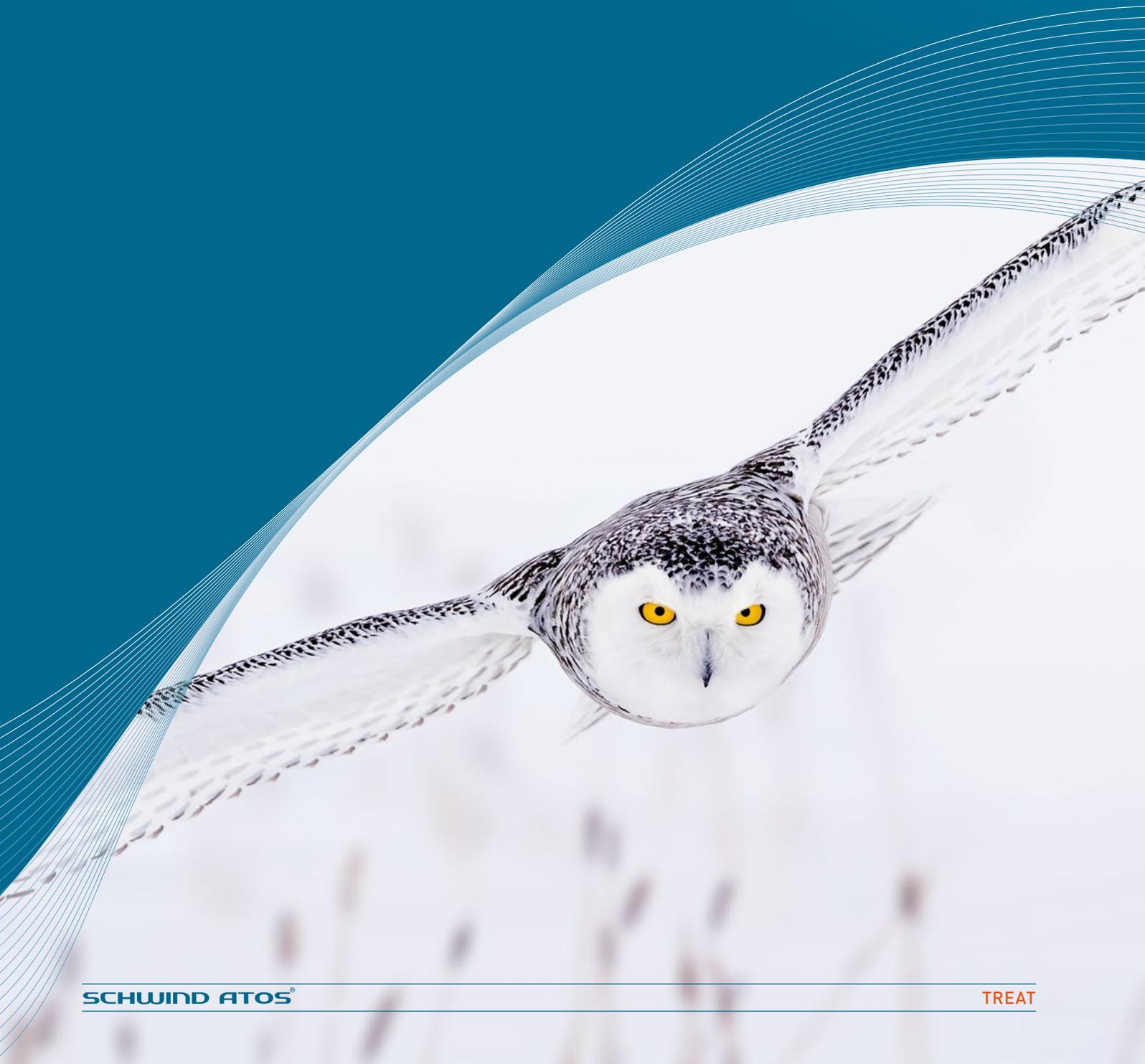


**SCHWIND**

eye-tech-solutions

# SCHWIND ATOS<sup>®</sup> with SmartSight

State-of-the-art femtosecond laser technology:  
Safe procedure – fascinating benefits



