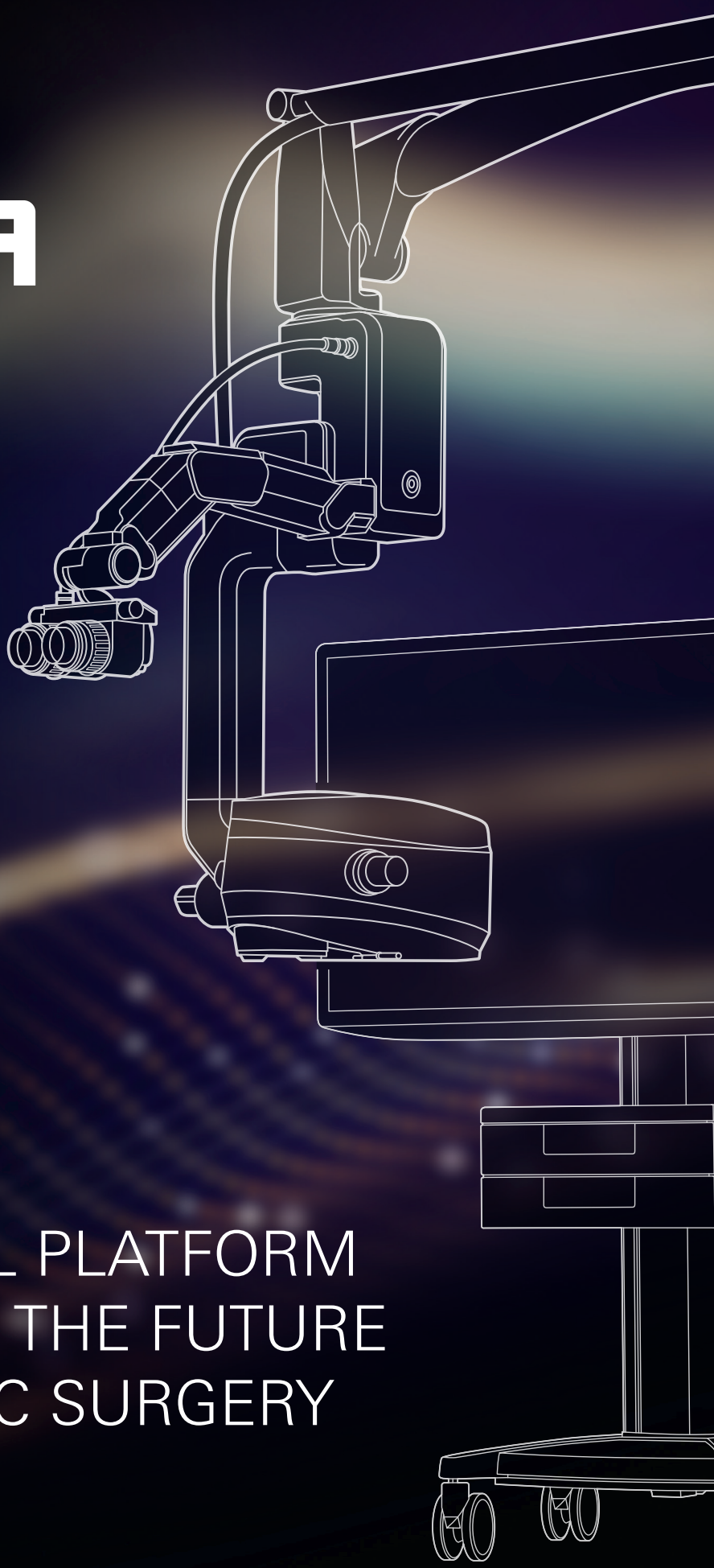
HEIDELBERG

OPERA



A FULLY DIGITAL PLATFORM OPTIMIZED FOR THE FUTURE OF OPHTHALMIC SURGERY

HEIDELBERG ENGINEERING

(*iOCT module is not currently commercially available)

DIGITAL SURGERY. DESIGNED AROUND THE SURGEON.

See clearly. Work naturally. Teach together.

Heidelberg OPERA is a fully digital ophthalmic surgical microscope platform designed to improve the way surgeons see, work, and teach.

Unlike conventional optical or hybrid systems, it is digital by design, supporting enhanced visualization, improved ergonomics, and the possibilities for teaching, collaboration, and knowledge transfer in the operating room.

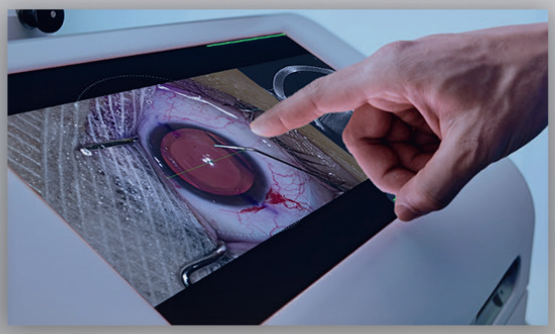
Digital surgery is already becoming a reality in ophthalmic surgery, and future developments will increasingly build on digital platforms. Heidelberg OPERA provides a platform for digital surgery today, while laying the foundation for future innovations.

BUILT FOR WHAT COMES NEXT.

