ZEISS OPMI LUMERA 700

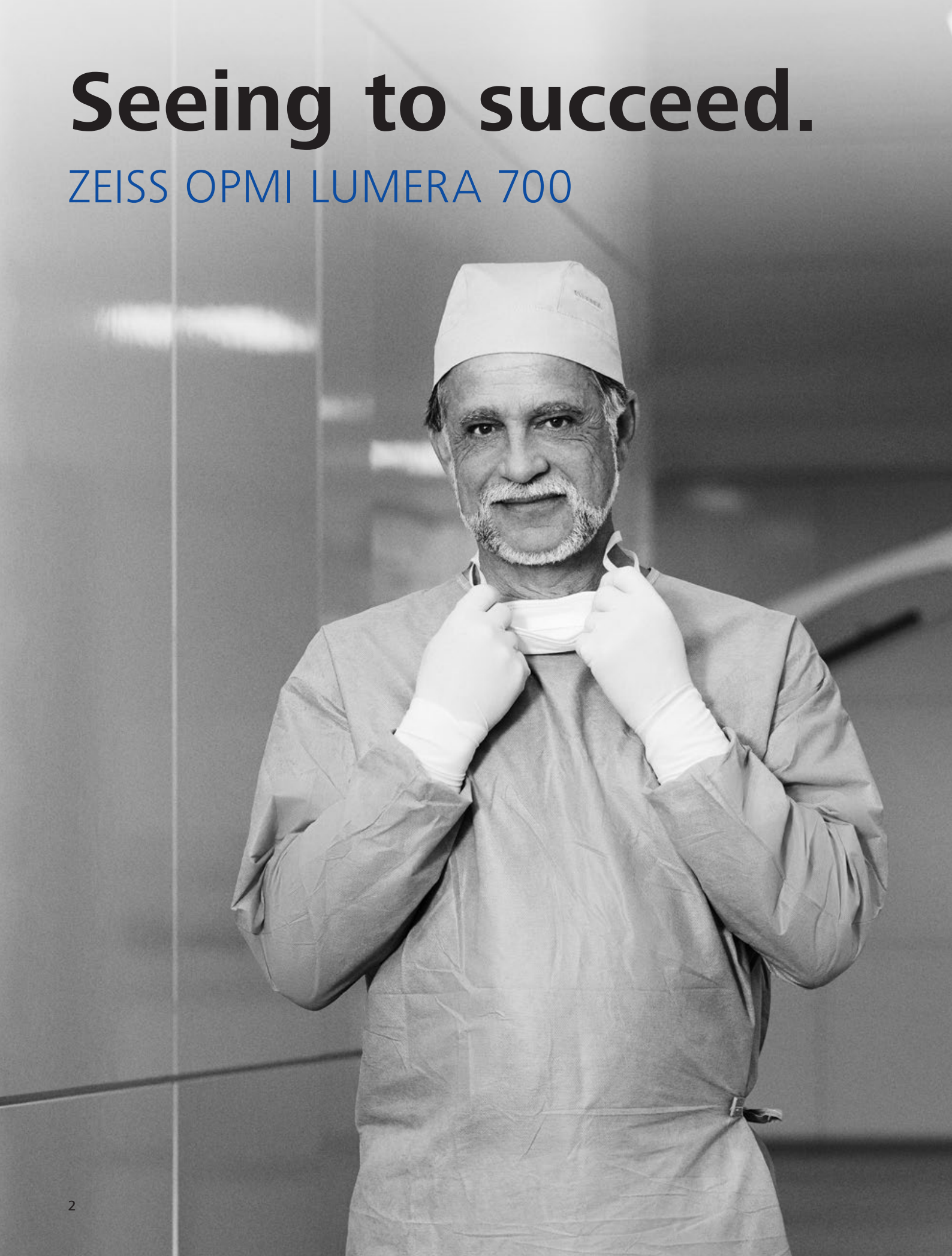
Seeing to succeed

ZEISS

Seeing beyond

Seeing to succeed.

ZEISS OPMI LUMERA 700



What drives a surgeon? A commitment to preserving and restoring patients' sight – to saving vision.

We share your dedication.

One example is with the OPMI LUMERA® 700 from ZEISS, an operating microscope ideally suited for every ophthalmic surgery speciality. Experience markerless IOL alignment and integrated intraoperative OCT* imaging – all in one device.

ZEISS OPMI LUMERA 700 – our commitment to helping you see to succeed.

