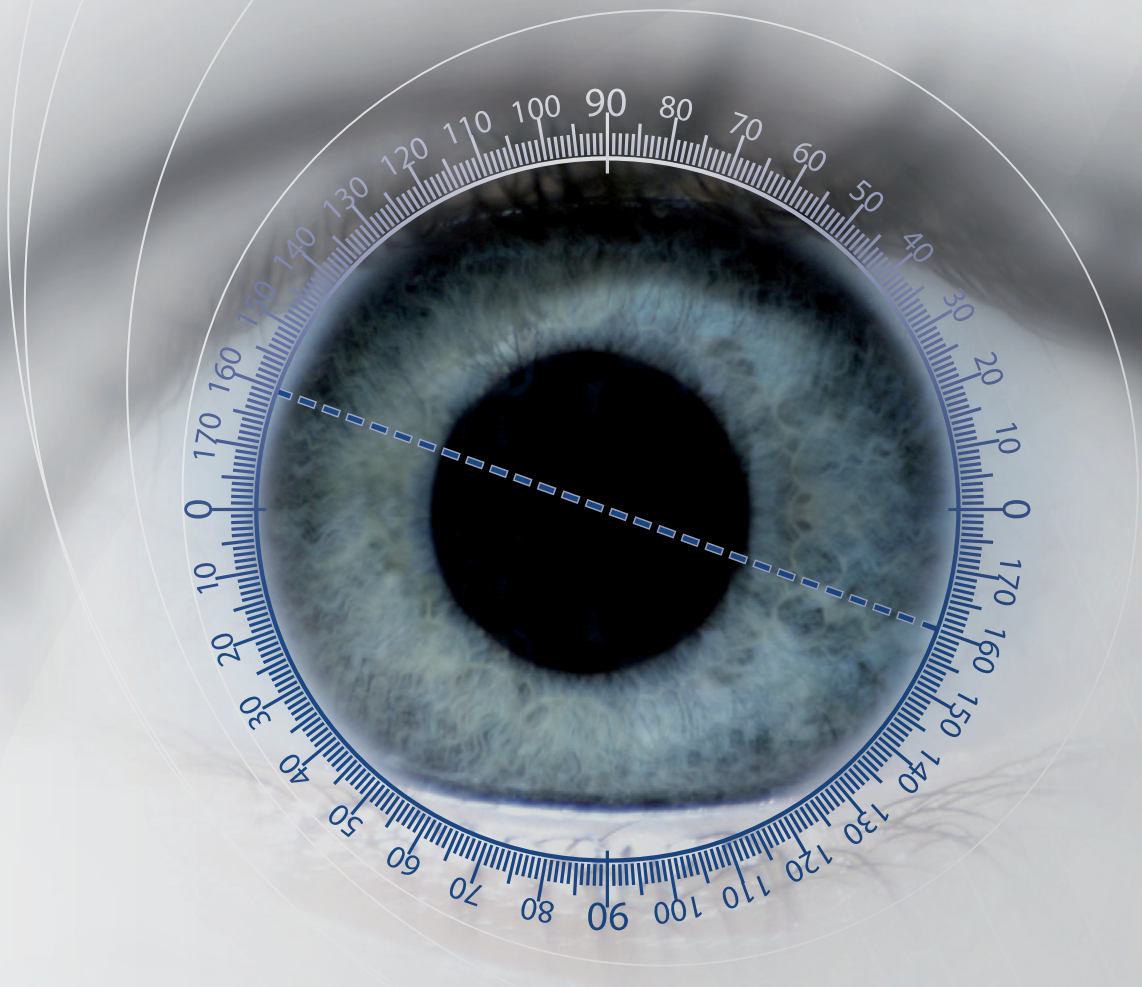
State-of-the-Art in Positioning IOL



SMI | Surgery Guidance

Position perfectly.

SMI Surgery Guidance™

Made in Germany

The SMI Surgery Guidance™ solution is the new paradigm for corneal and intraocular surgery. It provides Integrated Visual Guidance™ to the surgeon during cataract surgery with a consistent real-time eye coordinate system.