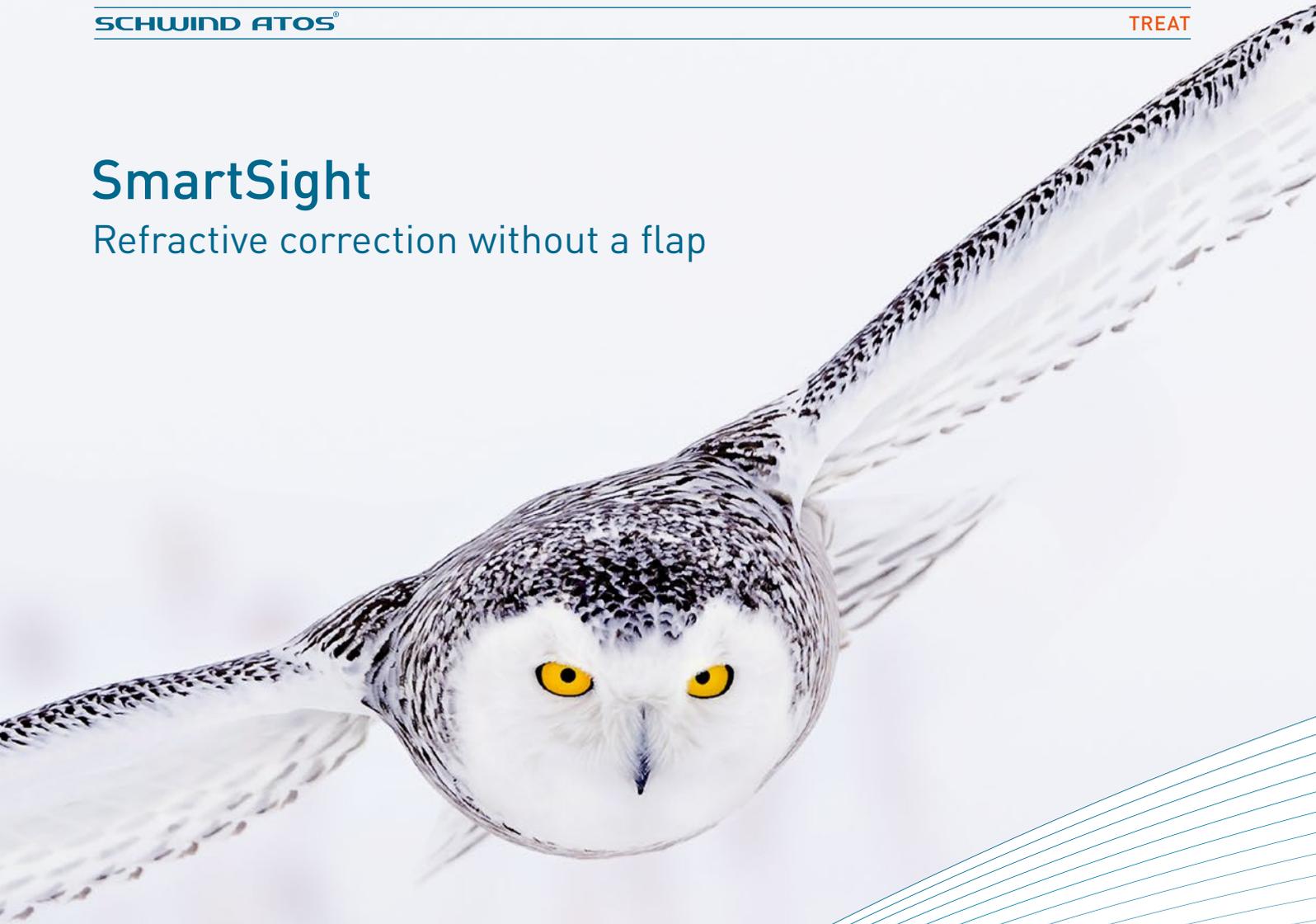
# The evolution of possibilities

Intelligent femtosecond laser technology  
made by SCHWIND

The SCHWIND ATOS femtosecond laser enables minimally invasive lenticule extraction as well as flap creation in FemtoLASIK. Its combination of innovative technology and intelligent design provides safety and precision in refractive corneal surgery.

