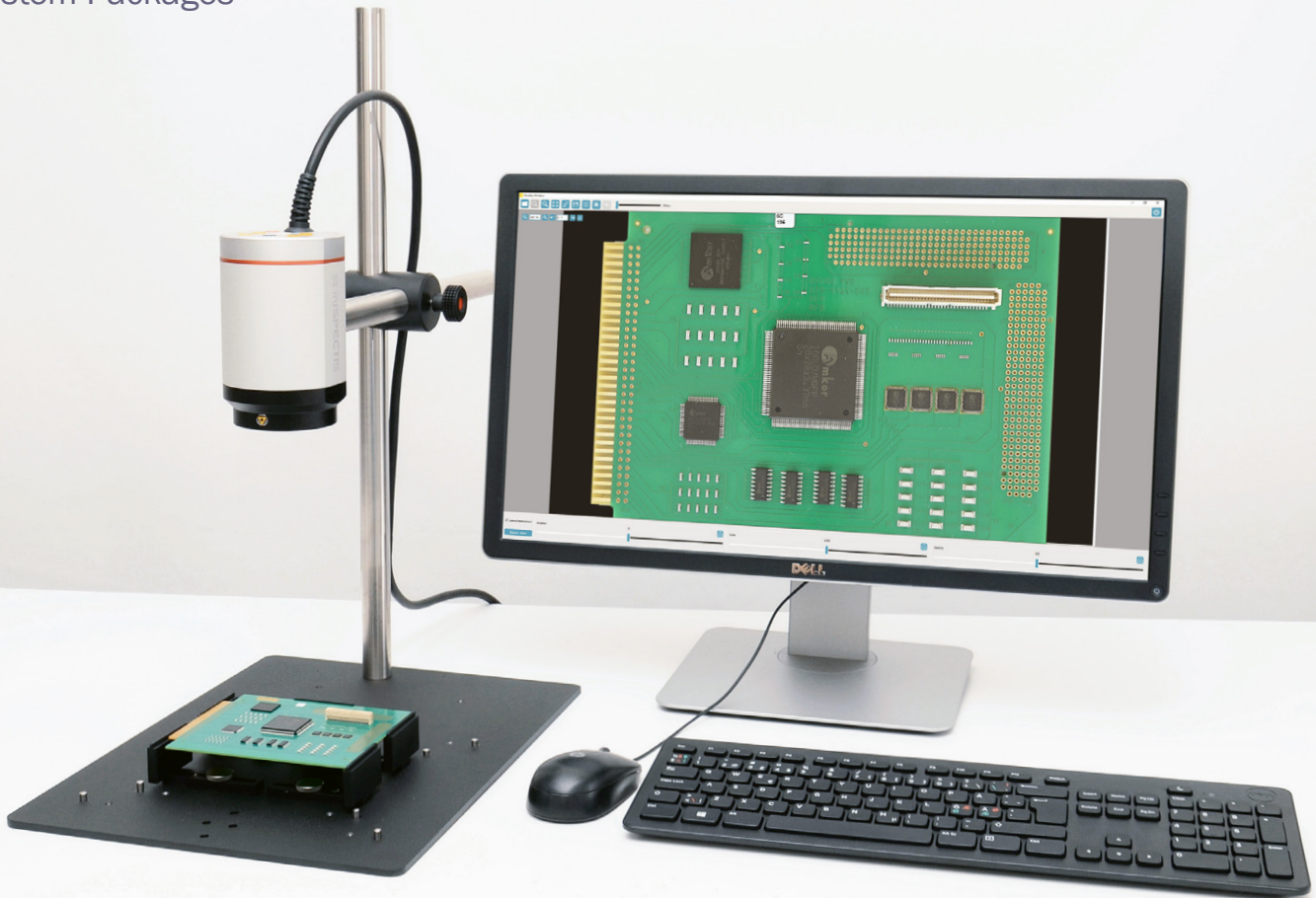# Overlay Assisted Inspection (OAI)

System Packages

Powerful 4K Digital Microscope System Package with premium imaging quality pre-configured for OAI.