Based on anatomical eye features SMI Surgery Guidance™ automatically registers the patient's eye diagnostic information to the microscope camera live image and assists the surgeon with a real-time adjusted tracking overlay. This distinctive technology makes ink markers obsolete, optimizes the workflow and ensures reproducible accuracy at any time.

SMI Surgery Guidance™ supports the exact positioning of incision and LRIs, the centering and sizing of capsulorhexis, the accurate centering of multifocal IOL and the precise orientation of toric IOL.

The recently launched SMI Microscope Integrated Display™ injects all relevant visual information into the microscope binocular. This microscope module enables the surgeon an unique and exceptional experience in visualization and usability comfort.

SMI Surgery Guidance™ is compatible with Leica, Moellller-Wedel and Zeiss ophthalmic surgical microscopes.

SMI Surgery Guidance™ is your opportunity to advance & distinguish your practice

- ✓ Help you to ensure success in complex procedures
- ✓ Increase your premium portfolio
- ✓ Increase the probability of meeting patient expectations

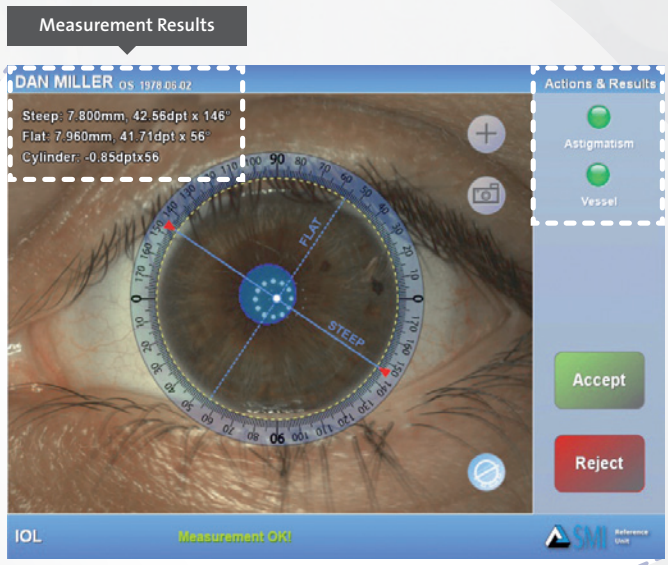
Measure

The SMI Reference Unit™ is a non-contact pre-op measurement device which seamlessly determines the K-values, the limbus and pupil location of the patients' eye. Simultaneously, a high resolution reference image of the eye with focus on scleral vessels, limbus and iris feature is taken for registering this initial diagnostic coordinate system to the later surgical microscope view.

The SMI Reference Unit™ provides an intuitive and compact human interface ensuring state-of-the-art usability and optimal workflow efficiency.

SMI Reference Unit™

Function	Toric	Phakic	LRI	Spheric & Aspheric	Multifocal
SMI Reference Unit™					
K- Readings	●	●	●	●	●
Pupillometry	●			●	●
Limbus	●	●	●	●	●
Vessel Quality	●	●	●	●	●



Plan

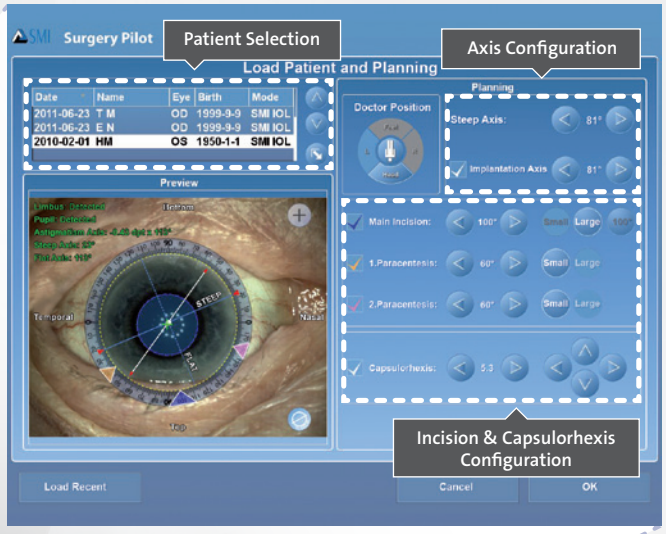
The SMI Surgery Pilot™ is an image processing computer with touch screen, connected to the surgical microscope camera. The measurement result and the reference image from the Reference Unit™ will be transferred via USB memory to the Surgery Pilot™ in the OR.