# SmartSight

Refractive correction without a flap



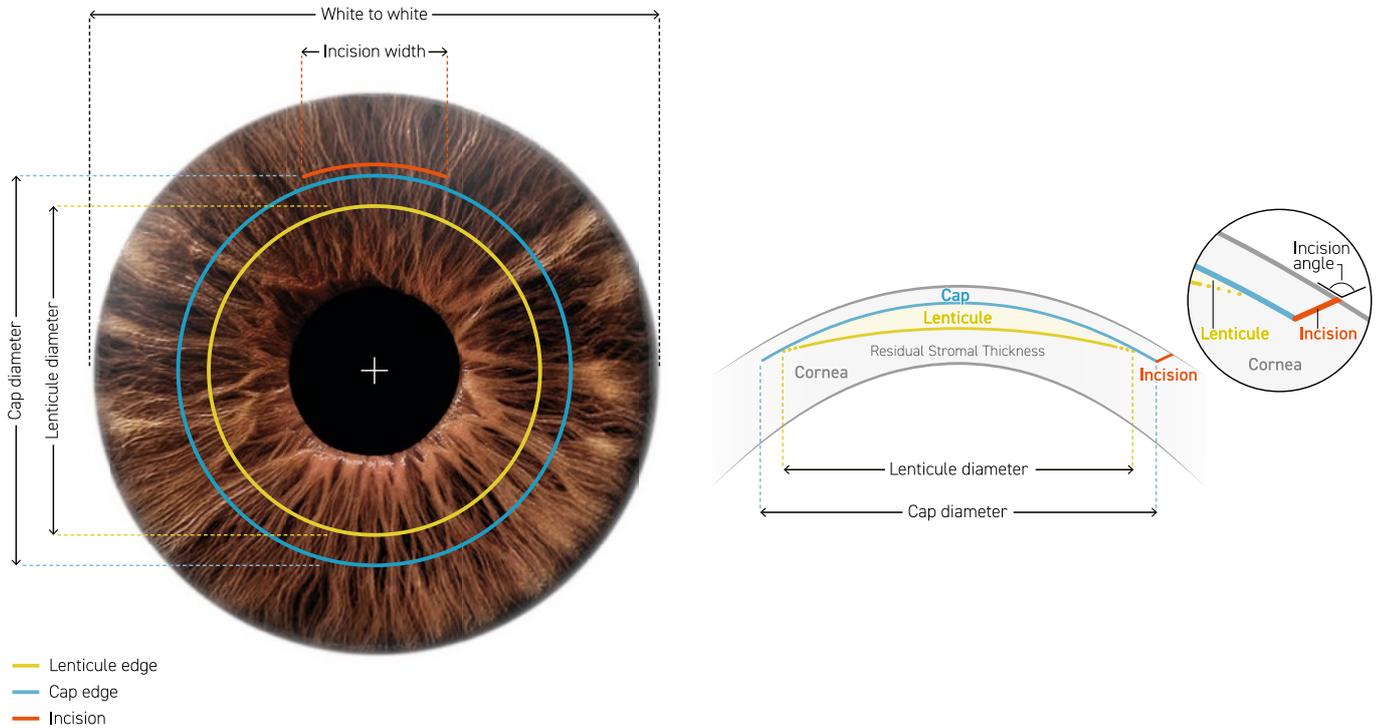
SmartSight is an up-to-date femtosecond laser procedure without a flap. This advancement in minimally invasive lenticule extraction features intelligent eye tracking with pupil recognition and cyclotorsion compensation.

