ONE PLATFORM. WORKFLOW.

THE METIS 900 PLATFORM CONTINUES TO EXPAND ITS DIGITAL WORKFLOW

Spanning optical precision, customizable controls, and 3D heads-up visualization: Haag-Streit's surgical microscope is already centered around workflow and usability. With further developments in the pipeline, METIS 900 proves that when it comes to digital evolution, it's not done yet.

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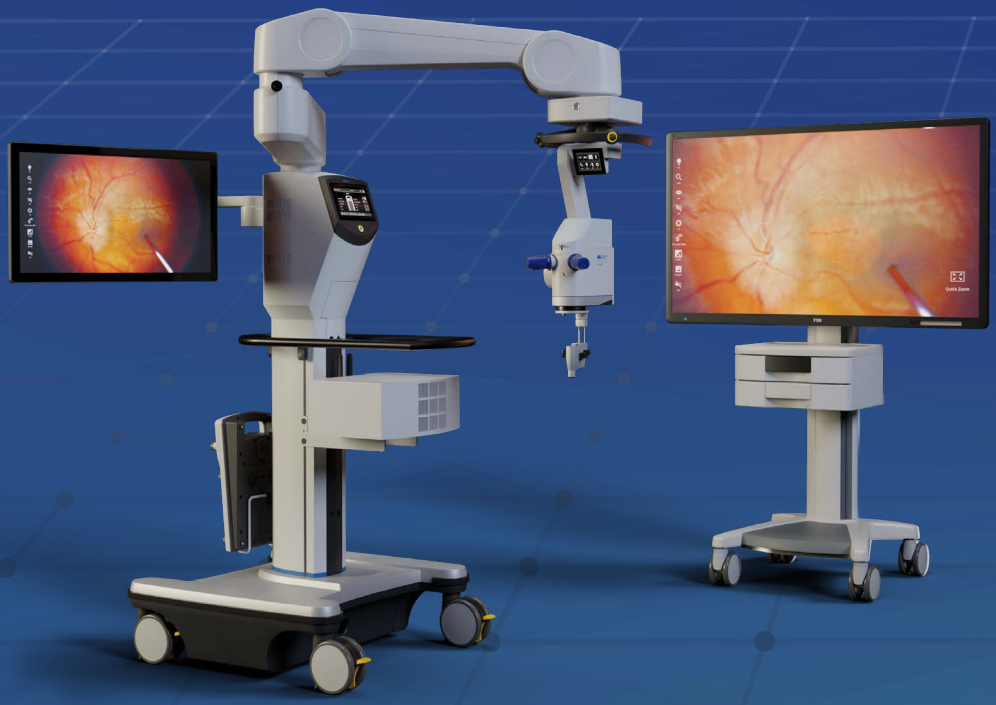

Premium cataract surgery has always demanded precision, and precision demands control.

Haag-Streit's (Köniz, Switzerland) METIS 900 platform was built to deliver exactly that. First came the METIS 900 "surgical control center," launched in March 2025, delivering a rock-solid optical foundation. In the same year, its "surgical cockpit" came in the form of the METIS 3D Digital Heads-Up Module (METIS HU), arriving at AAO 2025 in the United States before its global release in March 2026. The investment in digital continues at pace, with further developments set to close the platform's biometry-to-OR workflow loop.

BUILT TO EVOLVE

When the METIS 900 launched in March 2025, it was designed explicitly as a platform—modular in architecture, built to grow through digital addition rather than hardware replacement. That philosophy earned it the GOOD DESIGN® Award 2025, and the engineering behind that recognition is visible in what the architecture enables.

Its optical foundation is a stable, best-in-class red reflex delivered by an optimized coaxial illumination system. From capsulorhexis to nuclear disassembly and capsular polishing, the system maintains brilliance and clarity throughout surgical maneuvers and varying eye positions, while limiting intraocular luminosity to reduce light exposure. High-CRI LED illumination is engineered to provide true and accurate color reproduction while lasting the lifetime of the scope, emitting less heat and energy than traditional xenon or halogen equivalents.

The METIS 900 also functions as a fully configurable "surgical control center". Motorized controls replace manual adjustments, while programmable "presets" allow the system to adapt instantly to individual surgeon preferences and specific procedures. For combined cataract and MIGS cases, a single touch of the hand switch tilts the microscope to a pre-programmed glaucoma angle and toggles back with a second, sterile touch. At the same time, a wireless foot switch provides control of up to 14 functions.