Powered by INSPECTIS© software, the OAI systems deliver the same uncompromising Ultra High Definition performance and extended field of view for quick and reliable Overlay Assisted Inspection of assembled PCBs.

4K ULTRA HD

- Ultra HD, 8.3 megapixel Digital Microscope with Superior 30:1 Zoom and quick Auto-Focus
- INSPECTIS© OAI Software with Built-in Camera Controls
- Large-base LWD boom stand with adjustable PCB holders and pegs
- 550mm extended working distance and 670mm Field of View
- Configurable as in-line or post-production off-line inspection system
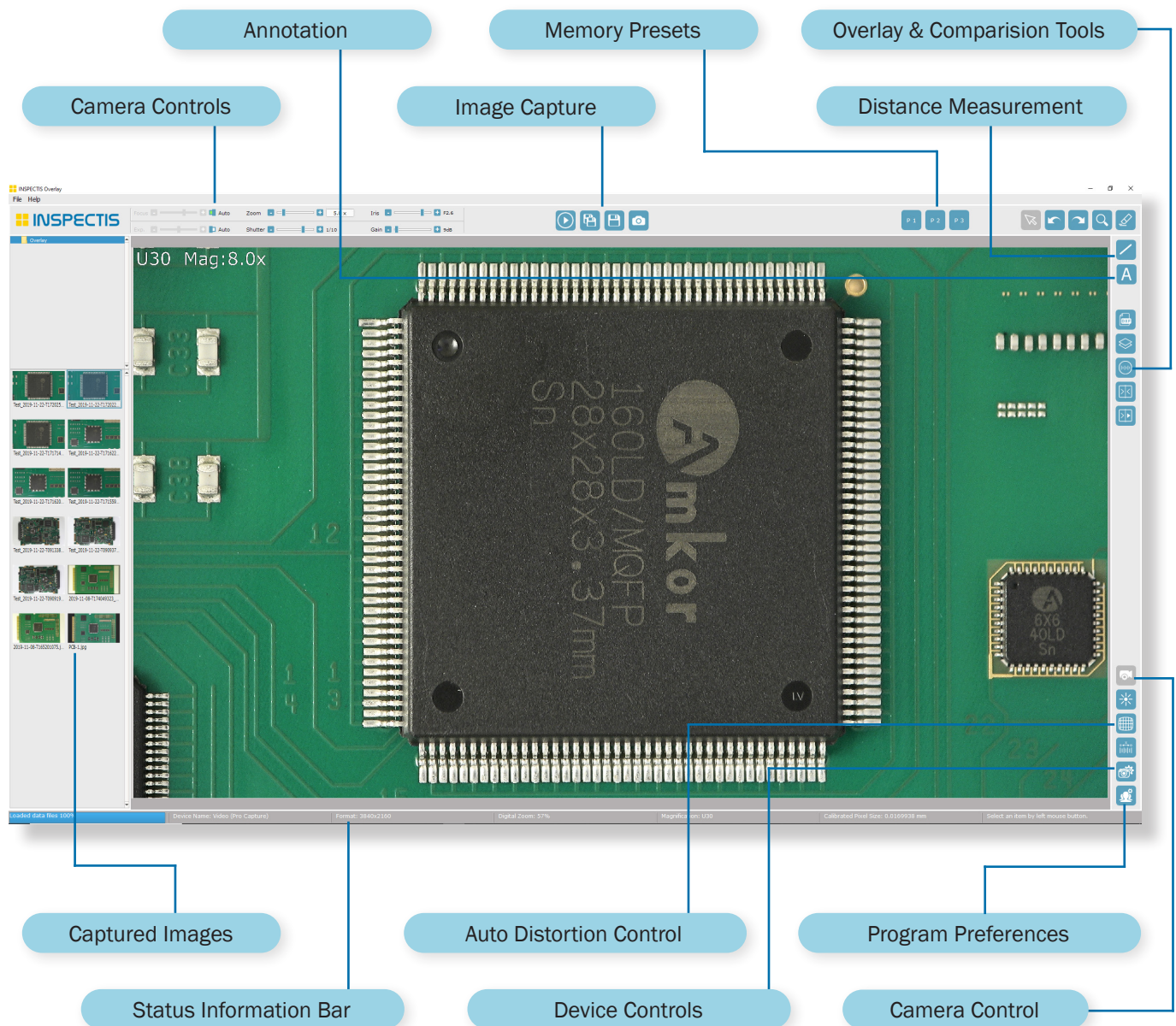- Options include ESD-protected housing and a built-in laser pointer