Before surgery starts, the surgeon defines the target axis, the incision and lens locations as well as the rhexis location and diameter for intra-surgery visualization by using the Reference Unit™ diagnostic information and data from other diagnostic sources.

Please ask SMI or SMI distributors for digital import interfaces to third party diagnostic devices.

SMI Surgery Pilot™

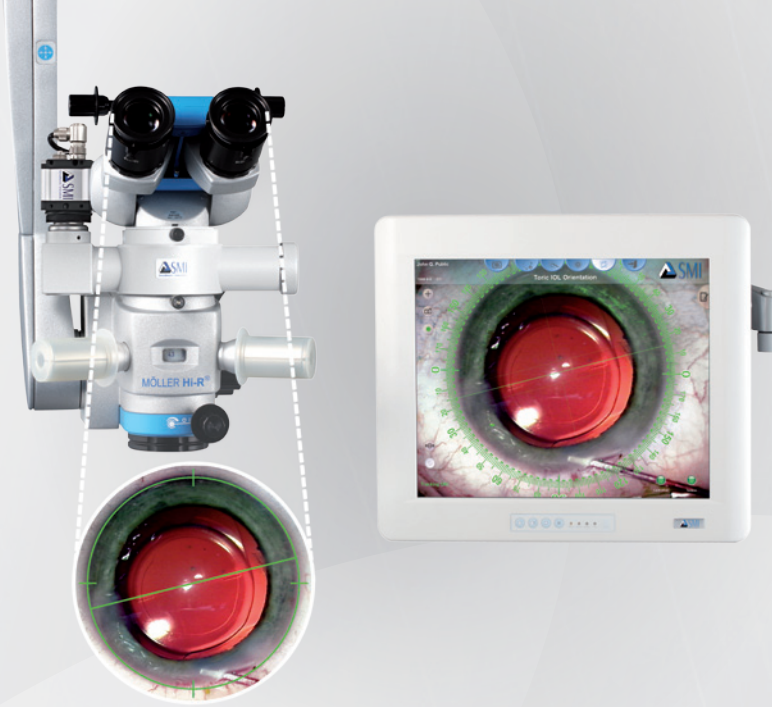
Function	Toric	Phakic	LRI	Spheric & Aspheric	Multifocal
SMI Surgery Pilot™					
Patient Selection	●	●	●	●	●
Axis Configuration	●		●		
Incision Configuration	●	●	●	●	●
Capsulorhexis Configuration	●	●		●	●



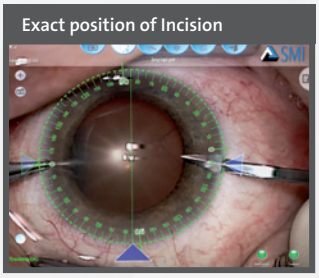
Treat

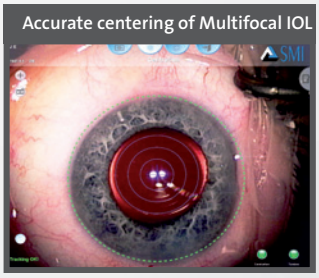
After the planning step the SMI Surgery Pilot™ will automatically match the diagnostic reference image with the surgical microscope image for patient confirmation. Based on the limbal, scleral and iris characteristics of the diagnostic reference image the rotation angle and translation between the diagnostic and the surgical view will be automatically detected. Once the patient is registered and confirmed, the real-time tracking is initialized. Different overlay modes are available for each particular surgery step.