SmartSight is a precise and gentle treatment method, which leaves the upper corneal layers largely untouched. The SmartSight procedure can be used to treat myopia as

well as astigmatism. Refractive correction is performed entirely with the SCHWIND ATOS. The patient can remain in one position for all treatment steps. This results in fast treatment with high comfort for the patient and well thought-out workflow benefits for the surgeon in every phase.

# Micro cut technology

## Minimally invasive and gentle



In the SmartSight procedure, the SCHWIND ATOS creates a predefined lenticule in the intrastromal tissue of the cornea, and makes small peripheral incisions in the top corneal layer for lenticular access. This minimally invasive procedure results in fewer nerve transections in the cornea surface, reducing the potential for postoperative

incidence of dry eye. After lasering, the surgeon, looking through the microscope included in SCHWIND ATOS, can easily remove the lenticule through the small access incisions. SmartSight uses no corneal flap of any kind, and there is no laser ablation like there is with excimer lasers.

# Sophisticated eye tracking

## Safety through eye centring guided by eye tracking

The SCHWIND ATOS has a sophisticated eye tracking system. Its pupil recognition and cyclotorsion compensation provide precise centring of the patient's eye along the visual axis. The centring options and cyclotorsion

compensation make it possible to treat vision deficiencies effectively, especially astigmatism. The centring can be performed easily. A monitor directly in the surgeon's field of vision provides additional convenience.





## Excellent fit to the eye

### Innovative patient interface

The curved patient interface geometry gives an excellent fit with the eye. It has improved suction and is ready for use in just two steps. The innovative design with integral filter function eliminates the need for additional tubes and filters, and ensures optimum contact of the eye with the laser system. The shape follows the corneal limbus, and substantially reduces pressure on the eye during the contacting process.

The suction time and the incision procedure are kept as short as possible. The SCHWIND ATOS uses the same patient interface for lenticule extraction with SmartSight and for making precise flaps in FemtoLASIK, giving it high flexibility. It all adds up to safety and comfort for the patient, and an efficient workflow for the surgeon.



# More knowledge from experience

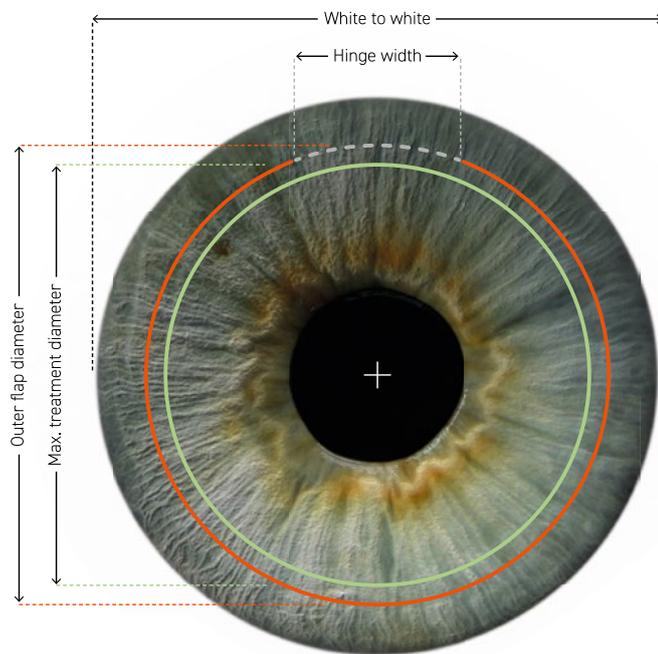
## Smooth and tissue-saving

The SCHWIND ATOS is a logical consequence of SCHWIND's comprehensive expertise in technologies for smooth corneal surfaces. With a pulse rate of up to four megahertz, sophisticated pulse characteristics and refined positioning algorithms, this femtosecond laser features short treatment and incision times. The improved lenticular geometry