* ZEISS RESCAN 700

Seeing to succeed in cataract surgery

Precise* and efficient** markerless toric IOL alignment

With ZEISS CALLISTO eye markerless alignment, manual marking steps can be skipped altogether for an efficient and precise* toric IOL alignment to reduce residual astigmatism.

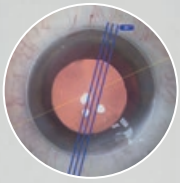
For cataract surgeries, ZEISS OPMI LUMERA 700, with its well-known patented SCI illumination, ZEISS optics and CALLISTO eye® from ZEISS provides the best anterior views and precise* assistance functions.

I save 6 minutes per patient and improve alignment precision by 40% compared to manual marking.

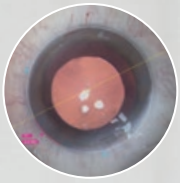
Wolfgang Mayer, MD, Augenklinik der Universität München, Germany

Cataract assistance functions for every step of the surgery

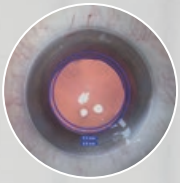
The assistance functions of ZEISS CALLISTO eye are completely surgeon-controlled – with either the foot control panel or handgrips.



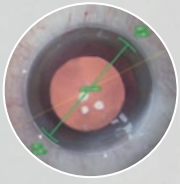
Z ALIGN®
Perform toric IOL centration on the visual axis provided by the IOLMaster and perform rotational alignment



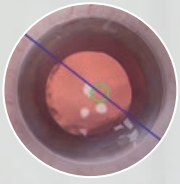
Incision
Position incisions, optionally on the steep axis; add opposite clear cornea incision and paracenteses



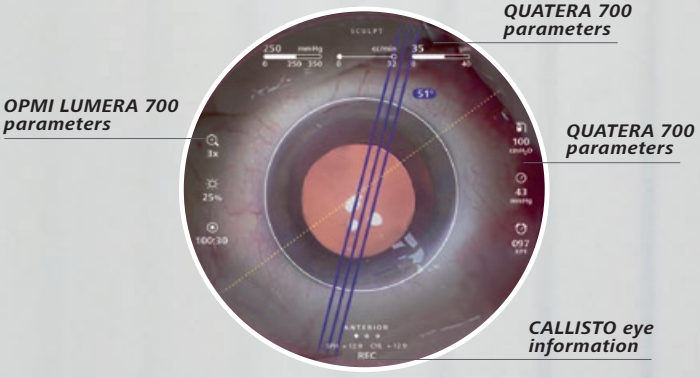
Rhexis
Precisely size and shape capsulorhexis and align the IOL on the visual axis provided by the IOLMaster*



LRI
Perform relaxing incisions



K TRACK®
Estimate the local corneal curvature in combination with a keratoscope



Efficient markerless IOL alignment

Starting with a biometry reference image from the IOLMaster® from ZEISS, data is transferred smoothly to CALLISTO eye. This data is used to create overlays in the eyepiece. Save time, increase efficiency and reduce residual astigmatism when you:

- skip manual preoperative marking
- skip manual data transfer
- skip manual intraoperative marking

Data from QUATERA® 700 from ZEISS is integrated in the visual field of the ocular and screen for a better overview.

Efficient surgery setup

The image quality check supports you to optimize light intensity, magnification and centration of the microscope to efficiently set up the reference axis. The well-proven* eye tracking automatically compensates for eye movements and supports the use of the assistance functions.

»CALLISTO eye enabled easy and exact toric IOL alignment in all cases.«
Prof. Findl,
VIROS, Hanusch Hospital, Vienna, Austria

* VIROS research team of Prof. Findl: Clinical data of Dr. Varsits "Deviation between the postoperative (at the end of surgery in the operating room) and aimed IOL axes was 0.52 degrees± 0.56 (SD)" published in J Cataract Refract Surg 2019; 45:1234–1238 and Clinical data of Dr. Hirnschall presented at ESCRS 2013.
** Clinical data of Dr. Mayer: "Toric IOL implantation was significantly faster using digital marking" published in J Cataract Refract Surg 2017; 43:1281–1286.

