

INSOPER I.S

The screenshot displays the INSOPER I.S software interface, which is designed for microscope control and image acquisition. The interface is organized into several functional areas:

- Top Bar:** Includes the INSOPER logo, navigation links for Project, Settings, and Support, and a User Mode toggle.
- Configuration Panel (Left):** Contains Camera Settings (Exposure: 20 ms, Binning: 1x1), an Advanced section with Snap and Live buttons, and a live image of cells with a 50.00 µm scale bar. Below the image are icons for various image processing functions.
- Calibration Panel (Middle-Left):** Features a Tiling tab, Magnification (Objective: 40x), and Axis settings (Focus: 21231.62, Step: 0.001 µm).
- Channel and Light Path Panel (Middle-Right):** Shows Channel settings (Zaber GFP) and Light Path (Cube, GFP). It includes detailed IL light settings for two channels (385 and 568 nm), with options for IL Shutter, IL Lamp, and Intensity.
- Right Panel:** Displays Project Name (Project 2023-03-17) and an Open in Explorer button. It also shows X and Y axis coordinates and a Step (µm) value.
- Bottom Bar:** Includes FPS (35.50), Edit Chart, Crop Image, and a prominent Go To Acquisition button.

More
than
Microscopy
Software

NEW SOFTWARE APPROACH FOR MICROSCOPY IMAGING

Inscoper I.S. is a complete, universal solution for image acquisition in fluorescence microscopy. Incorporating a specialized device controller, Inscoper I.S. provides a new user experience with improved technical performance, system integration and ease-of-use.

HIGHER TEMPORAL RESOLUTION

INSCOPER exclusive control technology eliminates all software latency when operating the microscope and its peripherals outside the computer environment. All command signals are synchronized ensuring full stability of acquisition over time, repeatability between sessions and tripling the acquisition framerate. When examining live specimens, temporal resolution and repeatability are unquestionably just as important as spatial resolution.

UNIQUE WINDOW, UNLIMITED APPLICATIONS

The I.S. software interface is designed with only one window and 3 tabs for an intuitive user journey. It stays user friendly whatever the complexity of the image acquisition sequence.

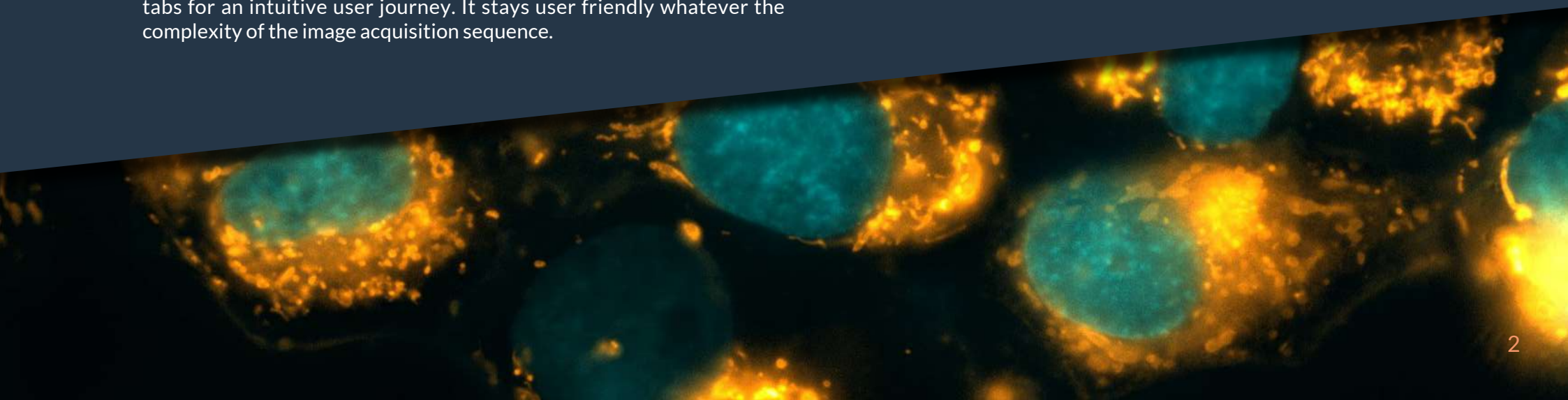
KEY ADVANTAGES

ALL-BRAND COMPATIBILITY

Inscoper I.S. is compatible with camera-based microscopes from Evident, Leica, Nikon, Zeiss and with all additional third-party devices: cameras, light sources, XYZ stages, confocal add-on modules, microfluidics, etc.