"Reliable, Ergonomic and Efficient!"

INSPECTIS© OAI Software

Advanced image view, capture, overlay, comparison, annotation and utility software with real-time digital camera control. Together with Inspectis U30s UHD digital microscope, the OAI software provides powerful tools to assist engineers performing the optical inspection work efficiently.

INSPECTIS© OAI also features calibrated distance measurements, digital image capture, annotations and marks on captured pictures. that can be shared and studied anywhere they are needed.
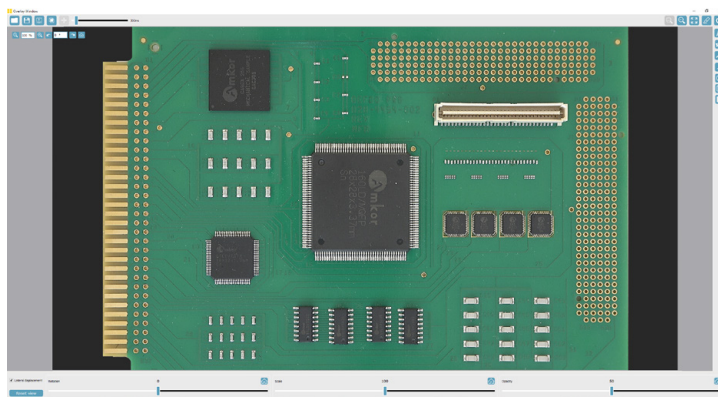

INSPECTIS Overlay Assisted Inspection (OAI) system helps users to pass or fail manufactured parts quickly and reliably.

INSPECTIS© OAI allows teams, no matter where the individual members are located to solve manufacturing issues in real-time.
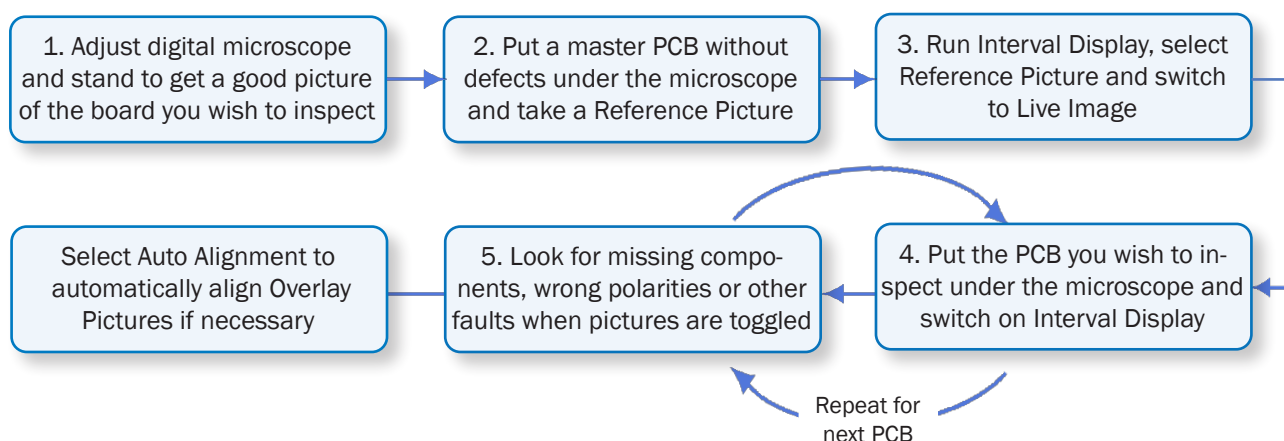
"All OAI Features also Available in **INSPECTIS© ProX"**

