TAGARNO T50

4K images. Simpler workflows.



TAGARNO

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From setup to insight in seconds.

Digital microscopes make inspection faster, more comfortable and easier to share. They help operators collaborate, document findings and make informed quality decisions.

But seeing the detail is only the beginning. Modern quality control also requires consistent inspections, reliable documentation and tools that turn observations into actionable information.

T50 is TAGARNO's flagship digital microscope, built for speed, precision and ease of use. With a true 4K camera running at 60 FPS, it delivers a smooth, low-latency live image. What happens under the lens is what you see on the monitor, with less lag than lower frame-rate 4K systems.

With motorized height adjustment, a generous 370mm working depth and magnetic accessories that snap into place, T50 is designed to perform at the highest level from the very first day. And with a price point that makes high-end inspection accessible to more teams, T50 delivers exceptional value without compromising on performance.



Key characteristics and benefits

True 4K imaging at 60 frames per second

T50 delivers native 4K resolution at a full 60 frames per second. The result is a smooth, low-latency image, even as you actively move or manipulate your sample.

Wide field of view, from overview to fine detail

With a field of view ranging from 1.60mm to 349mm across its lens options, T50 adapts from a broad overview to close inspection of the smallest components. Aperture priority gives effortless depth-of-field control, capturing large areas in full detail without image stitching.

Sleek, magnetic design

Magnetic lenses and a magnetic ring light mean fewer cables and faster changeovers between setups. The arm also comes pre-assembled and attaches to the base without tools.

On-board apps, no PC required

Access a full suite of software apps directly on the microscope, or connect through the Open API. No separate computer needed.

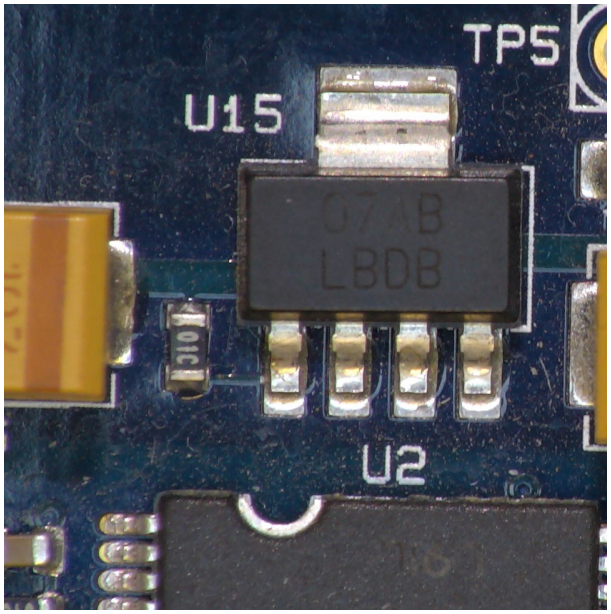
A microscope that grows with you

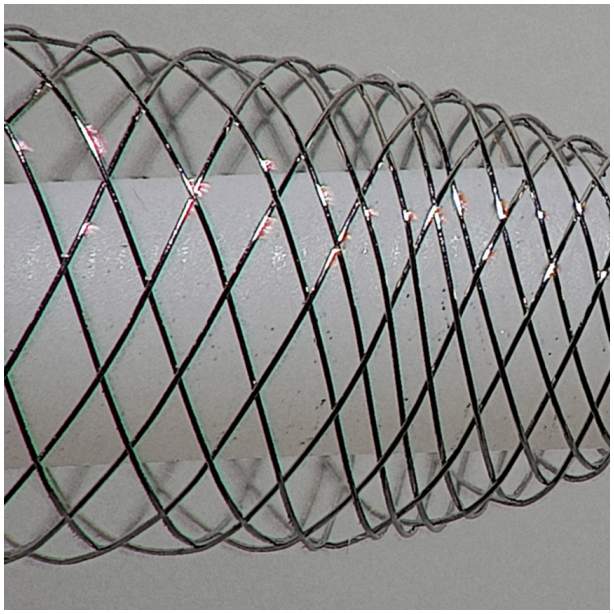
TAGARNO regularly releases firmware updates that bring new features to your T50, so the microscope keeps improving long after you've bought it and evolves with your needs.