THIRD-PARTY SOFTWARE COMPATIBILITY

Inscoper I.S. is compatible with any analysis software that uses .tiff, .bigTiff or Bio-Formats images such as Imaris, ImageJ, Huygens, etc. I.S. integrates also some third party software into a single workflow: e.g. Jetraw or Microvolution.



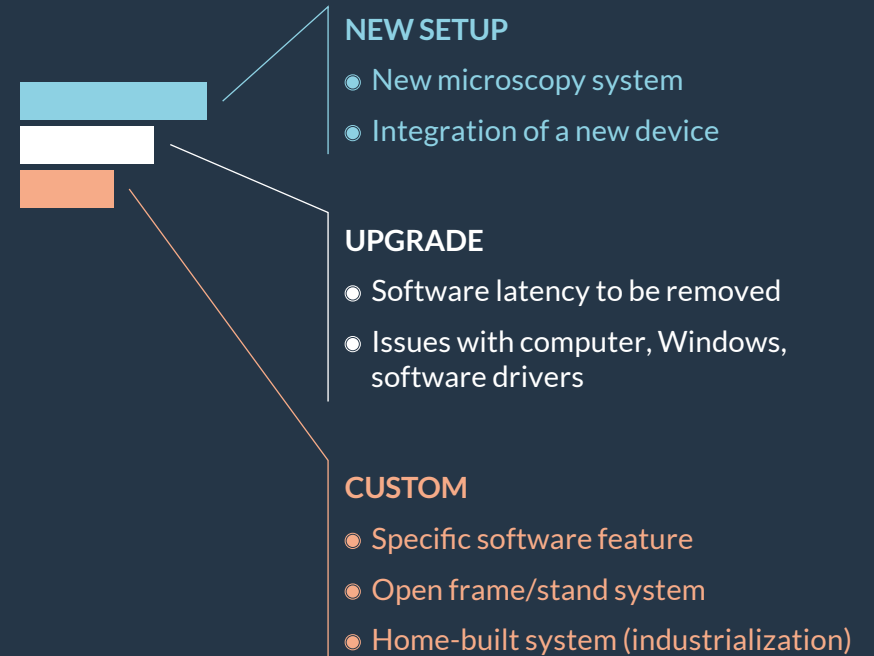
SOLUTION FOR ALL MICROSCOPE SETUPS

OFFER TAILORED TO SYSTEM EQUIPMENT LEVEL

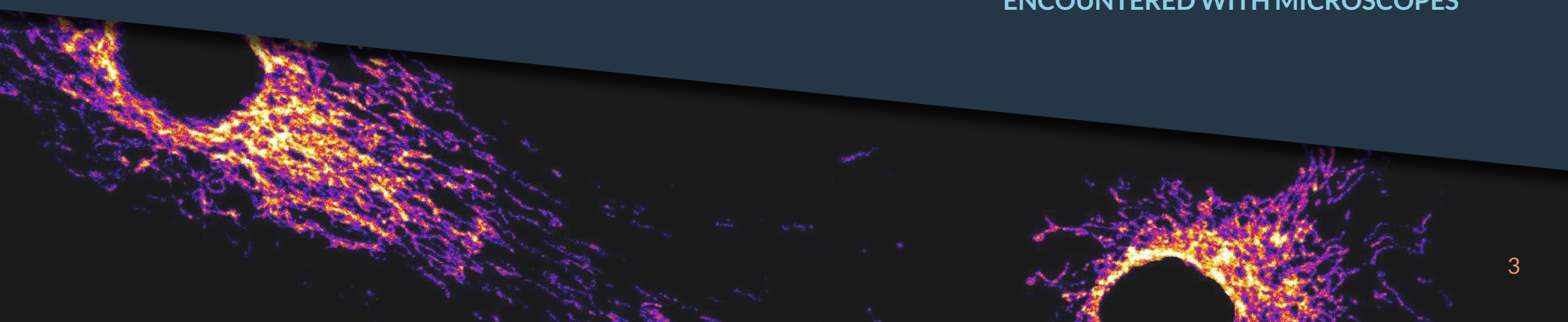
Inscoper I.S. is a complete control & image acquisition solution for light microscopes used in life science research. Thanks to its great modularity, the solution is as convenient to be used from the most simple microscopes to the most advanced setups.

