

OLYMPUS

ORBEYE

Revolutionize Your Surgical Microscopy

ORBEYE 4K 3D Orbital Camera System



ORBEYE 4K 3D Orbital Camera System

Key Benefits



4K 3D Visualization

Precise Images for Seeing More Anatomical Details and Tissue Structure

- True simultaneous 4K 3D visualization
- No image latency
- Super high 26 x magnification
- 4K 3D imaging chain



Bright Observation Modes

Brighter-Light Observation Modes Compared to Standard Surgical Microscopes

- Cold-light LEDs with virtually no heat generation
- IR – infrared light
- BL – blue light
- NBI – Narrow Band Imaging



Ergonomic Benefits

More Comfortable and Natural Working Position

- Comfortable heads-up posture
- Freedom from ocular lenses
- Positioning flexibility
- Ample operative working space



Facilitating Team Surgery

Operative Efficiency and Educational Advantages

- Flexible positioning of surgeon and assistant
- Multiple operator workflows for various procedures and approaches
- Multiscreen surgical mode



Smart Operating Room Solutions

Time-Saving and Versatile Utilization

- Easy setup
- Quick one-person sterile draping
- Applicable for various specialties



Changing the Way You See Things



4K 3D Visualization

Big Screen 4K 3D Visualization

- See anatomical details with four times the resolution of standard HD imaging.
- Experience true depth perception with natural 3D visualization.
- Reliably identify tissue boundaries, blood vessels and lesions via a larger color range and light modes such as blue light, infrared and Narrow Band Imaging (NBI).

Agile Autofocus and Optical and Digital Zoom

- The very agile autofocus keeps your surgical field in focus at all times, reducing the need for manual focusing.
- The optical zoom function allows you to quickly zoom in and out as needed.
- The digital zoom provides fast, additional magnification for extra-detailed surgical work.

Semi-Robotic Camera Unit

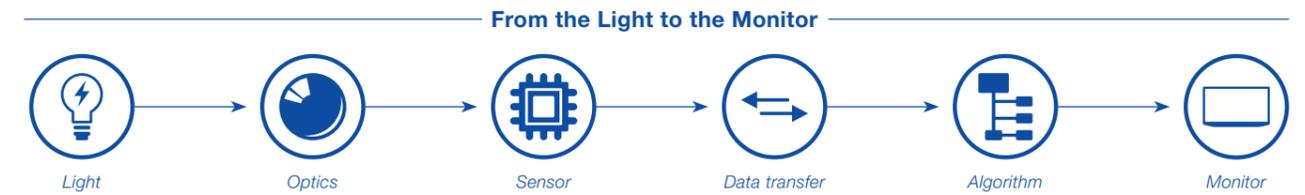
The camera unit can be controlled via a foot switch. Adjustments to the position on the x- and y-axes can be achieved seamlessly even under very high magnification.

No Image Latency

ORBEYE imaging components are optimized to work together seamlessly resulting in a high quality native 4K 3D image with no perceivable image latency of less than 100 milliseconds.

4K 3D Imaging Chain

All ORBEYE imaging subcomponents work together seamlessly to produce unsurpassed 4K 3D images.