A platform designed to evolve.

As a fully digital system, Heidelberg OPERA creates the foundation for future intraoperative technologies and the next generation of ophthalmic workflows. As connections across systems evolve, it lays the groundwork for Heidelberg Engineering's broader vision of connected, multimodal imaging.

[1]Clinical image courtesy of Dr. Alain Saad | Vice Head of the Anterior Segment and Refractive Surgery Department at Foundation Rothschild | Paris



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CONFIDENCE THROUGH VISUALIZATION.

Premium digital image quality

Help surgeons identify fine anatomical structures clearly. Digital brightness adjustments enable lower illumination levels, supporting patient comfort.

- Excellent color, contrast, resolution
- Enhanced depth of field
- Advanced digital image enhancement

SIT STRAIGHT. LOOK STRAIGHT AHEAD.

Ergonomics designed for surgeons

3D monitors for straight-ahead viewing combined with freely positionable digital binoculars and the C-shaped suspension arm support a healthy posture during surgery.

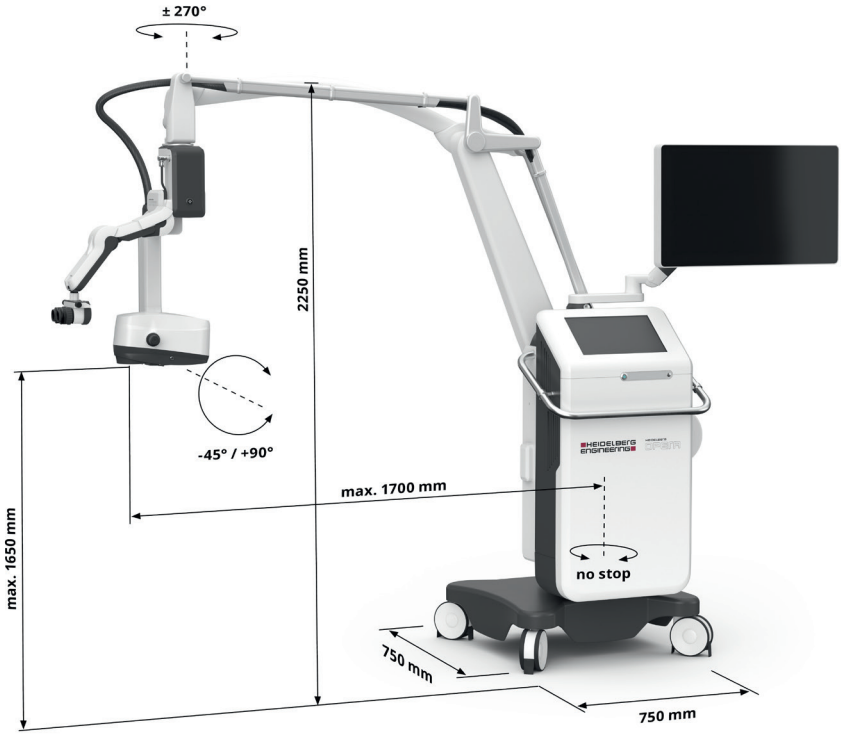
- Reduced neck and back strain
- Flexible positioning to support ergonomic postures for all display options

COLLABORATIVE SURGERY. INTUITIVE CONTROL.

Efficient workflow meets surgical education

Enhance collaboration and training with large 2D & 3D monitors and live annotations enabling the entire OR team to follow surgery in real time for clearer communication, more effective training, and a more immersive surgical experience.

- Intuitive control via touchscreen / footswitch
- 2D & 3D 4K-UHD recording
- Live annotations for teaching and guidance



Technical Specifications

Display Options for Surgeons
- Digital binoculars
- 55" 3D 4K monitor
- 32" 3D 4K monitor (mounted to the microscope stand)

Display Options for Observers
- Up to 4 via wireless transmitter (2D/3D, up to 4K-UHD resolution)
- 1× 3D via HD-SDI or
- 2× 2D via HD-SDI

Camera Sensor Resolution
2× 4K-UHD cameras (3840 × 2160 pixels)

Magnification
Motorized optical 6× zoom
50% digital zoom

Focus Range
90 mm (in 0° position)

Working Distance
200 mm

Aperture
Motorized, 9 positions

Red Reflex Illumination
LED

Surrounding Field Illumination
LED

Built-in Keratoscope
LEDs

Surgical Annotations
Yes

Video Editing
Yes

Recording
- 4K-UHD (3840 × 2160), 60fps
- Full-HD (1920 × 1080), 60 fps
- Full-HD (1920 × 1080), 30fps
- 2D & 3D

Digital Filters
- Color filters
- Contrast enhancement
- Sharpness
- Digital brightness

Physical Filters
- Retina protection filter (built-in)
- Retina protection plate (built-in)
- 532 nm laser filter (built-in)

Compatible Fundus Viewing Systems
- Oculus BIOM® 6
- Oculus BIOM® 5ml/cl
- Oculus BIOM® ready/ready+

Interfaces
- 1× HDMI optical output
- 2× HD-SDI in
- 2× HD-SDI out
- Wireless video transmitter
- USB 3.2 gen 2

Legal Manufacturer
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