	■ □ □ □ □ 1D-IMAGING	■ ■ □ □ □ 3D-IMAGING	■ ■ ■ □ □ 5D-IMAGING	■ ■ ■ ■ □ HIGH-END	■ ■ ■ ■ ■ HOME-BUILT
	Live imaging, time lapse	Z-stack imaging	Multi-D imaging	Laser illumination	Custom manip, prototype setup
Single camera	✓	✓	✓	✓	Contact us
Light-source, microscope incl. motorized Z	X	✓	✓	✓	
X-Y motorized stage, dualcam	X	X	✓	✓	
Laser source, multi-cam, 3d-party confocal unit	X	X	X	✓	
Additional devices *	X	X	✓*	✓*	

*optional



I.S. ADDRESSES ALL USER NEEDS AND CHALLENGES ENCOUNTERED WITH MICROSCOPES



FROM SIMPLE IMAGE ACQUISITIONS ▶

Inscoper I.S. is a turnkey solution combining hardware and software to perform the microscope at its best. It completely revolutionizes the way fluorescence microscopes are controlled in live cell imaging, allowing much higher frame rates and perfect signal synchronization.

I.S. user interface offers a modern and friendly environment with a single window and 3 tabs (Configuration, Acquisition, Visualization). Users can easily define and organize multi-dimensional image acquisition sequences to observe and manipulate fixed or live samples.

I.S. RANGE LEVELS

1D-IMAGING



Time-lapse

3D-IMAGING



1D-imaging

Z stack

Channels

5D-IMAGING



3D-imaging

Spatial dimensions X Y

Multiposition with tiling & stitching

Multi-camera control

The screenshot displays the INSCOPER software interface. On the left, a live cell image is shown with a red scale bar of 30.00 µm. The central panel features a 'Stack evolution' graph with a y-axis ranging from 255.50 to 259.00 and an x-axis from 5.0 to 70.0. A blue curve shows the signal intensity over time, with a data point at 58: 256.28. On the right, a circular progress indicator shows 71% completion. Below it, the text 'Acquisition in Progress...' is followed by '70/100'. Further details include 'time : 70/100', 'Frame rate : 10.89', 'Remaining time : 4s', and 'Total duration : 8s'. There are checkboxes for 'Auto-update Charts' and 'Fire On Click'. At the bottom right, there are 'Pause' and 'Stop' buttons. The top of the interface includes a menu bar with 'File', 'Settings', and 'Support', and a 'User Mode' toggle.