Timer-controlled Interval Display OAI

Overlay the live video on a reference picture with timer-controlled interval display. An efficient tool for control of dimensions and shapes of different objects. An innovative and efficient inspection tool for identifying missing components, wrong polarities, misplacements and other defects on assembled PCBs, in-line and off-line.

INSPECTIS© OAI is designed for easy and time-efficient workflow. Set up and run timer-controlled Interval Display in just 5 simple steps!

1. Adjust digital microscope and stand to get a good picture of the board you wish to inspect →
2. Put a master PCB without defects under the microscope and take a Reference Picture →
3. Run Interval Display, select Reference Picture and switch to Live Image

4. Put the PCB you wish to inspect under the microscope and switch on Interval Display

5. Look for missing components, wrong polarities or other faults when pictures are toggled ←

Select Auto Alignment to automatically align Overlay Pictures if necessary

Repeat for next PCB

Timer controlled Interval Display Inspection can be used in-line with U30s and Inspectis XY-travel stand as well as off-line with single-rod LWD boom stand and built-in PCB holder for precise alignment of PCBs under inspection.

In-line timer-controlled interval display inspection

Off-line timer-controlled interval display inspection

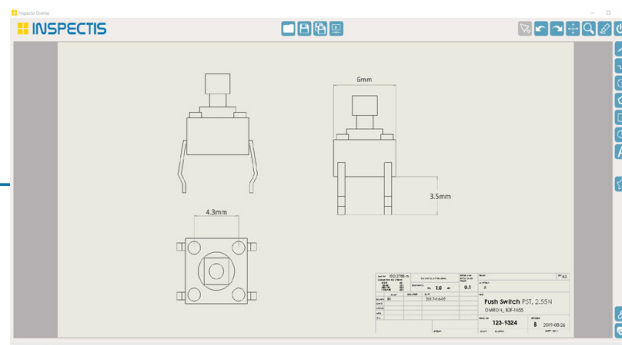*"Optimised for Reliable Inspection of Assembled PCBs"*

Powerful Tools for Overlay Assisted Inspection

In addition to Time-controlled Interval Display, following extra tools are available in INSPECTIS© OAI software.

DXF CAD Editor and Overlay

Open an existing CAD file, edit, draw patterns, shapes, add text and overlay on live image. Create a DXF file from your reference object by the built-in Optical Edge Detection tool. CAD overlay allows engineers to translating a sample into an onscreen rendering and view it within its correct dimensions and with tolerance lines.
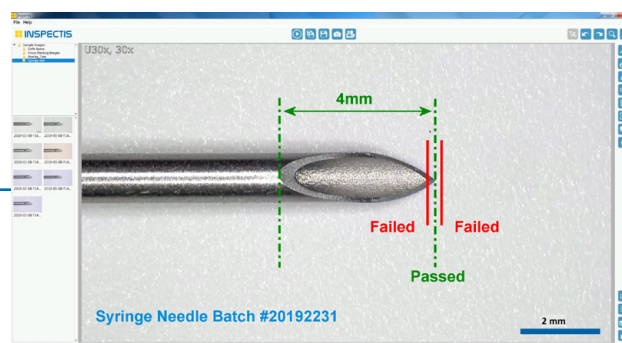

