GAIA

Ultra-widefield Retinal Slit Scanner

AUTOMATED, TRUE COLOUR, PRECISION.
EFFORTLESS EXPERIENCE.



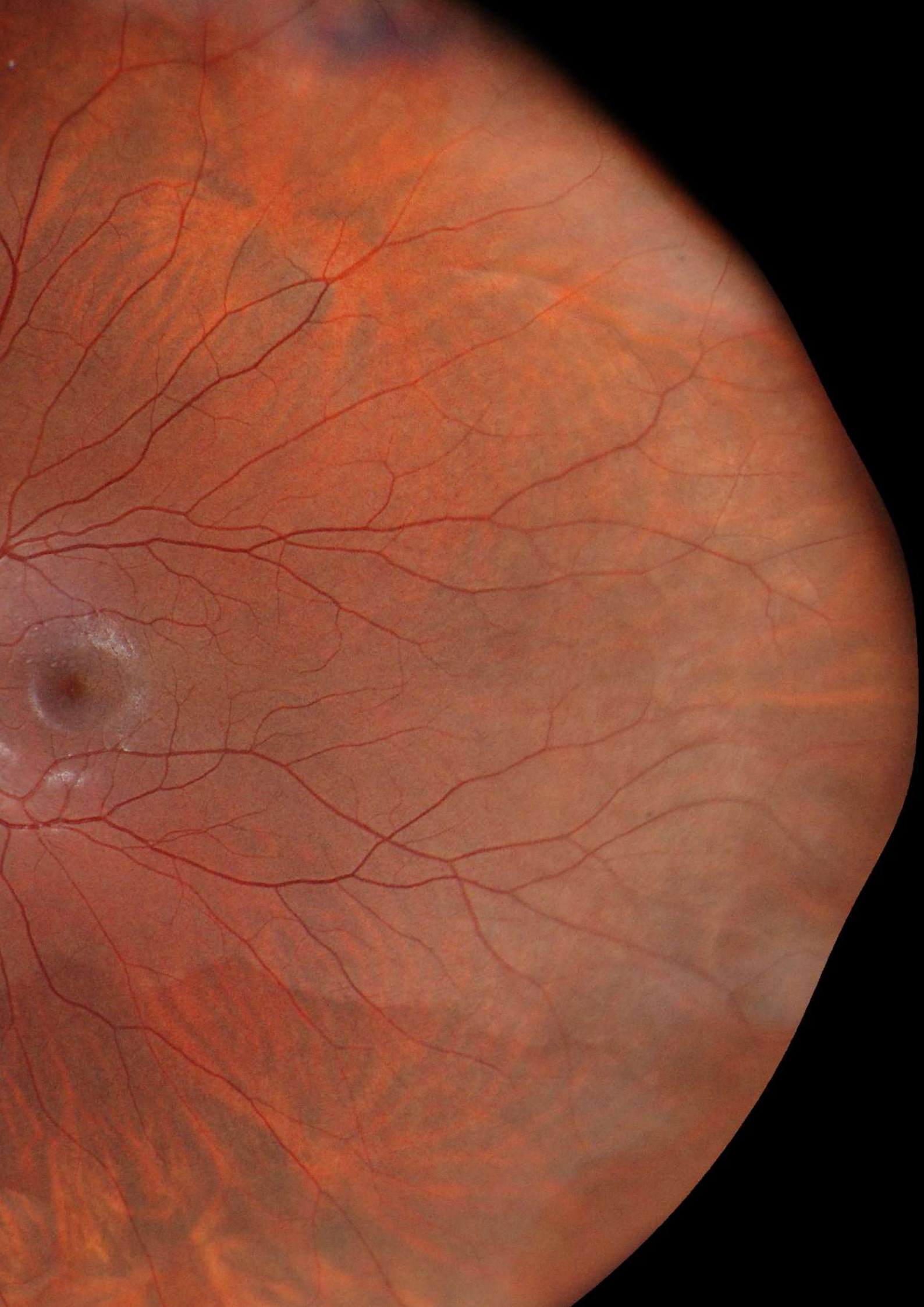
TOPCON Healthcare



209°*1

CAPTURE MORE, EFFORTLESSLY

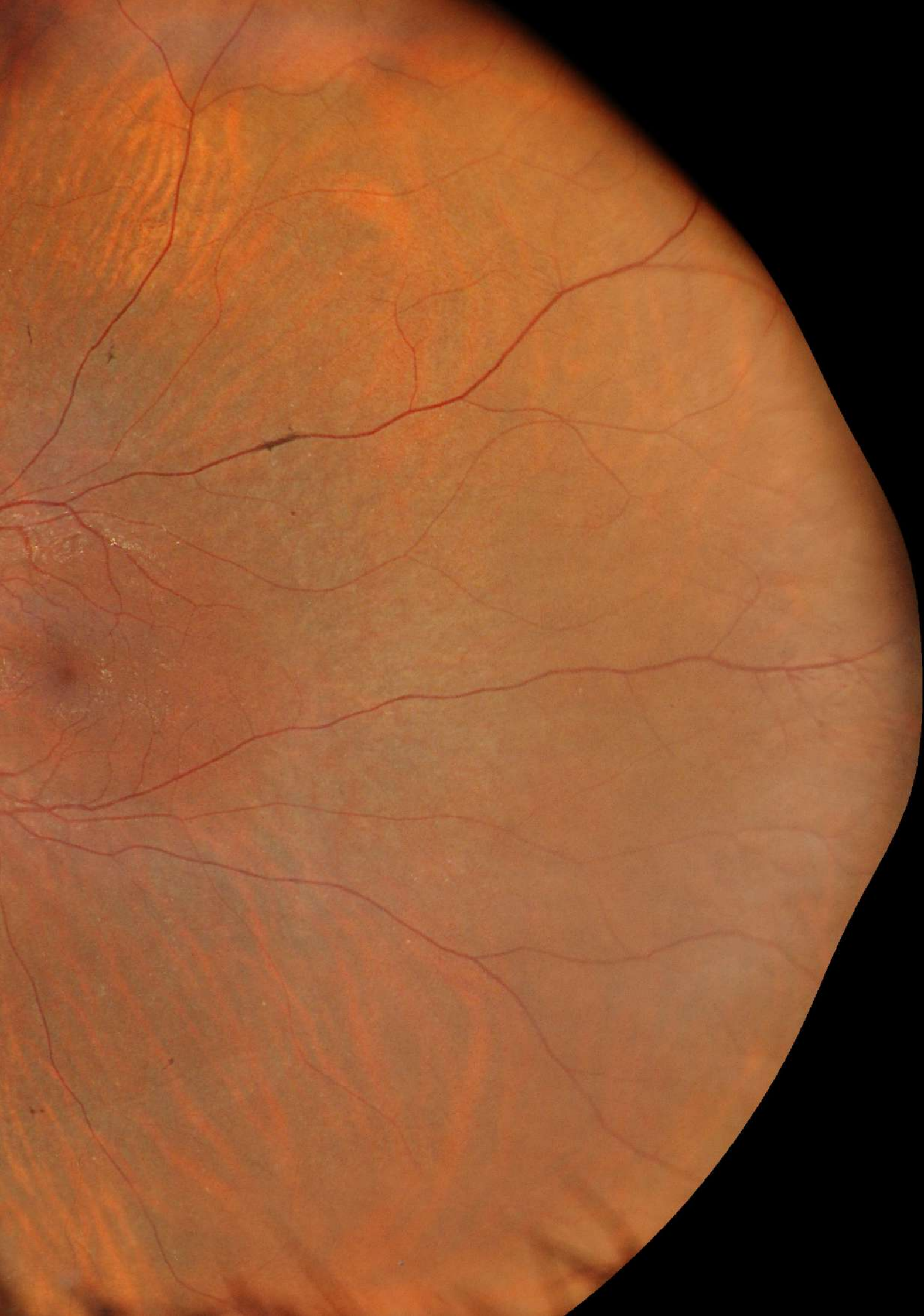
*1. 209° is an estimated value derived from a visual angle of 150° (GAIA), based on the visual-angle-to-eye-angle relationship described in the following article. *Xincheng Yao, Devrim Toslak, Taeyoon Son, Jiechao Ma. Understanding the relationship between visual-angle and eye-angle for reliable determination of the field-of-view in ultra-wide-field fundus photography. Biomedical Optics Express, 2021 Sep 30;12(10):6651-6659*