◀ TO COMPLEX MICROSCOPY TECHNIQUES

HIGH-END

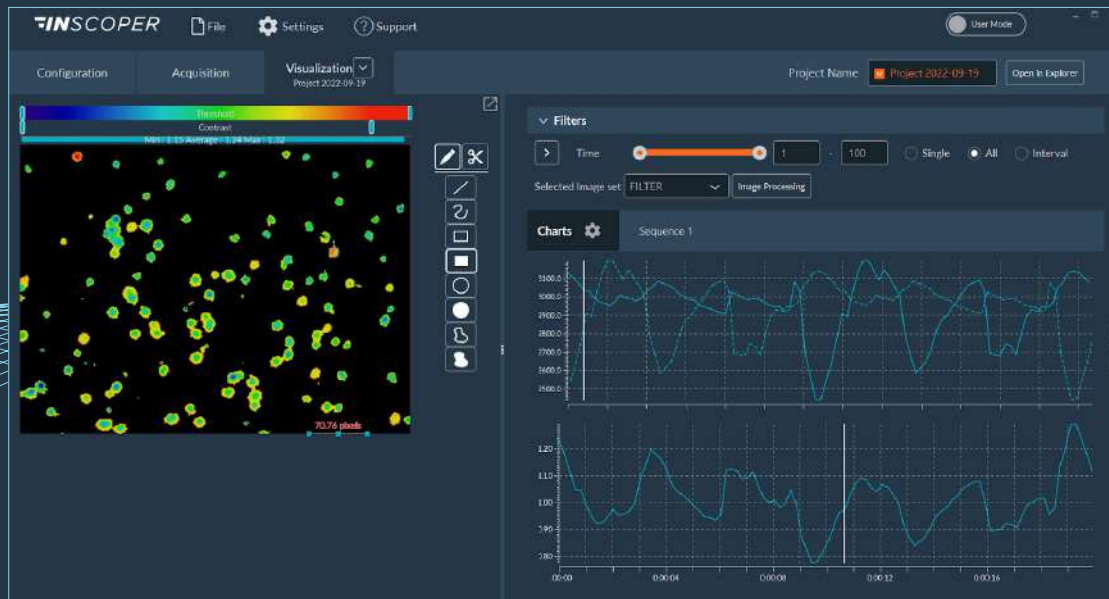


- 5D-imaging
- Rotation axis
- SPIM systems
- Spinning Disk & Confocal systems
- F-techniques (FRET, FRAP, FLIM)
- Hi-Lo/TIRF & PALM/STORM techniques
- Temperature control
- Microfluidics & Drug injection
- Ratiometric Imaging
- RIM (Random Illumination Microscopy)
- Optical sectioning by structured illumination

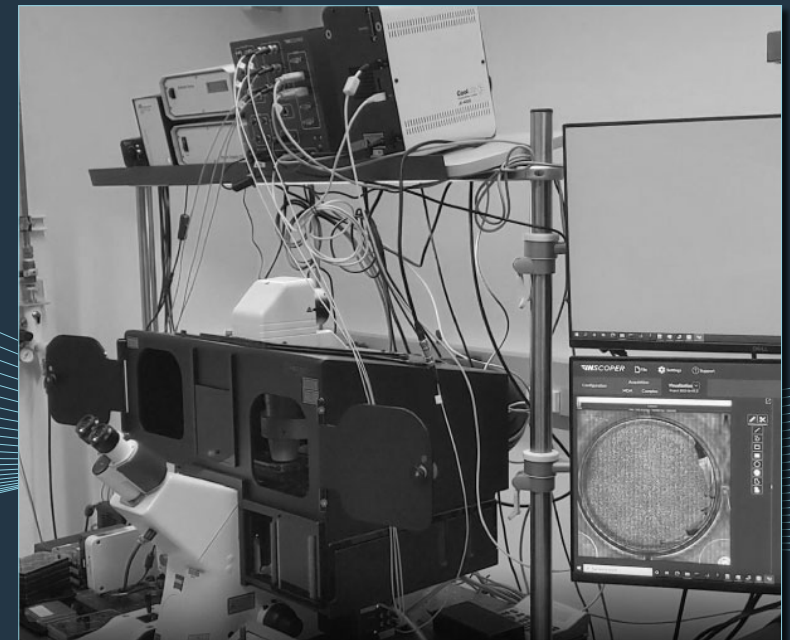
HOME-BUILT



Some research teams develop their own microscopy system to create a new imaging technique, adapt an instrument to their specific needs or minimize costs. When the time comes to make it reliable and accessible to regular users, I.S. is the ideal platform for turning a laboratory prototype into a commercial-grade microscopy system at a reasonable and pre-determined cost. Our top-level technical team will implement your project according to your needs and with the necessary confidentiality.