Seeing to succeed in glaucoma surgery
Improved visualization

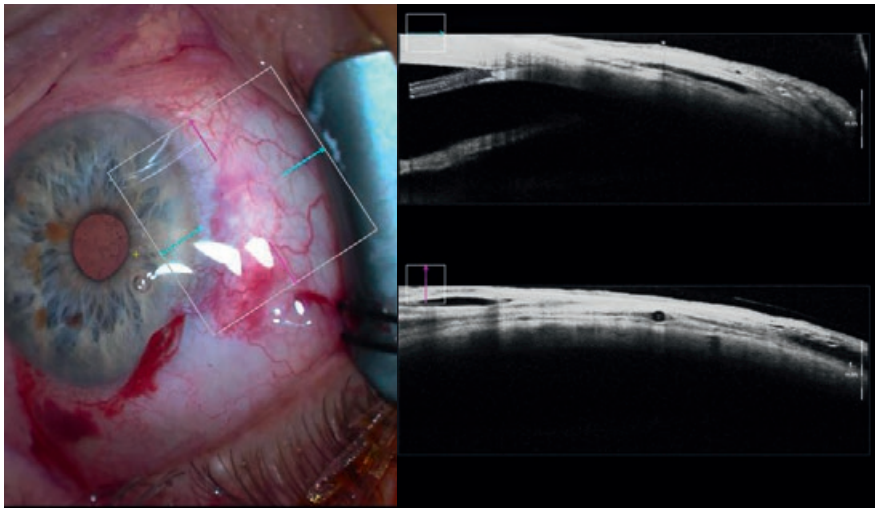
As minimally invasive glaucoma surgery (MIGS) and canaloplasty procedures evolve, intraoperative OCT plays an increasingly important role, particularly for monitoring implants such as stents in difficult to see spaces. The integrated intraoperative OCT* images of the ZEISS OPMI LUMERA 700 enable a clear visualization of the device placement to help achieve excellent outcomes.

More information to support your decisions during surgery
Integrated intraoperative OCT* visualizes the orientation and placement of the MIGS implant, supporting surgical decisions and providing more information on outcomes. Distortion-free, computer enhanced intraoperative OCT* images visualize detailed structures in the natural physiological shape.

Stay focused on the area of interest
Save time by maintaining the selected intraoperative OCT* scan location with the new automatic XY tracker. In addition to the proven Z tracker, the XY tracker compensates for movements of the eye or the microscope.

Protect the retina
Shield the retina from excessive light exposure with the integrated retina protection filter.

Flexible perspective for a better view
Tilt the microscope head as needed to better observe the iridocorneal angle.



Verify the position and function of innovative glaucoma drainage devices (e.g. stents)

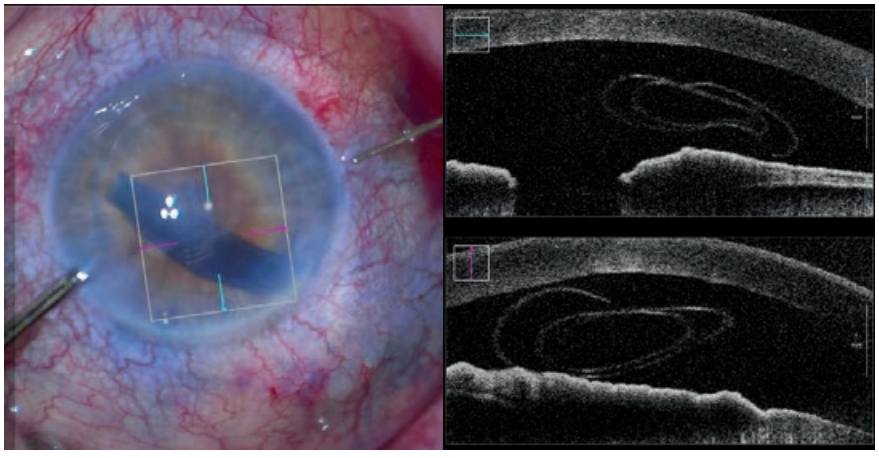
> ***Intraoperative OCT* gives me better control in modern glaucoma surgery through visualization of MIGS and canaloplasty.***
>
> Hagen Thieme, MD, Otto-von-Guericke-Universität Magdeburg, Germany

* ZEISS RESCAN 700

Seeing to succeed in cornea surgery
Reduce graft manipulation

Clinical results indicate that using intraoperative OCT* can reduce cell loss.** Studies show that intraoperative OCT* from ZEISS can lead to quicker decisions***, resulting in reduced manipulation time and, therefore less cell loss.

The integrated intraoperative OCT* of the ZEISS OPMI LUMERA 700 visualizes the actual physiological shape of the cornea in two different scan views. Switch between views with a touch of the finger or tap of the foot to make your decisions faster.



