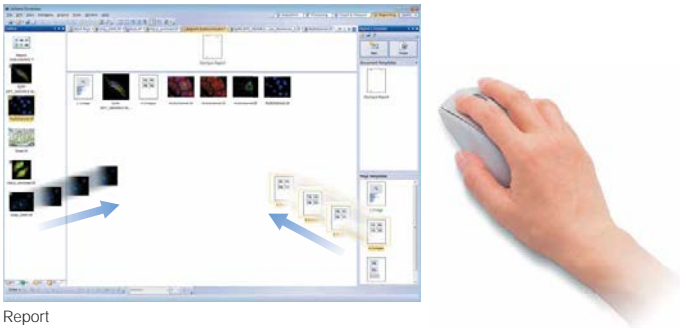

Original image

Phase-separated image

Measurement results

Collaboration and Communication

Dimension

Reporting

A convenient Reporting tool combines images with image property data, measurement data and your own customized fields into a report template with easy drag-and-drop operation. These Microsoft Word* reports will let you quickly and easily collaborate with colleagues and communicate your results.

*Requires Microsoft Word version 2003 or later

Report

Dimension   + Database

Database

SQL Server Express based Database functionality makes storage, management and retrieval of images, data, overlays and reports simple and easy, across a local network or across the world.

cellSens functions

		Dimension	Standard	Entry
Layout	User experience customization	✓	✓	✓
View	Overlay multiple images	✓	✓	
	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	CI Deconvolution		
Image Acquisition	Snap/movie acquisition	✓	✓	✓
	Time-lapse at specified interval	✓	✓	
	Automated multi-wavelength	Multichannel 5D		
	Z-Stack	✓		
	Multi-dimensional (*xyzt* and wavelength)	Multichannel 5D		
	Multiple image alignment (panorama) based on live image (manual)	✓		
	Multiposition visitation and stage navigator	Multiposition		
	Automated multiple image alignment (requires motorized stage)	Multiposition		
	Instantly create EFI image (manual or motorized Z)	✓		
	Live deblurring	✓		
Image Processing	Geometry/combine/filter processing	✓	✓	
	Fluorescence unmixing	Multichannel 5D		
	Brightfield unmixing	Count & Measure		
	Deblurring (No/Nearest Neighbor, Wiener Filter)	✓		
	3D deconvolution (constrained iterative deconvolution)	CI Deconvolution		
Image Analysis	Region and line measurements	✓	✓	
	Phase analysis	✓		
	Object analysis and classification	Count & Measure		
	Line profile	✓	✓	✓*
	Intensity plot over time/z	✓		
	Colocalization	Multichannel 5D		
Documentation and Collaboration	Automatically compose Word reports	✓		
	Database image and data management solution for microscopy	Database		

* Three points angle, four points angle, arbitrary line, closed polygon and perpendicular line only.

System Examples

Dimension *Enables easy capture of multi-color images.*

Standard *Standard system with customizable GUI.*

Entry *Perfect for quick and easy snapshots.*