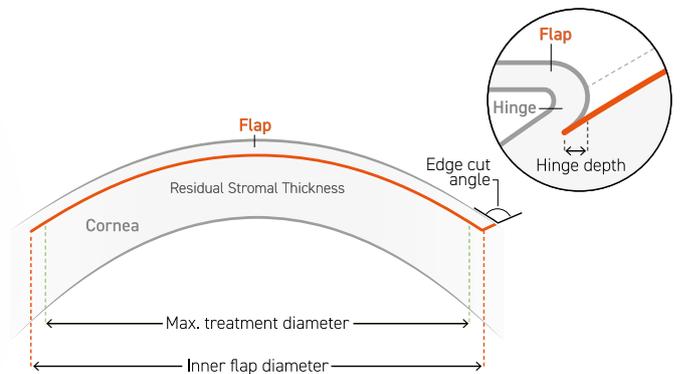
is not limited by a minimum thickness, and is tissue-saving. Furthermore, lenticules and flaps made with the SCHWIND ATOS exhibit a homogenous surface. As a result, lenticule extraction is simple. In FemtoLASIK, it makes it easy to lift the flap created with SCHWIND ATOS.

# As flexible as the requirements

## Flaps for large treatment zones



- Flap edge
- - - Hinge
- Max. treatment diameter



Particularly in the excimer laser treatment of hyperopia and mixed astigmatism, the SCHWIND ATOS can be used to create flaps of various diameters. This precision technology from SCHWIND is based on a sophisticated contact glass design and can be used highly flexibly, even for large flaps and treatment diameters.

# Agile performance

## Compact, flexible, smart

The SCHWIND ATOS features trim dimensions and a small footprint. This makes this compact femtosecond laser highly flexible for use in refractive surgery. The SCHWIND ATOS is controlled via two high-resolution 24- and 10-inch touch screens (PCT) and intuitive software. The clear interface and user-friendly operating design help make clinic use safe and efficient.

The monitor and keyboard are mounted on a swivelling arm that lets the user adjust the position to suit, and then fold them back against the body of the machine for easier repositioning in the clinic. With its fast system check, the SCHWIND ATOS is ready for use within a short period of time. It can be used alone or in combination with a SCHWIND AMARIS family excimer laser.



# SCHWIND ATOS®

## Technical Data\*

Laser parameters	
Laser class	3b
Wavelength	1030 +/- 50 nm
Repetition rate	Up to 4 MHz
Pulse duration	< 295 fs
Max. laser output power	500 mW
Installation and set-up conditions	
Dimensions (L x W x H)	1685 x 670 x 1597 mm (maximum monitor height) without patient bed
Space requirements	ATOS: min. 3.5 x 2.6 m ATOS with AMARIS product family: min. 3.7 x 4.6 m
Weight	< 275 kg
Electrical connection	100 to 240 VAC, 50/60 Hz, < 950 VA
Operating conditions	
Room temperature	18 to 24 °C
Relative humidity	30 to 70 %
Other	
Eye tracking	Semi-automated centring of patient eye including static cyclotorsion compensation
Accessory	One-size patient interface for single use

\* For further information please refer to the instruction for use of SCHWIND ATOS.