TRUE COLOUR

NON-CONTACT,
AUTOMATED IR ALIGNMENT





GAIA

ULTRA-WIDEFIELD RETINAL SLIT SCANNER

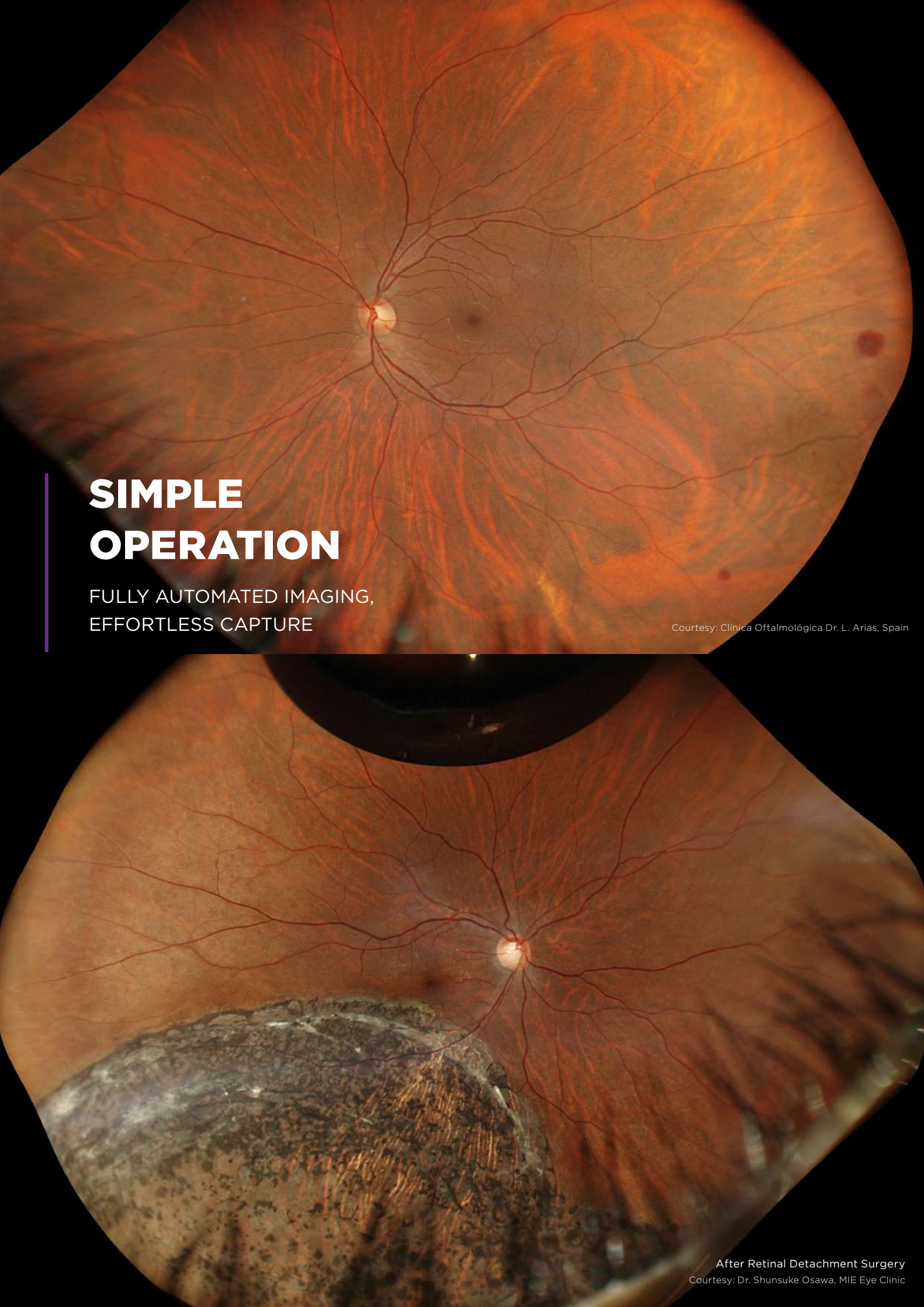
The GAIA brings a new era of ultra-widefield imaging, where true colour delivers a natural*2 view of the retina. With IR alignment and fully automated sequential bilateral capture, GAIA enables consistent imaging with minimal operator input, enhancing the patient experience while keeping clinical workflow efficient and reliable.