Live calcium imaging



Ultra high-speed live cell image acquisition system (continuous motion imaging), Gaithersburg, Maryland, USA

INTUITIVE SOFTWARE ENVIRONMENT FOR ALL MICROSCOPE USERS

The screenshot displays the INSCOPER software interface with several key components highlighted by yellow boxes and labels:

- Project management:** Located at the top left, it includes a 'Project' icon, 'Settings', and 'Support' links.
- Acquisition workflow:** A central panel titled 'Sequence 1' containing a list of steps: 1. Time, 2. Positions (with a 'Switch to Tiling' button), 3. Z-Stack, 4. Multi-Channels (with 'Live', 'UV O...', 'Orca C...', and 'Orca ...' buttons), and 5. Photomanipulation. Each step has a status indicator, a numerical value, and a set of control icons.
- Sequence management:** Located at the top right, it includes a 'User Mode' toggle and a 'Project Name' field set to 'Project 2021-10-26' with an 'Open in Explorer' button.
- Full/limited configuration access:** A 'User Mode' toggle button in the top right corner.
- ROI tools:** A vertical toolbar on the left side of the main image view, containing various tools for region of interest (ROI) selection and manipulation.
- Data processing tools:** A panel at the bottom center titled 'Data Processing and Charts' with a 'raw' dropdown and an 'Edit Parameters' button.
- Saving data as .tiff / .BigTiff:** A 'Save Acquisition' dialog box at the bottom right, offering options to save 'in RAM' or 'on Disk', a file name field, a 'Format' dropdown set to 'All in One', and a 'Save as BigTiff' checkbox.
- Dimension management (drag & drop):** A panel at the bottom right showing acquisition statistics: 'Total images 30', 'Total size 251MB', and 'Minimal duration 00h00min03:000ms', with a 'Start Acquisition' button.
- Camera Settings:** A panel on the left side of the main image view, including 'bypassMode', 'Exposure (ms)' set to 100.00637, and 'Snap' and 'Live' buttons.
- Visualization:** A panel at the top left of the main image view, including 'Configuration', 'Acquisition', and 'Visualization' tabs.

SOFTWARE FEATURES



CONFIGURATION Automate & Calibrate

- ▶ Access to all microscope and third-party setting: camera parameters (binning, exposure time), objectives, stage, light source, etc.
- ▶ Camera presets management
- ▶ Possibility to call previous projects (uploading parameters with images or parameters only)
- ▶ AutoSave function: recalls the last set parameters recorded every 30s
- ▶ Expert/User mode management to limit the access to certain features
- ▶ Manual and automated contrast adjustment, choice of LUT, Camera overload indicator (Pixel indicator)
- ▶ ROI creation and management
- ▶ Channel management and customization
- ▶ Software or hardware camera crop
- ▶ Numerical zoom in/out on the image
- ▶ Automated calibration (tiling, multiwell plate, ...)



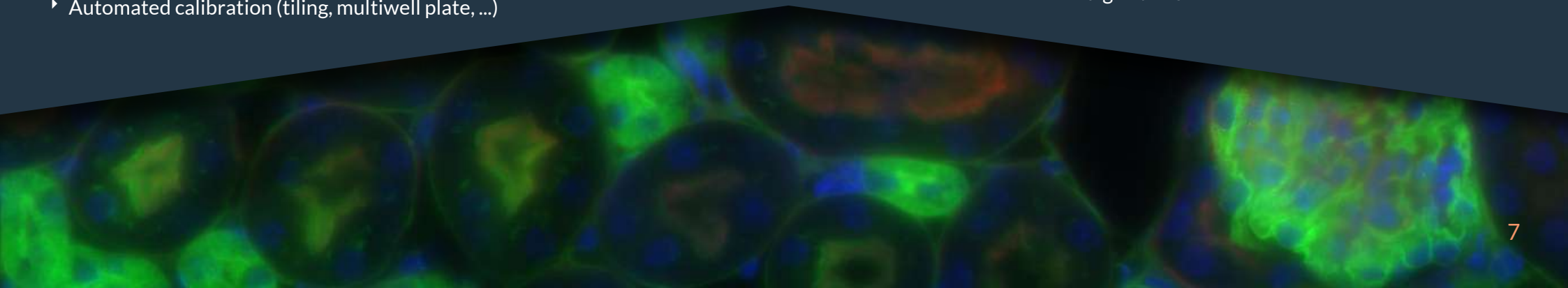
ACQUISITION Monitor & Register

- ▶ Drag-and-drop order of dimensions
- ▶ Multi-sequence acquisition
- ▶ Loop to repeat sequence
- ▶ Data Processing :
 - Tiling
 - Raw image
 - Raw image and graphic
 - Shading correction
 - Customizable data processing
- ▶ Real-time visualization of images and/or graphics during acquisition
- ▶ View of the tiling imaging during the acquisition
- ▶ Synchronized ROI creation/edition/removing with automatic graph updates during acquisition