Changing the Way You See Things



Bright Observation Modes

Seeing More

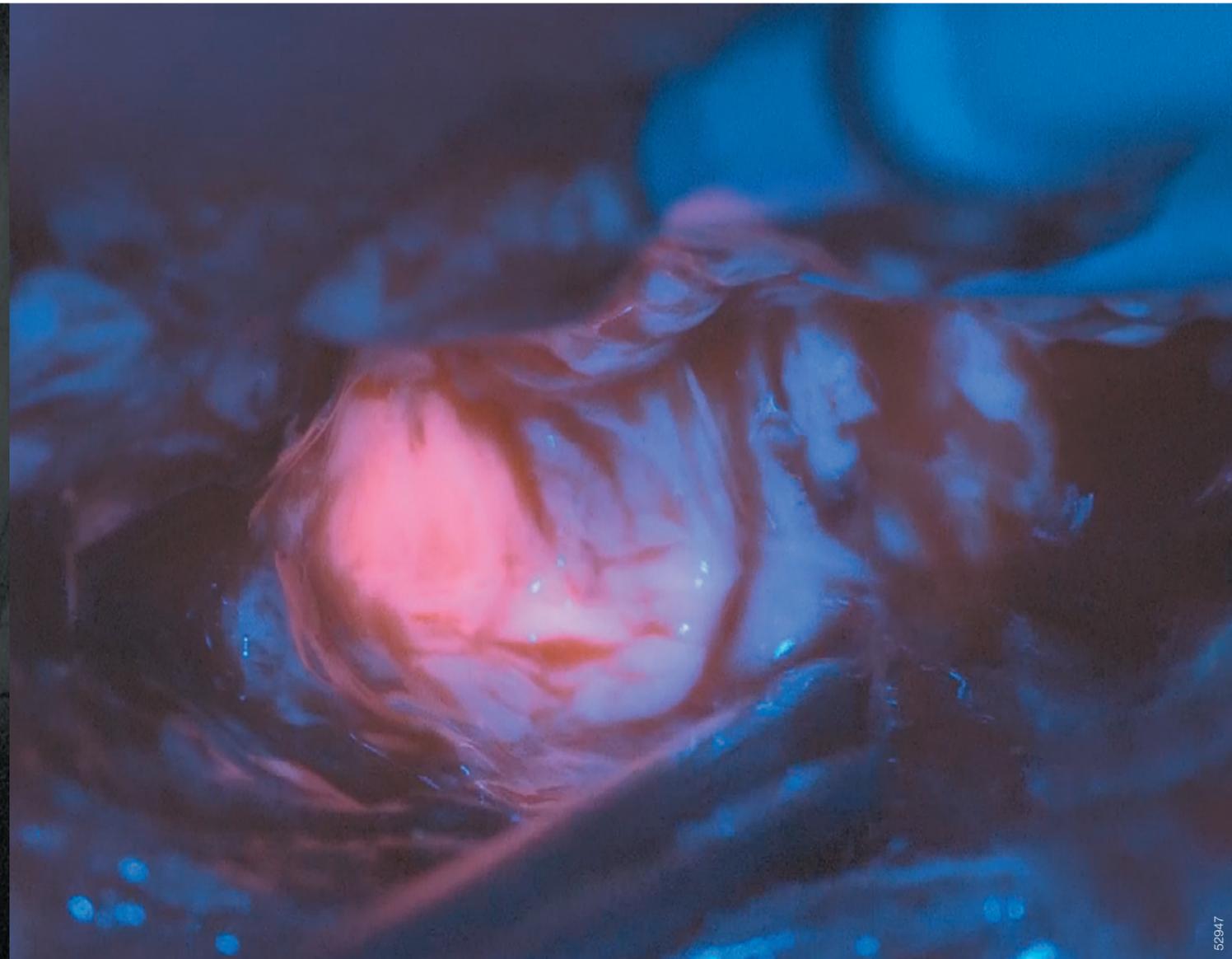
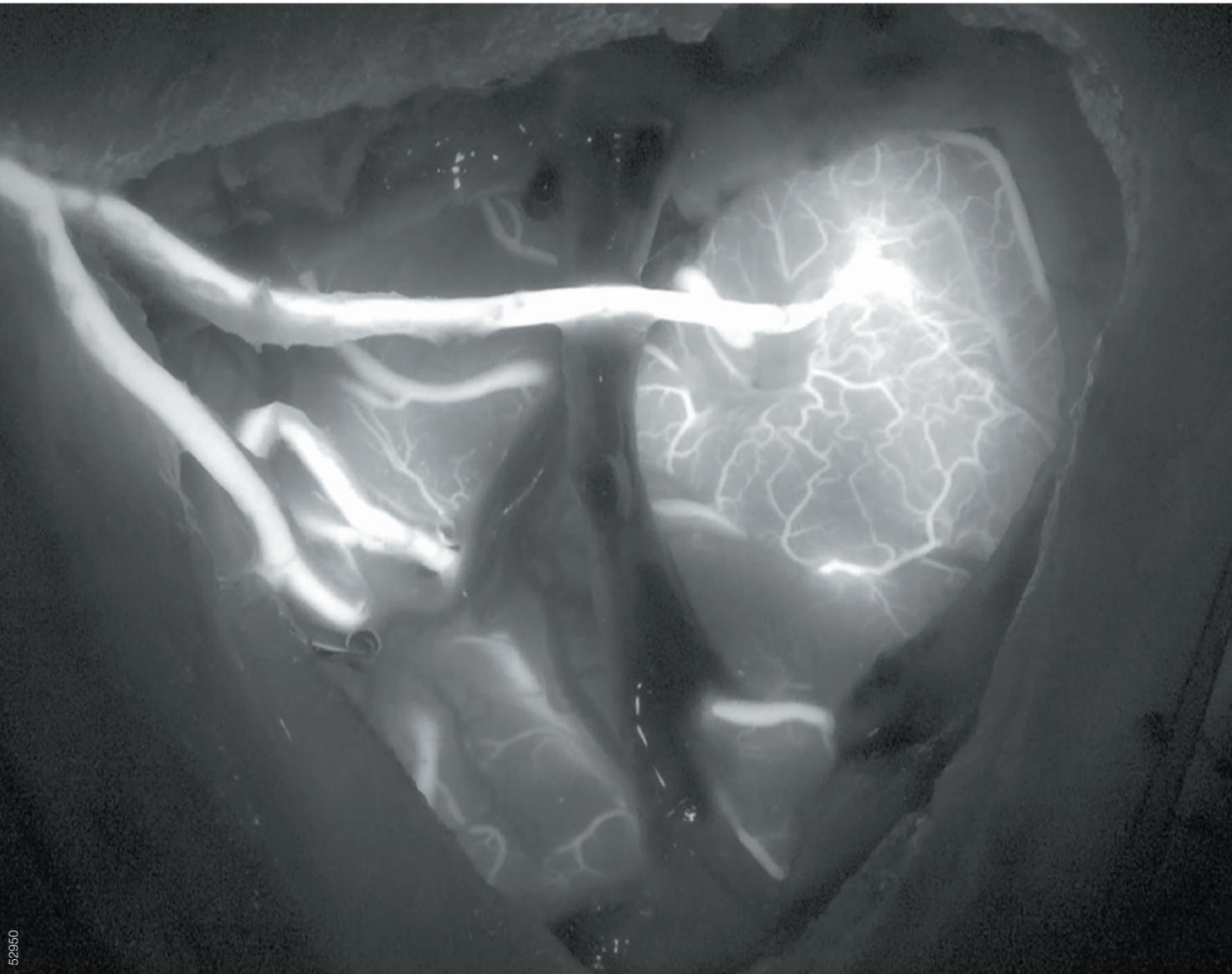
In addition to white light imaging, the ORBEYE 4K 3D orbital camera system offers three different observation modes aimed at improving the surgical workflow.