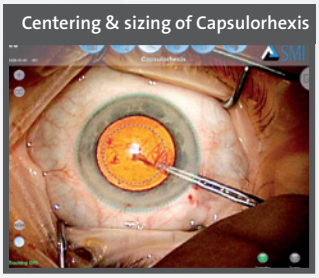
The SMI Microscope Integrated Display™ is an image injection module for surgical microscopes. In connection with the SMI Surgery Pilot™ the MID provides conveniently a real-time tracking overlay in the binocular view. It improves the visualization and increases the surgery comfort. The MID is placed – like a beam splitter - in the optical path of the surgical microscope.

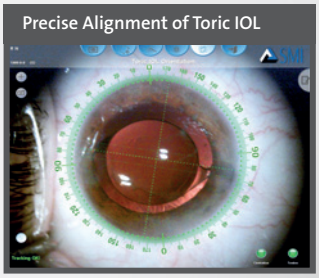


SMI Surgery Pilot™ & SMI Microscope Integrated Display (MID)™

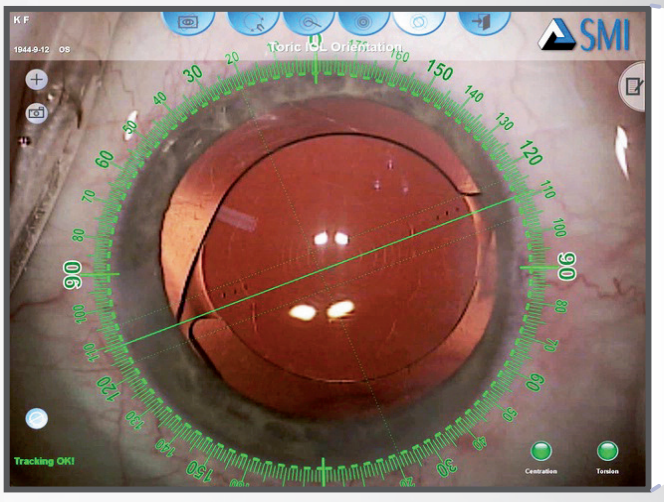








Function	Toric	Phakic	LRI	Spheric & Aspheric	Multifocal
SMI Surgery Pilot™					
Patient Confirmation	●	●	●	●	●
Incision Mode	●	●	●	●	●
Capsulorhexis Mode	●			●	●
Centering Mode	●				●
Toric Mode	●		●		●
Surgery Documentation	●	●	●	●	●



Physician Testimonials

Rudy Nuijts MD, PhD

Director of Cornea Clinic University of Maastricht, Maastricht, Netherlands

"Now, surgeons are able to position IOLs and incisions with the SMI Surgery Guidance technology automatically, consistently and accurately relative to the patient's eye. By substituting manual markers, it simplifies the surgery workflow, increases confidence and ensures predictability."

Louis D. "Skip" Nichamin, MD,

Medical Director, Laurel Eye Clinic, Brookville, PA, USA

"I have found that using the SMI registration and tracking system has essentially eliminated one of the most common and perplexing problems in astigmatism surgery - proper meridional alignment. I believe that the real-time positioning and orientation information that it renders will become an indispensable component to our toric IOL and limbal relaxing incisional techniques..."

Robert H. Osher, M.D.,

Professor of Ophthalmology, University of Cincinnati, Medical Director Emeritus, Cincinnati Eye Institute, OH, USA

"The future of cataract surgery is all about accuracy, especially for premium IOLs. A company with sophisticated technology will emerge and become crowned the new champion. I would wage my bet on SMI who is the undisputed frontrunner in intra-operative toric alignment."

SensoMotoric Instruments GmbH (SMI)

SMI provides eye & gaze tracking systems, OEM and medical solutions for a wide range of applications such as opthalmology neurology, psychology, ergonomics and usability for more than 20 years. SMI is the world leader in ophthalmic eye tracking and eye registration solution for the refractive laser industry.

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