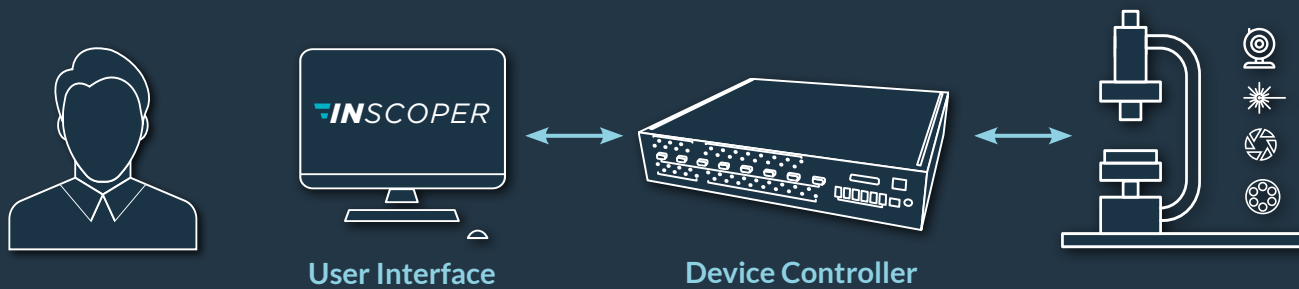


VISUALIZATION Analyze & Store

- ▶ Saving files as tiff or BigTiff
- ▶ Export images (.tiff, .bigTiff) or graphics (.csv) or video (.avi)
- ▶ All metadata are bio-formats compatible
- ▶ Replay feature : to visualize raw images according to dimension filters
- ▶ Synchronized ROI creation/edition/removing with automatic graph updates
- ▶ «See in Live» mode to automatically center an element of interest on acquired image for subsequent acquisition
- ▶ Visualization of all images and access to dimension filters
- ▶ Creation of new tiling (in new sequence or not) from a previous tiling image
- ▶ For expert user, access to add and create new algorithms



THE TECHNOLOGY BEHIND I.S. SOLUTION



INSCOPER's innovative approach involves dissociating the two functionalities managed by all acquisition software: (1) Interaction with the user, and (2) control of the devices.

(1) **User interaction:** configuration of system parameters, set-up of acquisition sequence, display, processing and saving of acquired images.

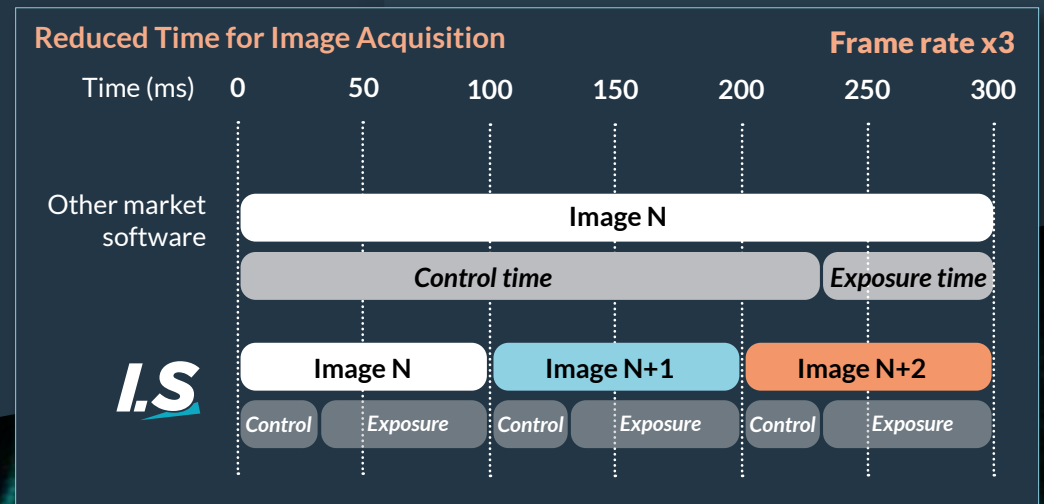
(2) **Device control:** communication with the various devices in the microscopy system and execution of the user-defined acquisition sequence.