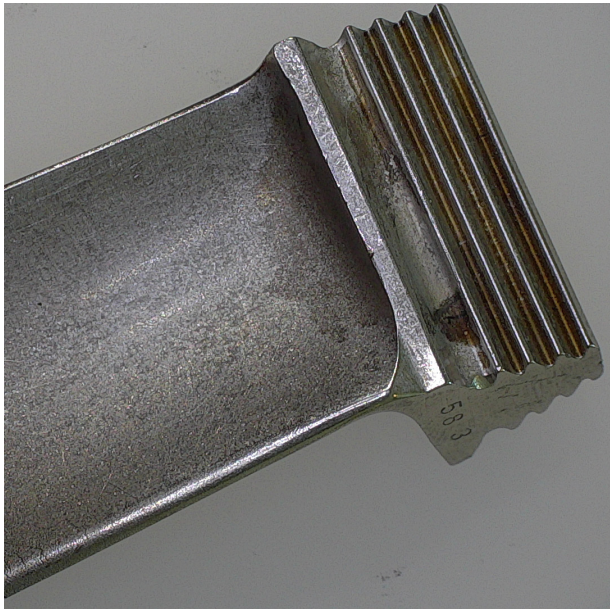
Full mouse and keyboard support

T50 supports standard mouse and keyboard input, so operators can navigate and control the microscope the way that suits them best.











Applications

Electronics

Inspect PCBs, solder joints and component placement in exceptional 4K image quality, making it easier to identify fine defects, perform rework and document findings throughout production and quality control.

Medical Devices

Inspect medical devices and components in detail, while specialized apps for measurement and comparison help improve efficiency and create consistency across quality inspections.

Aerospace

Inspect precision components, surfaces and assemblies in detail, making it easier to identify visual defects, document findings and support consistent quality control of critical parts.

Seed

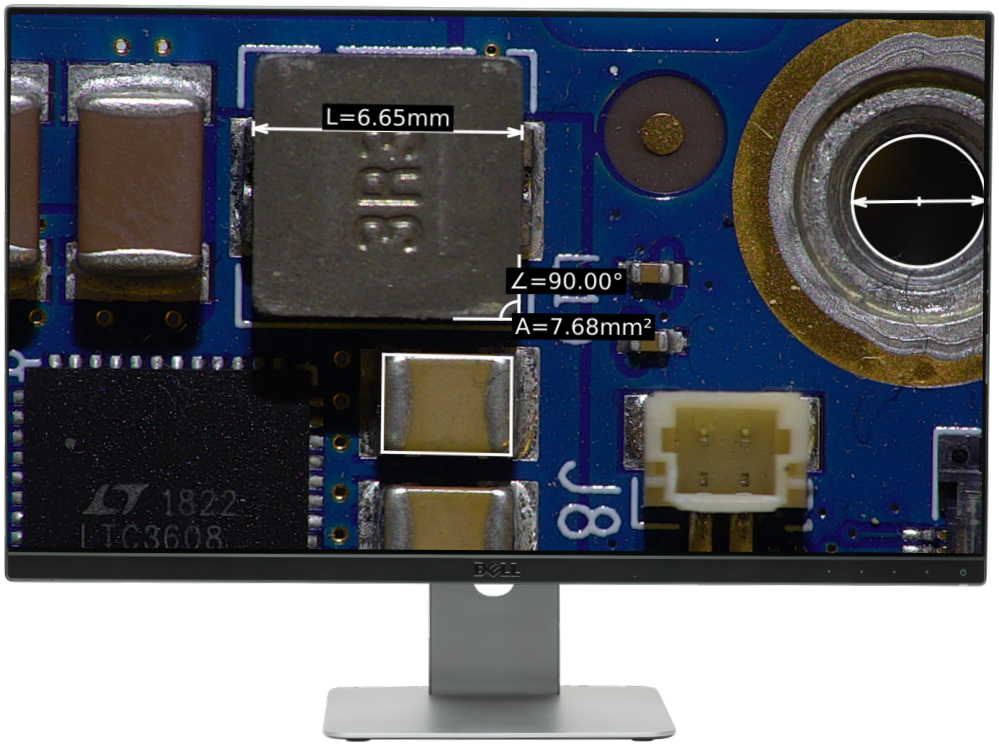
Inspect seeds and grains in detail for processes such as variety identification, purity determination and germination testing, while easily documenting findings and comparing samples with reference images.

Make T50 fit the way you work.

The T50 doesn't just produce incredibly sharp images. You can also customize it with software apps that help you work more efficiently.

All apps run directly on T50, with no additional computer needed.