# Performance in every aspect

## Benefits at a glance



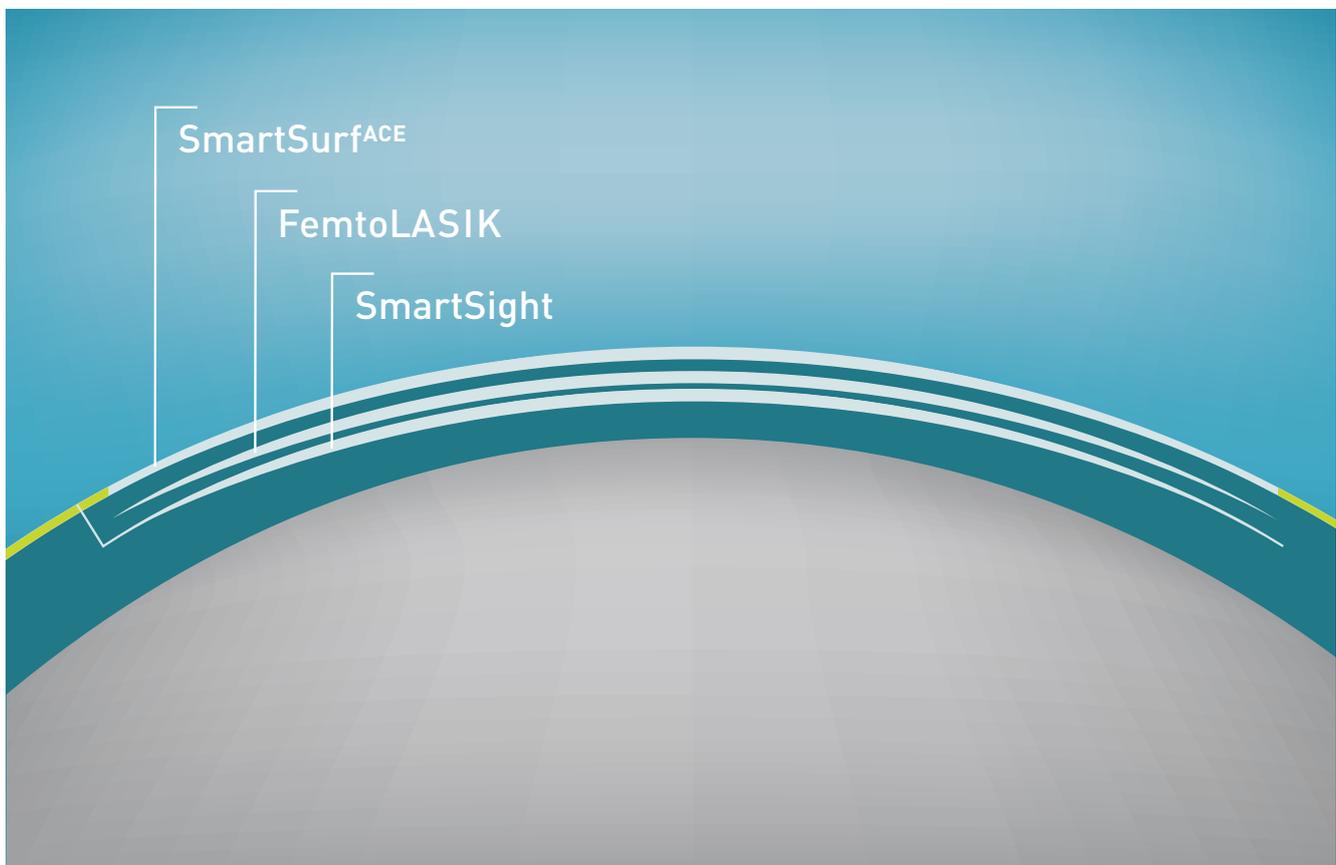
- Safety through intelligent eye tracking and cyclotorsion compensation
- Precise treatment through accurate centring, even in higher astigmatism
- Comfortable for the eye through curved patient interface
- Tissue-saving through improved lenticular geometry
- Large flap diameters made possible by sophisticated contact glass design
- Compact and flexible in use
- User-friendly with clear, intuitive planning and efficient workflow

# Experts in innovation

## All-laser procedures from one of the technology leaders

SCHWIND eye-tech-solutions is among the technology leaders in eye lasers for refractive and therapeutic corneal surgery. With our product portfolio for the treatment of vision deficiencies, we cover advanced all-laser procedures in modern refractive corneal surgery. The SCHWIND ATOS femtosecond laser provides SmartSight lenticule extraction

as well as the flap cut for FemtoLASIK. The SCHWIND AMARIS excimer laser can be used for intrastromal LASIK treatment and the touch-free surface treatment TransPRK/SmartSurf<sup>ACE</sup>. Our goal is to give eye surgeons the best possible tools to work with, so that patients can enjoy better vision and quality of life.



Ablation techniques (schematic)



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