The key to achieving optimal microscope performance and reliability is to control the various devices with a specialized and dedicated electronic system, instead of a general-purpose computer even powerful.

BREAKTHROUGH TECHNOLOGY

Inscoper Device Controller communicates with each device using its low-level protocol. It eliminates all software latency caused by the operating system and the software drivers it requires to enable «translation» with its high-level software environment.

For the User software interface, this separation means it is free from hardware constraints. So, regardless of the type of microscope, the interface remains flexible, versatile and focused on user requirements rather than hardware issues.



DEVICE CONTROLLER SPECIFICATIONS



		S	L	XL
ANALOG OUTPUTS	DAC resolution 14 bits Sample rate 180 MS/s Output range ± 10 V, 0-5 V, ± 5 V	1	8	16
ILDA	Laser illumination control	-	-	1
ANALOG INPUTS	ADC resolution 16 bits Sample rate 1 MS/s Input range ± 2.5 V, ± 5 V, ± 10 V, ± 12.5 V	-	-	16
I/O	TTL	4	18	18
SERIAL PORTS	RS232	1	4	8
	USB host	1	6	6
COMPUTER	Operating System	Windows 10/11		
	Display	1920 x 1080 px		

The microscopy system to equip determines the model (S, L, XL) of the Device Controller.

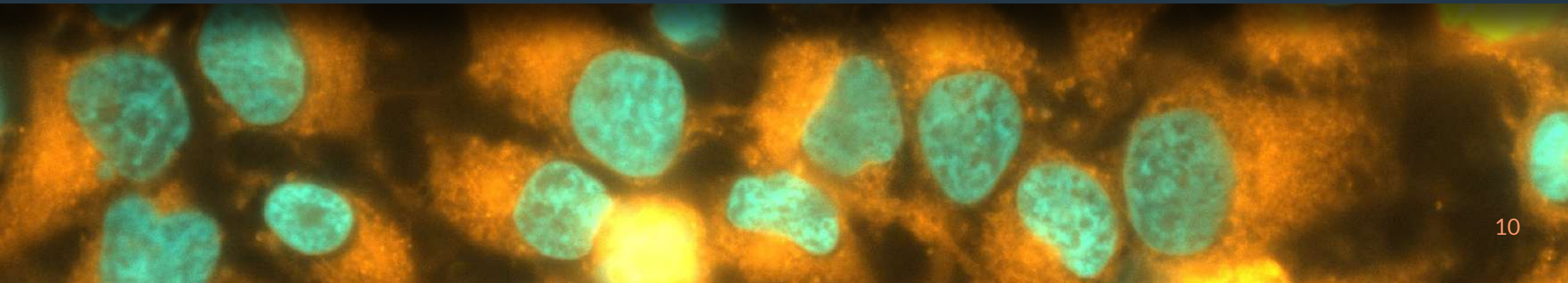
WARRANTY & SUPPORT SERVICE

Inscoper I.S. comes with a two-year warranty and support service. Unchanging and evolving extensions after these first two years can be purchased on an annual basis or as a three-year bundle.

Service		Years 1&2	Following the first two years	
			Unchanging setup	Evolving setup
Contact	via email, telephone. Response within 24 business hours	✓	✓	✓
Assistance	in training and using the software	✓	✓	✓
Diagnosis	in the event of breakdown or malfunction	✓	✓	✓
Troubleshooting	software-related problems	✓	✓	✓
Replacement	of a malfunctioning Device Controller	✓	✓	✓
Update	up to 2 setup/software updates per year	✓	x	✓

Our support team mainly uses TeamViewer remote access software, which is a convenient, fast and secure way of intervening.

YOU BUY THE SOFTWARE SOLUTION. YOU GET A FULLY OPERATIONAL MICROSCOPE.



