



iOCT

Discover a new dimension with intraoperative OCT



Tradition and innovation – Since 1858 visionary thinking and a fascination with technology have guided us to develop innovative products of outstanding reliability: Anticipating trends to improve quality of life.

 **HAAG-STREIT
SURGICAL**

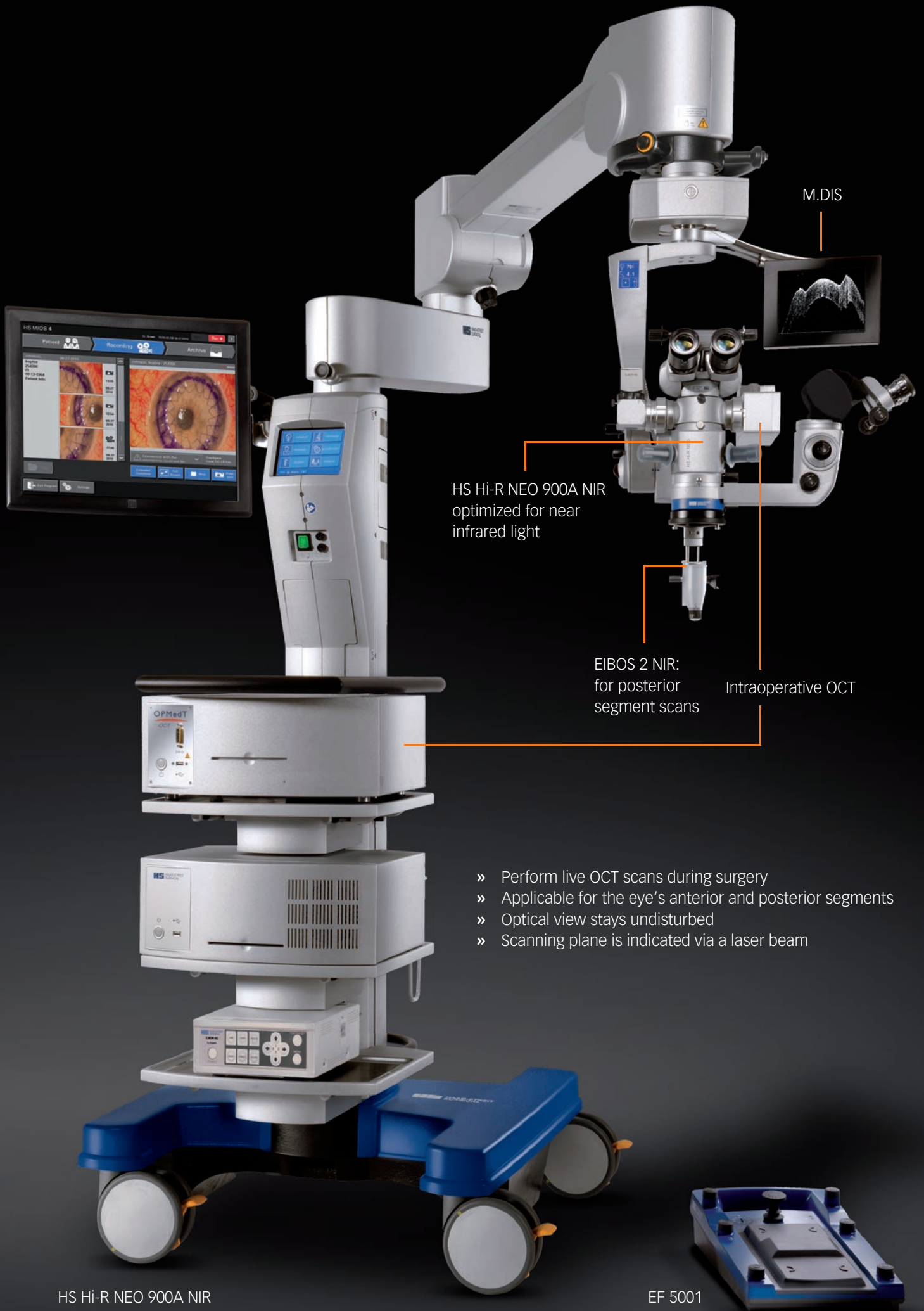
Enhance your performance



OUR HIGHLIGHTS:

HAAG-STREIT SURGICAL is pleased to introduce the world's first intra-operative OCT system, developed by OPMedT. An OCT camera is integrated into the high class operating microscope HS Hi-R NEO 900A NIR and its mounting system. OCT scans of the eye's anterior and posterior segments are performed live during surgery, thus increasing the patient's safety and improving quality control mechanisms for the surgeon. Discover more details than with a standard surgical microscope and enhance your performance!