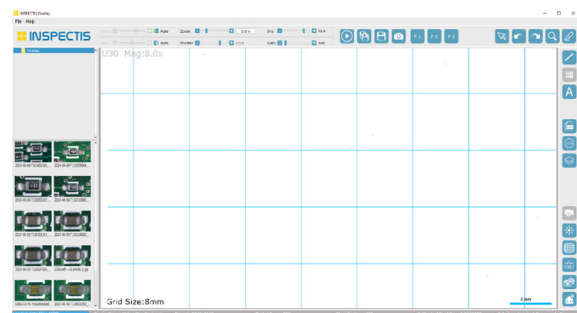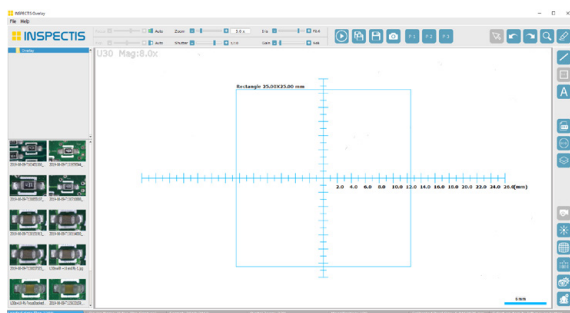DXF Editor and Overlay

Digital Graticule Overlay

Create a Graticule in a graphic design software or directly in INSPECTIS© DXF CAD Editor and overlay it on live image. Designed for quick control of dimensions and shapes of any part.

Digital Graticule

Ruler, Grid, Rectangle and Crosshair Overlay

Overlay a Calibrated Ruler on live image. Draw Grid or a single Rectangle at any size within current Field of View.
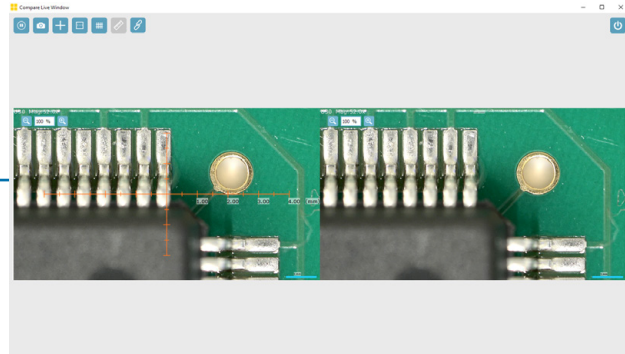

"Allow teams to solve manufacturing issues in real-time"

Additional Tools for Side-to-Side Comparison

Compare to Live Image

Compare live image to a reference picture. Use Link tool for synchronising zoom, pan and rotation of live and still picture. Show Crosshair, Grid or Calibrated Ruler on live image.
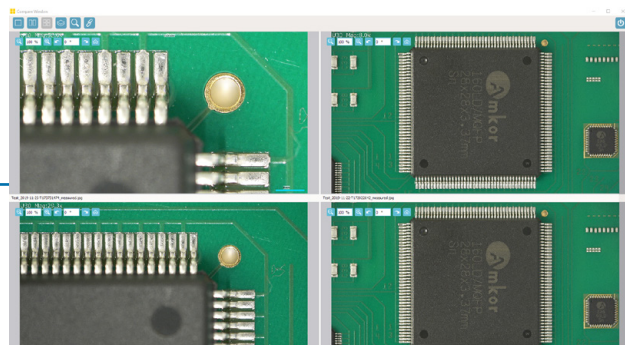
Live Comparison

Compare Still Images

Compare 2-4 still images side-to-side or by overlaying one on top of the another. Adjust opacity of overlay pictures. Equipped with Link tool for synchronising of zoom, pan and rotation in all windows.