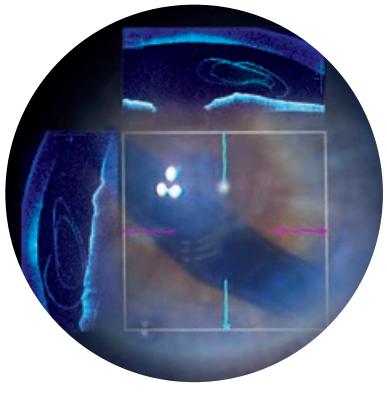
See the graft orientation without manipulation in DMEK surgery with intraoperative OCT

Make faster decisions with two scan depths and a realistic view.
Quickly change between high-resolution OCT scans (2.9 mm scan depth in tissue) and large overview images (5.8 mm scan depth in tissue) to visualize and assess graft orientation.

Observe the natural physiological shape of the cornea with distortion-free intraoperative OCT* images. See how intuitive OCT image navigation is during surgery.

DMEK: save time with easy graft monitoring
Monitor the graft orientation and assess the interface with the patient´s cornea. Verify proper graft positioning as well as visualize fluid interface and graft adherence.

DALK: secure big-bubble procedure
OCT* imaging helps the surgeon during DALK to assess the dissection depth in order to reduce perforation risk and potentially improve the reproducibility of the big-bubble procedure.



OCT image of graft orientation during DMEK surgery in the ocular*

> ***I reduced graft manipulation time by 4.2 minutes during DMEK.*****
>
> Alain A. Saad, MD, Fondation Rothschild, Paris, France

Full integration for increased efficiency

The integrated slit illuminator**** provides four slit widths with left-right slit movement to simplify observation of the cornea and anterior chamber – without the hassle of fitting extra accessories.

Visualize corneal curvature without interrupting the surgery with the integrated keratoscope ring. The ZEISS CALLISTO eye K TRACK assistance function estimates the local corneal curvature.

* ZEISS RESCAN 700

** Results of severe corneal edema cases presented at AAO 2015, comparing 13 eyes supported by intraoperative OCT from ZEISS to 15 without.

*** Clinical data of Cost B, Goshe JM, Srivastava S, Ehlers JP published in Am J Ophthalmol. 2015 Sep; Intraoperative optical coherence tomography-assisted descemet membrane endothelial keratoplasty in the DISCOVER study.

**** Not available in combination with intraoperative OCT.

Seeing to succeed in retina surgery

Make more informed decisions

With innovative technologies such as integrated intraoperative OCT* and the non-contact fundus viewing system RESIGHT® 700 from ZEISS, the ZEISS OPMI LUMERA 700 gives new meaning to "insight" when performing retina surgery procedures.

Superb OCT images for informed decisions

Integrated intraoperative OCT* adds a real-time third dimension to visualization capabilities for viewing transparent structures of the eye during surgery.

Monitor the surgical progress and make decisions accordingly. The superb clarity of the intraoperative OCT* images can provide unexpected insights, allowing strategy adjustments during surgery.

» Intraoperative OCT* revealed undetected macular holes after peeling in 10% of highly myopic eyes. «

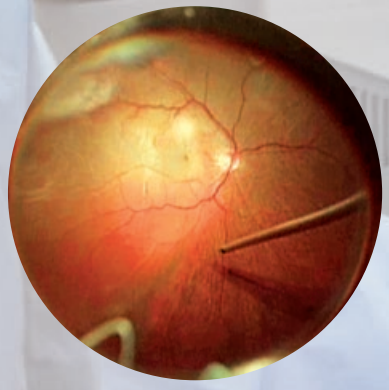
Ramin Tadayoni, MD, PhD, University of Paris VII - Sorbonne Paris Cité, Paris, France

See the retina in more detail
The proven non-contact retina visualization system ZEISS RESIGHT 700 provides a clear, detailed view of the retina. Varioscope optics from ZEISS enable surgeons to stay fully focused on the area of interest. Switch magnification quickly with the two aspheric lenses. It is also possible to use a direct or indirect contact glass.

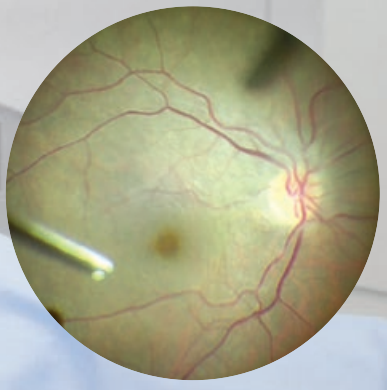
With the ZEISS RESIGHT 700, the surgical microscope automatically adjusts the camera settings, Invertertube E settings, lighting and speed of motion to the preset values for retina surgery.