IR – Infrared Imaging Mode

The infrared imaging mode provides bright 4K 3D intraoperative ICG fluorescence. ORBEYE uses dedicated LEDs capable of directly producing the required wavelength without relying on filter technology. This ensures brighter illumination of the ICG distribution through the vascular structures.

BL – Blue Light Imaging Mode

The blue light imaging mode helps to distinguish tissues that have accumulated certain fluorophores from tissues that have not. A dedicated blue light LED provides high contrast and illumination for real-time dissection.





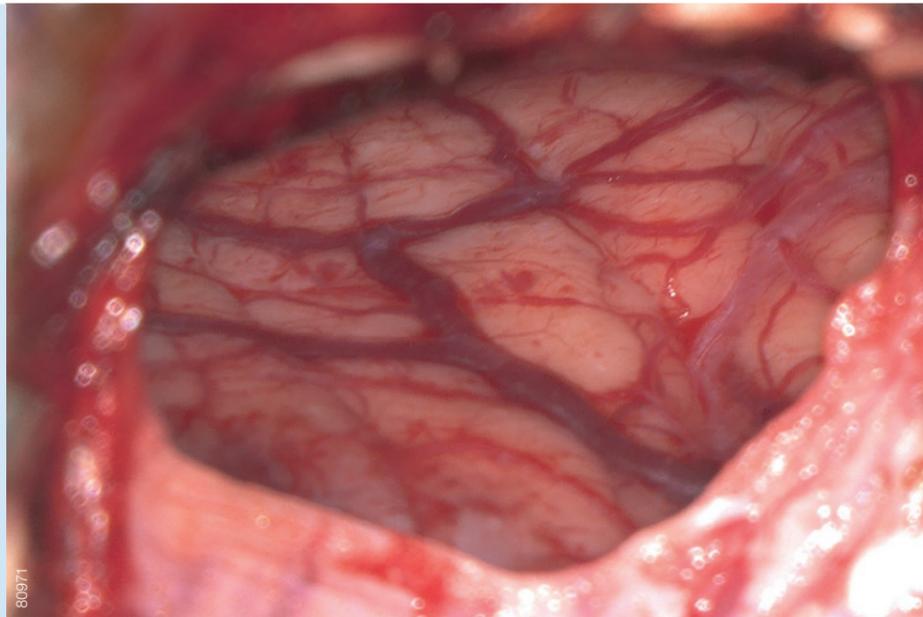
Bright Observation Modes

NBI – Narrow Band Imaging Mode

Narrow Band Imaging (NBI) is an optical technology available for a variety of medical disciplines. It helps to visualize the minutest vascular patterns and variations in these patterns. NBI uses only wavelengths absorbed by hemoglobin for maximum contrast.