Still Comparison

Items included when your order 4K system package **HD-016-KIT-OAI**:

Product Name	Prod. number
Inspectis U30s LWD, Ultra HD 2160p	HD-016-WD500
Single-arm Boom Stand, LWD, Large Base with PCB Holder, ESD-Protected	HD-060-LB-E
Stop Ring, Φ25mm for Boom Stand	HD-183
INSPECTIS© OAI oftware with Built-in Camera Controls	HD-134
4K HD USB3.0 Capture Pro Device	HD-120-P

Items included when your order FHD system package **HD-013-KIT-OAI**:

Product Name	Prod. number
Inspectis F30s LWD, Ultra HD 1080p	HD-013-WD500
Single-arm Boom Stand, LWD, Large Base with PCB Holder, ESD-Protected	HD-060-LB-E
Stop Ring, Φ25mm for Boom Stand	HD-183
INSPECTIS© OAI oftware with Built-in Camera Controls	HD-134
FHD USB3.0 Capture Device	HD-033

"Developed with emphasis on time efficiency"

System Specifications

System:

Video Output	Ultra HD 2160p/30, switchable to Full HD 1080p/60
Imager	8.5 Mpixels. 3840(H) x 2160(V) 16:9. Progressive scan, 1.62 µm x 1.62 µm pixel size
I/O Ports	HDMI video output, 5P MiniDin Power input, 8P MiniDin Communication port
On-board Control	Zoom, Iris, Auto Focus on/off, White Balance, 4K to Full HD format swap.
Software Control	Zoom, Iris, Manual/Auto Brightness, Manual/Auto Focus, White Balance, Contrast enhancement, Image Rotate, Memory Save/Recall (5 pcs), Video Format and Frame Rate.
Illumination	Optional: External RingLight, Single-Spot LED matrix light, Double-Spot LED matrix light, Universal LED Backlight.
Storage / Operating Environment	-20° – +60°C, 20 - 95% RH / - 0° – +40°C, 20 - 95% RH, non-condensing
Size, Weight of U30s- LWD Camera	Φ 86.5 x 137mm exclusive cable. 1.1 kg.

Optics:

Lens system	x30 Optical Zoom with Auto Focus and Iris Control
Working distance range, WD500	~ 310 to 550 mm (from lens to object at maximum zoom factor)
Magnification x1-x30 zoom, WD500	~ 0.9x to ~ 27.7x on 28" monitor (~ 3.25 to ~ 98x with +5 macro lens)
Field of View at x1-x30 zoom, WD500	~ 670 to ~ 21.9 mm (~ 186 to 6.2mm with +5 lens)
Laser pointer	Class 1 red LED laser with automatic through-optics alignment

Stand:

Vertical post length / Travel / Diameter	637mm / 590mm / Φ25mm
Horizontal rod length / Travel / Diameter	380mm / 328mm / Φ25mm
Size, Weight of Base Plate	400 x 295 x 5mm /4.9 kg.
Maximum size of PCB holder	310 x 350mm
Total Weight of Stand	9.2 kg

Ordering numbers Inspection Systems:

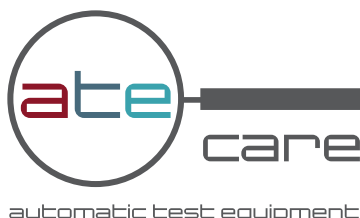| Item name	Order No.
Inspectis U30s LWD, 4K Overlay Assisted Inspection (OAI) System package	HD-016-KIT-OAI
Inspectis F30s LWD, FHD Overlay Assisted Inspection (OAI) System package	HD-013-KIT-OAI
With Antistatic housing	- E
With Laser Pointer	- L
with Hermetic Sealed Housing	- S

Ordering numbers optional Accessories:

Ring Light White LED with detachable diffuser	HD-024-B
Single-Spot LED matrix light with gooseneck	HD-125
Double-Spot LED matrix light with gooseneck	HD-126
Universal LED Backlight with dimmer	HD-127-X*
Macro lens +3 diopter, 67mm (Achromatic)	HD-038
Macro lens +5 diopter, 67mm (Achromatic)	HD-039
Macro lens +10 diopter, 67mm (Achromatic)	HD-123
VESA monitor holder for LWD Boom Stand	HD-182

*X = EU-, UK- or US-type Power Supply

Reseller:

ate care
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INSPECTIS

Quality of Inspection

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