Keep your focus
The new automatic XY tracker, in addition to the proven Z tracker, compensates for movements of the eye or the microscope, saving time by maintaining the selected intraoperative OCT* scan location.

Complete your surgery with confidence
Verify that all necessary membrane residue has been completely removed following ILM peelings with OCT* imaging. Detect macular holes that might easily be overlooked and monitor vitreomacular traction.



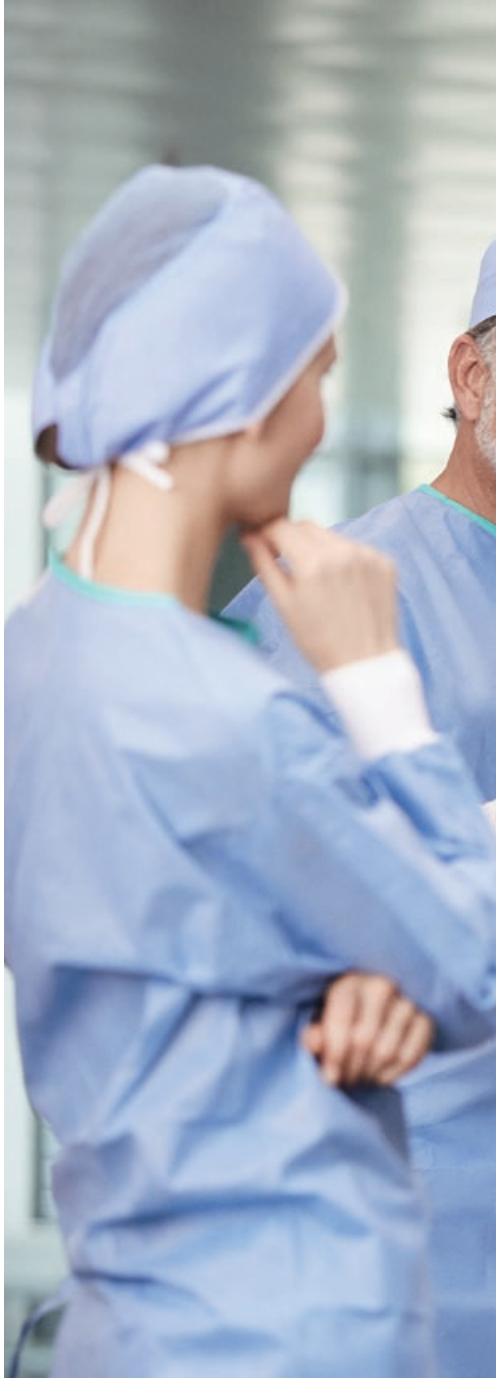
128D wide-field lens
For peripheral visualization and a clear overview during vitrectomy



60D macular lens
For high magnification of the macula

* ZEISS RESCAN 700

Seeing to succeed in teaching
Share your knowledge



ZEISS OPMI LUMERA 700 features excellent tools for enhancing the learning experience. Students need to see every detail to have a clear understanding of the surgical process. Whether during surgery, viewing through the assistant scope or reviewing post-surgery, it is important to provide images with excellent contrast, color, and high resolution.

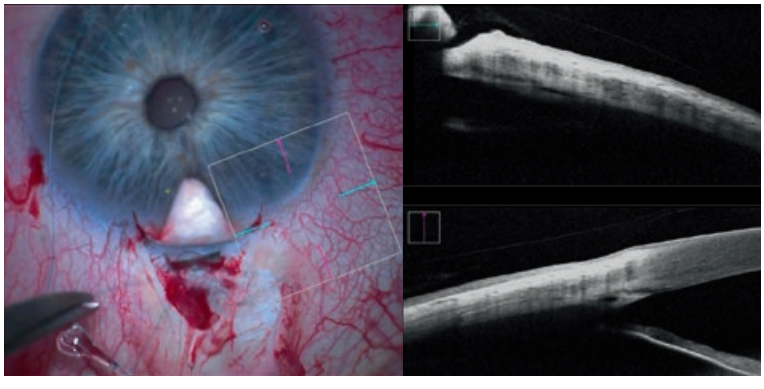
The optical performance from ZEISS enables students to see deep into the ophthalmic world using:

- Integrated intraoperative OCT* that provides a clearer image of what is happening during surgery
- Integrated assistant scope with independent magnification, which can be linked to the main microscope for teaching purposes
- ZEISS CALLISTO eye cockpit to observe and share information

More documentation – faster
Video documentation is important for recordkeeping and for teaching. Simply insert a USB device to document the cockpit view, assistance functions and intraoperative OCT* images in HD quality. ZEISS CALLISTO eye, together with a data management system such as FORUM from ZEISS, records the microscope live image on both the internal hard drive and the external USB drive simultaneously to avoid time-consuming video exports.