LET'S KEEP IN TOUCH

contact@inscoper.com
www.inscoper.com

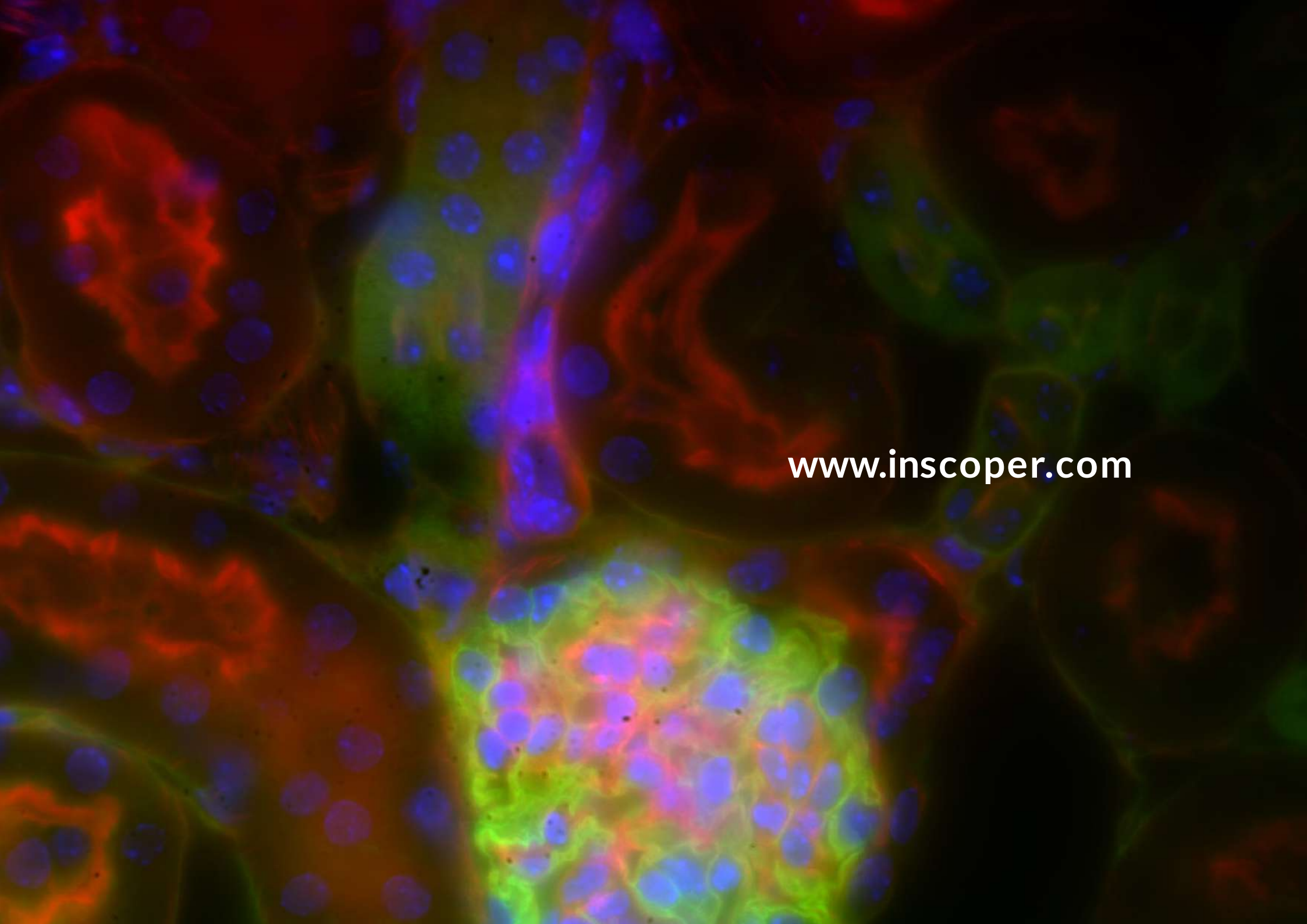
GET A QUOTE,
REQUEST A DEMO,
ASK A QUESTION.

Provide us with the list of your system's devices and a short description of the application / manips that you carry out.



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