*2. Refers to colour tone comparable to true colour images captured by conventional fundus cameras.



- Capture more with 209°*[3] ultra-widefield of view
- Clinical confidence with true colour imaging
- Effortless operation, auto-alignment and capture
- Improved patient comfort
- Seamless integration for efficient interoperability
- Space-saving

*3. 209° is an estimated value derived from a visual angle of 150° (GAIA), based on the visual-angle-to-eye-angle relationship described in the following article.
Xincheng Yao, Devrim Toslak, Taeyoon Son, Jiechao Ma. Understanding the relationship between visual-angle and eye-angle for reliable determination of the field-of-view in ultra-wide-field fundus photography. Biomedical Optics Express, 2021 Sep 30;12(10):6651-6659



SIMPLE OPERATION

FULLY AUTOMATED IMAGING,
EFFORTLESS CAPTURE

Courtesy: Clínica Oftalmológica Dr. L. Arias, Spain

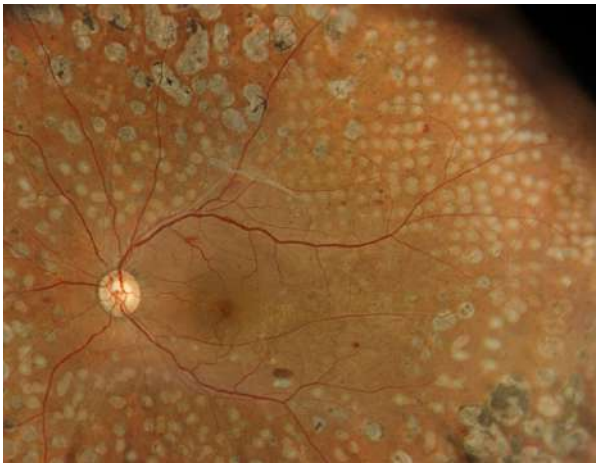
After Retinal Detachment Surgery
Courtesy: Dr. Shunsuke Osawa, MIE Eye Clinic

True Colour (RGB)

Utilising red, green and blue LED light sources (RGB), GAIA captures ultra-widefield retinal images in true colour*4.



Before Additional Laser Therapy

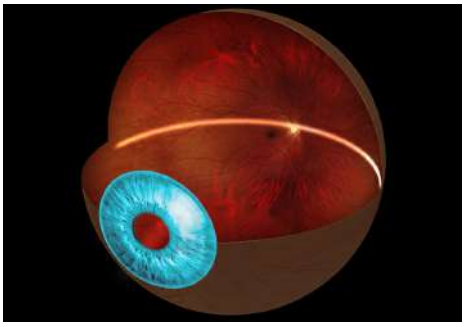


After Additional Laser Therapy

Diabetic Retinopathy
Courtesy: Dr. Shunsuke Osawa, MIE Eye Clinic

Slit-Scan Technology

The slit-scan illumination and rolling shutter mechanism enable GAIA to capture true colour ultra-widefield fundus images through pupils as small as 2.0 mm*5, supporting high-quality, efficient non-mydriatic imaging even in bright clinical environments.



Red-free

Research has shown that red-free fundus imaging supports detailed assessment of retinal vessels, haemorrhages and the retinal nerve fibre layer(RNFL). It is also shown to aid the evaluation of retinal disease and inner retinal changes by creating high-contrast, monochromatic images.*6,7 Enhanced RNFL visualisation with red-free imaging may help support the identification of wedge defects and diffuse RNFL loss associated with glaucoma.*8 Increased contrast has also been reported to enhance the visualisation of microaneurysms, haemorrhages and other superficial retinal pathology.*9



*4. True, full colour fundus image simultaneously captured with white light, 24-bit colour.
*5. Confirmed with model eye
*6. Examination of the ocular fundus with monochromatic light. F C Delori, E S Gragoudas et al, Ann Ophthalmol, 1976
*7. Monochromatic ophthalmoscopy and fundus photography. II. The pathological fundus. N M Ducrey, F C Delori, E S Gragoudas, Arch Ophthalmol, 1979
*8. Characteristics of diffuse retinal nerve fiber layer defects in red-free photographs as observed in optical coherence tomography en face images. Abegaile Bartolome Lim, Ji-Hye Park et al, BMC Ophthalmol, 2020
*9. Detection of retinal lesions in diabetic retinopathy: comparative evaluation of 7-field digital color photography versus red-free photography. Pradeep Venkatesh, Reetika Sharma, Nagender Vashist et al, Int Ophthalmol, 2012

CAPTURE MORE, EFFICIENTLY.