All details are available for you and your students

The new ZEISS CALLISTO eye cockpit provides even more information for surgery and teaching. Both the doctor and the student can now view data in the eyepiece, from all connected devices, shown on the ZEISS CALLISTO eye screen or from recorded video.



Your students can clearly follow the surgery to unblock the Schlemm's canal.

* ZEISS RESCAN 700

Technical data

OPMI LUMERA 700 from ZEISS

ZEISS OPMI LUMERA 700	
Surgical microscope	Motorized zoom system with apochromatic lens, zoom ratio 1:6
	Magnification factor = 0.4 x – 2.4 x
	Focusing: electric / motorized, focus range: 70 mm
	Objective lens: f = 200 mm (optionally also f = 175 mm or f = 225 mm with support ring)
	Binocular tube: Invertertube E (optionally also Invertertube, 180° swivel tube, f = 170 mm, inclined tube, f = 170 mm)
	Wide-angle eyepiece 10 x (optionally also 12.5 x)
Light source	SCI: Coaxial and full-field illumination
	Fiber-optic illumination Superlux® Eye: ■ Xenon short arc reflector lamp with HaMode filter ■ Backup lamp in lamp housing, can be slid into position manually
	LED fiber-optic illumination: ■ Near-daylight color temperature ■ 50,000 hour lifetime at 50% light intensity ■ HaMode filter ■ 25% gray filter
	For all light sources: ■ Blue blocking filter ■ Optional: Fluorescence filter
Integrated slit illuminator	Slit widths: 0.2 mm, 2 mm, 3 mm, 4 mm Slit height: 12 mm

XY coupling	Travel range: max. 61 mm x 61 mm Automatic centering at the touch of a button
Video monitor	23.6″ LCD display Resolution: 1,928 x 1,080
Stand	Maximum permissible weight load of the spring arm: When the surgical microscope is attached to the arm (without tube, eyepiece or objective lens) and the XY coupling is also attached, a maximum of 9 kg of additional accessories can be attached to the spring arm

ZEISS intraoperative OCT

OCT engine	SD (spectral domain) OCT Wavelength 840 nm Scanning speed 27,000 A-scans per second
Scan parameters	A-scan depth: 2.9 and 5.8 mm in tissue Axial resolution: 5.5 µm in tissue Scan length adjustable 3–16 mm Scan rotation adjustable 360° Scan modes for live and capture acquisition Live: ■ 1-line ■ 5-lines ■ cross hair Capture: ■ 1-line ■ 5-lines ■ cube

ZEISS RESIGHT family

Mechanical data	Focus range with LH175 lens holder: 31 mm (position of intermediate image)
	Focus range with LH200 lens holder: 38 mm (position of intermediate image)
	Rotation angle of lens revolver and holder: 0°–360°
Lenses included	60D, 128D
Weight	ZEISS RESIGHT 500 (manual): 0.45 kg ZEISS RESIGHT 700 (motorized): 0.50 kg

ZEISS CALLISTO eye panel PC

Touch screen	Projected Capacitive Touch (PCT) with anti-reflective coating, scratch-proof
Processor	Intel® Core i5 6442EQ 1.9 GHz
Hard drive	SSD for operating system, SATA HDD 1 TB for data
Display	Integrated 24″ color flat screen with high luminosity and wide viewing angle
Video signals	PAL 576i50; NTSC 480i60; 1080i50; 1080i60 Only possible with camera models from Carl Zeiss Meditec AG
Ports	1 × CAN-Bus, 2 × 1 Gigabit Ethernet, 5 × USB 3.0, 1 × potential equalization
Video input	1 × Y/C, 1 × HD-SDI
Video output	2 × HDMI
Connectivity	Integrated RJ45 10/100Base-T Ethernet port for connection to ZEISS OPMI LUMERA 700 and hospital network
Weight	ca. 10 kg

ZEISS CALLISTO eye software

Version	3.7

CE

OPMI LUMERA 700
RESIGHT 700
CALLISTO eye Panel PC

CE 0297

RESCAN 700
CALLISTO eye Software
QUATERA 700

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