* The compatible iOCT is not cleared for use in the US. iOCT by OPMedT is not available for sale in the US. iOCT by OPMedT is conform to EC guidelines and is thus CE labeled.



M.DIS

HS Hi-R NEO 900A NIR
optimized for near
infrared light

EIBOS 2 NIR:
for posterior
segment scans

Intraoperative OCT

- » Perform live OCT scans during surgery
- » Applicable for the eye's anterior and posterior segments
- » Optical view stays undisturbed
- » Scanning plane is indicated via a laser beam

HS Hi-R NEO 900A NIR
on floor stand FS 2-21 / FS 2-25 with integrated intraoperative OCT

EF 5001



Anterior segment surgery

Intraoperative OCT (iOCT) can be used for all surgery performed in the eye's anterior segment. While in cataract surgery it is used to help position the IOL, it comprehensively covers all aspects of corneal surgery:

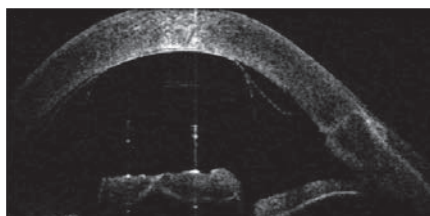
KERATOPLASTIES (PKP, DMEK, DSAEK, DALK)

- Use iOCT to orient the donor's graft
- Assess the graft's position and detect misalignment
- Eliminate air bubbles
- Improve suturing

OPAQUE CORNEA

- Use the iOCT to detect structures below the cornea
- View the iris to determine the eye's optical path
- Open the cornea centered on the optical axis

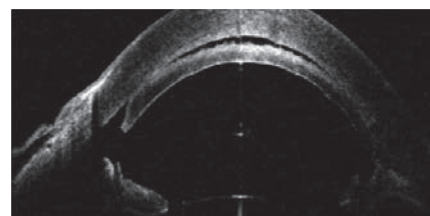
DMEK



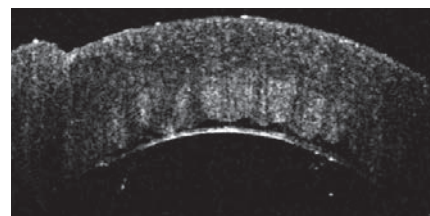
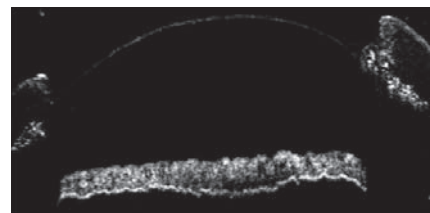
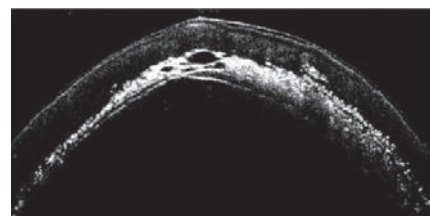
IOL



DSAEK



DALK





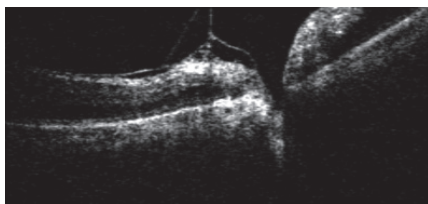
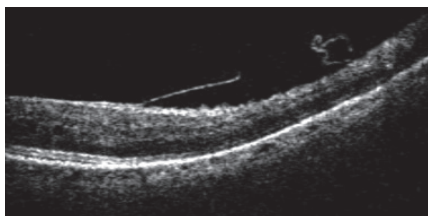
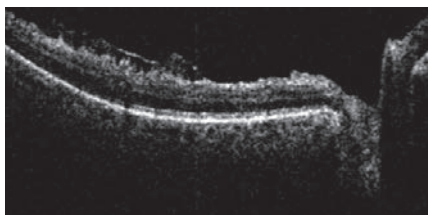
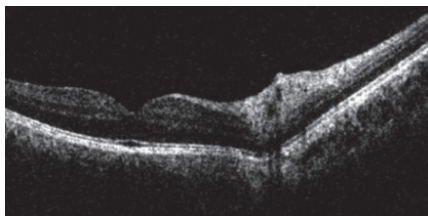
Posterior segment surgery

For posterior segment surgery and observation of the retina, intra-operative OCT can be used with HAAG-STREIT SURGICAL's ophthalmoscopic system EIBOS 2 NIR or a contact lens.