Dr. Yuri McKee (United States), medical director and managing partner at East Valley Ophthalmology, was the first surgeon worldwide to use the METIS 900 in human surgery. "We really need to start thinking about the microscope as a platform just like we think about so many other things that we use, like our phones, even our cars," he said.

"These platforms can be expanded on in the future because they're digital with enormous technology," Dr. McKee continued. "We've started with the rock-solid quality of a Haag-Streit microscope, and now we can expand this platform without buying a new microscope every five years."

Surgeon longevity is also a consideration built into the design. "Every surgeon should be able to set this microscope exactly to what's correct for them in surgery so that their spine is straight, their neck is straight, and they're looking straight ahead during surgery," he said. "You can't have your career ruin the rest of your life."

Dr. Kenichiro Yamazaki (Japan), founder and chief surgeon of Omiya Nanasato Eye Institute, and the first surgeon in Japan to perform femtosecond laser-assisted cataract surgery, typically operates with a depth-of-field setting of three and a red reflex intensity of 67%. Even at 20% illumination, he finds the METIS 900 delivers clear visibility alongside video quality suited to clinical documentation and presentation.

"Its stable, brilliant red reflex provides the optical clarity and brightness required for my procedures," he said. At those reduced illumination levels, some patients can leave the OR with less assistance, potentially due to lower light exposure during surgery.

A SHARED SURGICAL VIEW

METIS HU adds a 55-inch 3D 4K monitor and compact floor stand to the METIS 900 ecosystem, shifting the surgical view from the eyepieces to a shared screen. Surgeons can switch to the heads-up view and return to the oculars at any point, without altering their workflow.

At the core of the system is a 3D stereo 4K camera designed to continuously adapt to changing light conditions. Transitioning to the screen transforms the operating environment: an upright sitting position reduces cervical and lumbar strain during long surgical lists, and assistants, trainees, and OR personnel observe the surgical field on the same 3D monitor as the operating surgeon, eliminating the need for a separate optical path. Digital quick zoom reveals fine detail with a single tap of the foot switch, while digital red-free filtering enhances retinal visualization without additional hardware.

METIS HU also supports surgery at lower microscope light levels by amplifying the image digitally—an advantage particularly relevant for longer or combined procedures.

"Screen-based surgery with METIS HU is simply a delight, whether in the anterior segment, posterior segment, or with combined surgery," said Dr. Christopher Riemann (United States) of Cincinnati Eye Institute. "The resolution is superb, and the unique feature of being able to actively adjust the camera settings intraoperatively provides a level of control that surgeons will love. We can't fix what we can't see, and with METIS HU, we can see beautifully."

Dr. Edward Meier (United States) of Apex Eye Clinical Research echoed the assessment. "The METIS HU has wonderful image clarity that is as good as a regular light path microscope. There is no significant image lag," he said, noting that digital illumination allows surgeons to brighten the image while operating at lower microscope light levels—maintaining the surgical view and red reflex while reducing patient light exposure.

"As a purpose-built, heads-up scope, the ergonomics are fantastic," Dr. Meier added. "At the end of a long day, my neck and back are much less tired than when using a traditional microscope."

WHAT'S NEXT FOR METIS 900?

The path to a fully integrated digital workflow continues with software developments currently undergoing final touches in Haag-Streit's R&D kitchen. The next chapter centers on closing the platform's biometry-to-OR workflow loop via intraoperative toric alignment guidance within a single digital ecosystem, all operated through a unified interface.

IOL GUIDE: FROM THE BIOMETER TO THE OR

For cataract surgeons placing premium toric IOLs, this development aims to provide a direct digital alternative to the paper-based data chain that has traditionally connected preoperative planning to intraoperative alignment.

The workflow originates in Haag-Streit's EyeSuite IOL planning software, where incision locations, capsulorhexis diameter, and the target axis of the toric IOL are defined. Within the Haag-Streit planning workflow, the data transfers to the METIS 900 via USB or network—no duplication of data or effort required.

Once released, Haag-Streit's IOL Guide will mark the latest chapter in a platform built across two years of sequential launches. What began in March 2025 as an optical surgical foundation will continue, allowing a surgeon to join at any point and extend as practice demands.

SEE THE METIS 900 AND METIS HU IN ACTION

Delegates attending ESCRS and AAO 2026 will have the opportunity to experience the METIS 900 and METIS HU firsthand and gain a deeper understanding of the technologies shaping the future of the OR.

To learn more about the METIS 900 platform, visit haag-streit.com/METIS-platform.

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