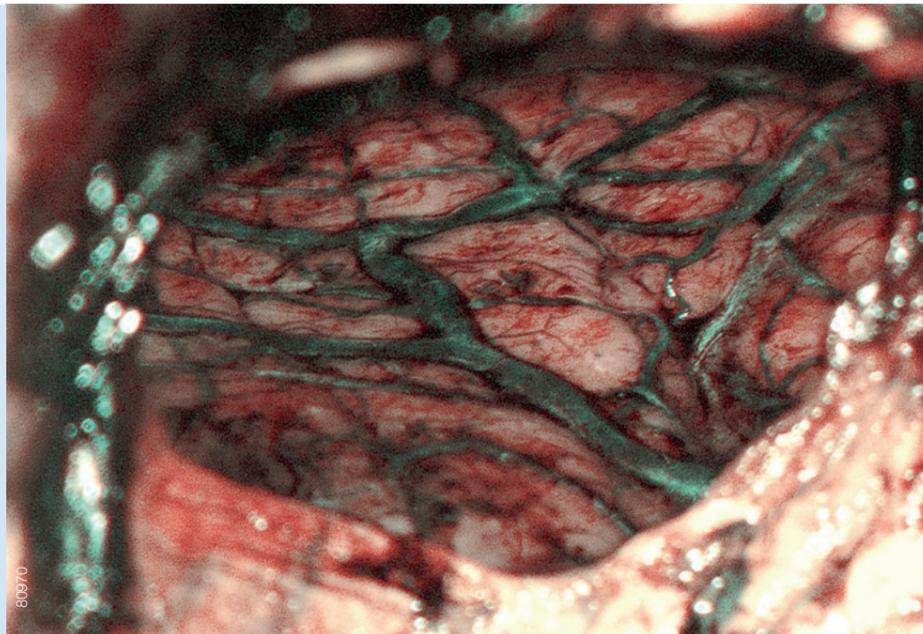
White Light Image

Vascular structures with white light imaging.



NBI Image

Visual enhancement of vascular structures with Narrow Band Imaging technology.

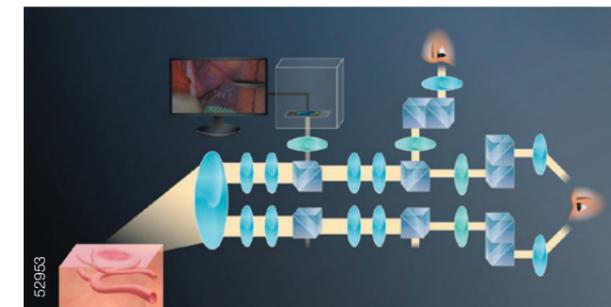


About Fluorescence Modes and Filter Technology

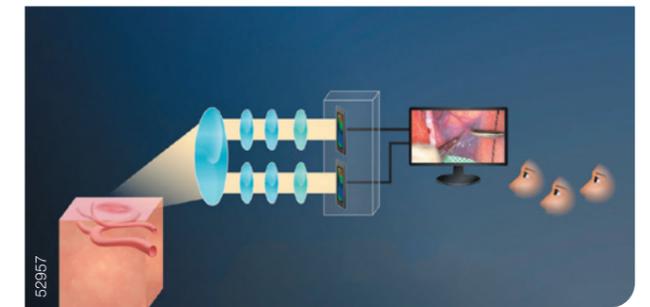
The ORBEYE 4K 3D orbital camera system fluorescence modes and filter technology benefit directly from the unique design of the system.