- Ruler
- Measurement
- Verification lines
- DXF overlay
- PNG reference
- Image comparison



FEATURE SPOTLIGHT

You control how and where to focus

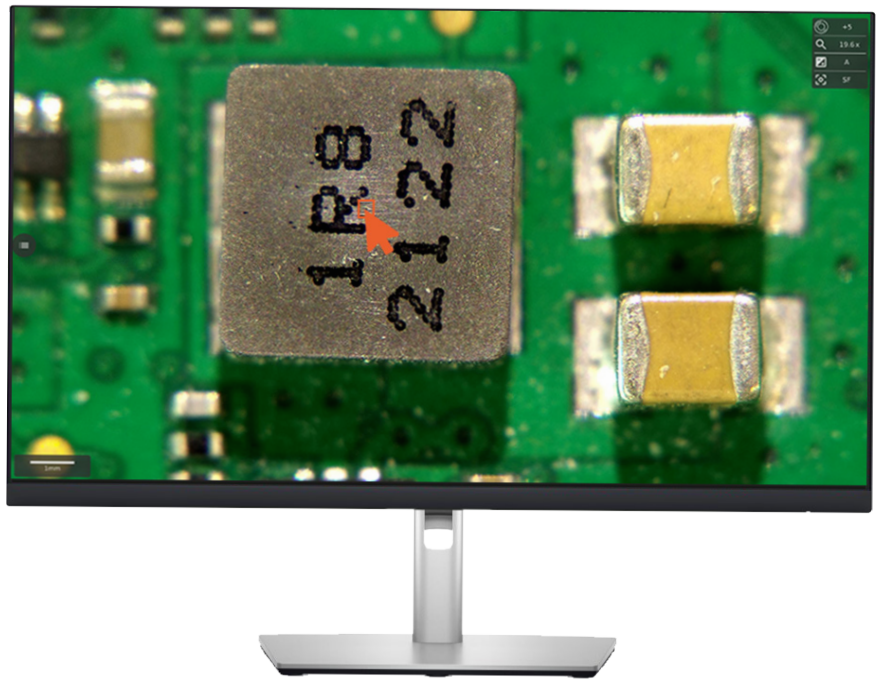
Three focus modes, giving you full control.

AF — **Auto Focus**
Keeps your sample sharp automatically, even as you move it around.

MF — **Manual Focus**
Lock onto a specific depth when inspecting a particular area.

SF — **Spot Focus**
Click anywhere in the image to focus instantly on that exact point.

Switch between modes depending on the task at hand, whether that means fast-paced production line inspection or detailed, static analysis.



A cursor marks the exact point selected for Spot Focus on a live PCBA image.

FEATURE SPOTLIGHT

Consistency across every workstation

Create your settings once, replicate them everywhere.

When you are running multiple T50 microscopes, setting up each workstation with the same camera settings can take time, especially when several operators are involved.

With preset import and export, you can save your microscope settings on one T50 and copy them directly onto another, so every operator starts with the same settings already in place.

- **Save time:** Skip manual reconfiguration for every new station.
- **Reduce variation:** Every operator inspects under the same settings.
- **Scale with confidence:** Add new units without starting from scratch.



Technical specifications

Lens	Magnification range	Free working distance	Field of view	Numerical aperture
+3	1.7x — 37.8x	328mm (12.91”)	15.8mm — 349mm (0.62” — 13.74”)	–
+5	2.8x — 62.2x	195mm (7.68”)	9.6mm — 210mm (0.38” — 8.27”)	–
+10	5.4x — 125x	78mm (3.07”)	4mm — 87mm (0.16” — 3.42”)	0.09 (Resolution: ~ 3 microns)
+25	13.4x — 311x	34mm (1.34”)	1.60mm — 49.80mm (0.06” — 1.96”)	0.14 (Resolution: ~ 2.5 microns)

Camera specs

Camera resolution:	4K, 3840×2160 @ 60Hz, 8.5MP
Frame rate:	60 frames per second
Optical zoom:	30x
Video output:	HDMI
Aspect ratio:	16:9

Dimensions and weight

Height:	390mm — 635mm (15.35” — 25”)
Width:	320mm (12.6”)
Depth:	565mm (22.24”)
Working depth:	370mm (14.57”)
Weight:	10.8 kg (23.81 lbs)

See TAGARNO T50 in action

The best way to find out if T50 is right for your inspection needs is to experience it for yourself.

Book a free, no-obligation demo with a TAGARNO specialist. We'll take the time to understand your samples, inspection tasks and workflows and show you how T50 can support them.

Choose the demo that works for you

At your site
See T50 in your own working environment and explore its capabilities using your actual samples.

Online
Meet with a TAGARNO specialist remotely for a live demonstration and get answers to your specific questions.



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