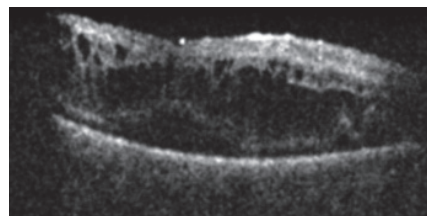
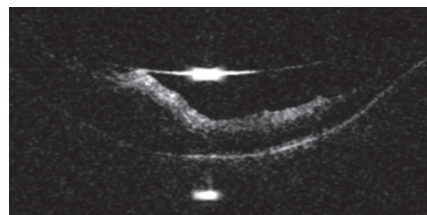
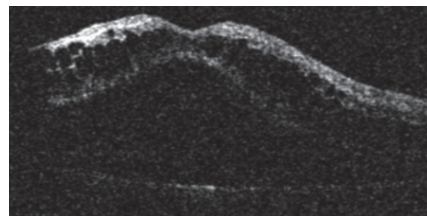
APPLICATIONS ARE:

- ILM peeling with the membrane visible in the OCT
- Retina detachments to judge the re-established contact between the retina and the uvea
- Closing macula holes

ILM PEELING



RETINA REATTACHMENT





Handling and visualization

In order for OCT observation during surgery to be possible, the microscope needs special optics that are optimized for near infrared (NIR) light. These optics are integrated into the HS Hi-R NEO 900A NIR as well as into the EIBOS 2 NIR. For added flexibility the OCT-ready microscope system is also offered separately from the actual OCT making it possible to upgrade later on.

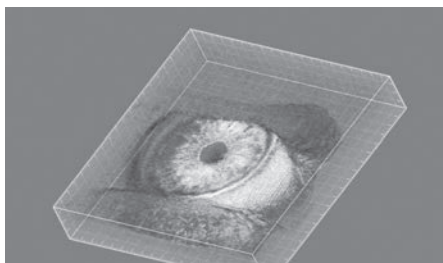
For easy handling the intraoperative OCT was designed to focus on the same focal plane as the microscope. In addition, the microscope's zoom can be used to magnify the iOCT's image. A laser beam indicates the plane of the object that is being scanned by the OCT.

As integration into the surgical team's workflow is important, the iOCT image is displayed on the M.DIS, a screen mounted on the microscope in direct view of the surgeon. Thanks to the screen's touch functionality it can also be used to operate the system, e.g., to change between views of the eye's anterior and posterior segments. Further options to display the iOCT image are available and under development.





Additionally volume scans can be performed. This offers the unique option of creating a 3-dimensional image including the OCT's depth information during surgery.



Videos, snapshots, and 3D volume scans can be recorded and copied to USB flash drives for documentation purposes. When used for teaching, the iOCT will help trainees learn faster as another dimension is added to their vision.

The iOCT was designed by OPMedT GmbH – a new member of the HAAG-STREIT family of companies. It was developed based on the work of a highly qualified research group in Lübeck, Germany that specialized in integrating OCT into medical instruments.



Subject to alterations.

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All products are conform to the EC guidelines and are thus CE labeled.



iOCT

Technical Data





Technical Data iOCT

iOCT	
Wavelength	840 nm
OCT method	spectral domain
Scan rate	10,000 A-scans/second
Frame rate	10 frames/second
Measuring depth	window of 4.2 mm
Resolution	axial $\approx 10 \mu\text{m}$ in air
Lateral scan width	dependent on zoom settings of the HS Hi-R NEO 900A NIR
<ul style="list-style-type: none"> • Anterior segment • Posterior segment 	5 mm to 30 mm with 0°-optics 5 mm to 30 mm with EIBOS 2 and 90D-optics 7.5 mm to 30 mm with EIBOS 2 and 132D-optics 10 mm to 30 mm
Recording options	videos, snapshots, and 3D-images
Visualization and operation	via 6½" touch screen M.DIS

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