You will experience optimized fluorescence light (Blue Light and Infra-red) for enhanced 4K3D visualization of the surgical field. Increased brightness is the result of three key design features:

1. Light passes through fewer optical lenses compared to an ocular-based microscope.

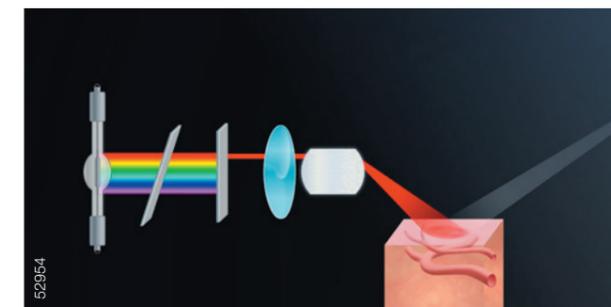


Standard surgical microscope

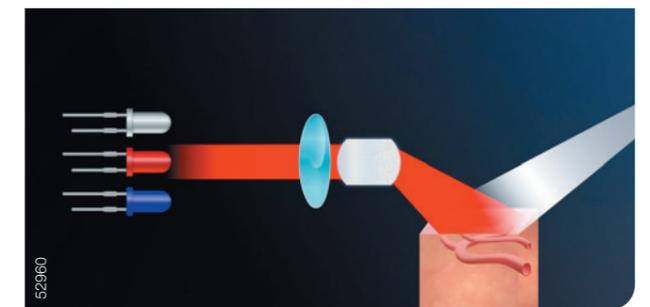


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2. The use of dedicated blue and red LEDs, rather than relying on filters removing light wavelengths from white light.



Standard surgical microscope



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3. The Exmor R CMOS image sensor made by SONY has the light-receiving surface located above the wiring layer. Therefore, most of the available light reaches the sensor.



Standard surgical microscope



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Free Yourself from the Constraints of Standard Surgical Microscopes



Ergonomic Benefits

Freedom from Ocular Lenses

Untether yourself from the constraints of traditional ocular-lens-based microscopes and experience a more ergonomic and more comfortable heads-up posture.

Greater Positioning Flexibility for Various Approaches

- Observe the surgical field from various camera angles that would be challenging to achieve with a traditional surgical microscope.
- ORBEYE's small and flexible optical unit can facilitate multiple surgical positions without compromising posture of surgeon or creating positional discomfort.
- Ample space to operate due to the compact design of the optical unit. A large distance from the surgical field reduces obstruction of the surgical site.

Involve the Entire Surgical Team



Facilitating Team Surgery

Operative Efficiency

- Enables you to work side by side with your assistant in the same orientation.
- Optimizes multiple surgeon workflows.
- Ensures an immersive experience for the entire surgical team due to its big screen 4K 3D imaging, which facilitates teamwork, surgical training or additional consultative input if needed.
- May contribute to greater surgical-step anticipation and preparedness by including staff in magnified 4K 3D visualization.

Educational Advantages

- The ORBEYE imaging system is a valuable tool for surgeon training and education. All participants, both residents and senior surgeons, can see the same high-quality 4K 3D immersive images of the surgical field at the same time displayed on single or multiple monitors.
- All surgical procedures can be saved using the 4K 3D or other Olympus recording devices, allowing residents to study the surgical procedure postoperatively. Surgical procedures can be explained by senior or main surgeons on the large monitor.



A System That Is Ready When You Are

Smart Operating Room Solutions



Easy Draping

ORBEYE's compact optical head and arm design facilitate simple and quick one-person sterile draping. Draping the ORBEYE takes less than a minute, which helps to maintain a smooth surgical workflow. The optical head and arm designs of traditional surgical microscopes often require multiple people and considerable time for the draping procedure.

Applicable for Various Specialties

- Due to its versatile design, ORBEYE can be used as a visualization tool for multiple surgical specialties and procedures.
- ORBEYE's small footprint means it can be conveniently placed in multiple operating room configurations.
- Because it can be used for multiple specialties, ORBEYE may increase cost-effectiveness, utilization and return on investment.

Plug and Play

ORBEYE eliminates the need for preprocedure balancing or center of gravity adjustment. Traditional surgical microscopes require this step due to changes of the machine's center of gravity when moving their heavier ocular eyepieces. The system boots up and provides a surgical 4K 3D image in under 15 seconds. Combined with its easy setup, the system is ready to be used within minutes.

Import External Image Media to Screen

Import multiple media sources onto main screen such as Olympus endoscopy images or IGS data using the PiP (Picture-in-Picture) function.

Works with Existing IGS/Navigation Platforms

Use any existing IGS/Surgical Navigation Platform. ORBEYE can be used in combination with your existing Image-guided surgery platform by navigating standard surgical instruments.

Easy Transportation

ORBEYE can easily be transported between operating rooms due to it being lightweight and compact and greatly reduces obstruction of the surgical site.



ORBEYE 4K 3D Orbital Camera System

Components



Revolutionize Your Surgical Microscopy

 www.olympus.eu/orbeye



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Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.

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