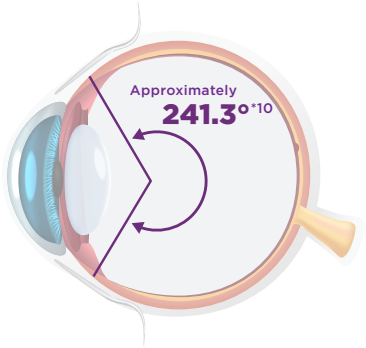
Automated, Simple Image Acquisition

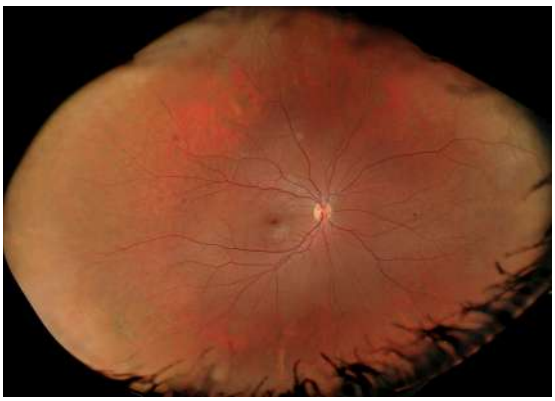
GAIA is designed to make ultra-widefield imaging simple and effortless. Real time IR imaging, automated alignment and capture, and non-contact imaging reduce the need for complex positioning and manual adjustments.



Mosaic Image

IMAGEnet7 enables the generation of mosaic images.

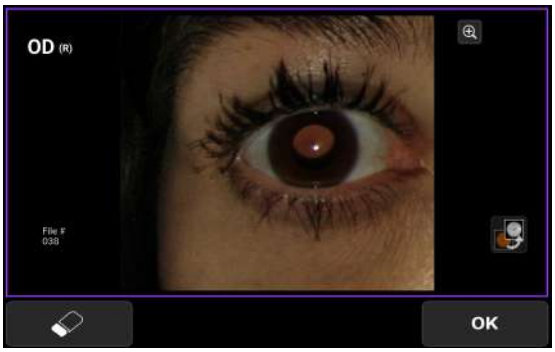




* A composite of five images created using IMAGEnet7.
* The composite field of view for a combination of Nasal, Center and Temporal images is approximately 241.3°.

External Photography

In addition to ultra-widefield retinal imaging, GAIA provides external photography.



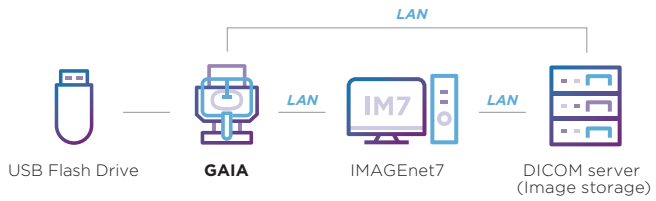
*10. 241.3° represents an estimated eye-angle for a mosaic image, derived from a visual angle of 180° (150° central field plus two additional 15° shifts using internal fixation). The conversion is based on the relationship described in the following article.
Xincheng Yao, Devrim Toslak, Taeyoon Son, Jiechao Ma. Understanding the relationship between visual-angle and eye-angle for reliable determination of the field-of-view in ultra-wide-field fundus photography. Biomedical Optics Express, 2021 Sep 30;12(10):6651-6659

GAIA Specifications

Types of image-capturing	Colour
Types of observation	Infrared light (IR)* * Infrared (IR) imaging is a function that displays live images to adjust the position of the imaging area, and is not a function for generating or recording fundus images.
Resolving power on fundus	Colour image-capturing 20 lp/mm or more
Measuring range for the dioptric power	-20D to +20D
Photographable diameter of pupil	Φ2.0mm or more (Confirmed with model eyes)
Angular field of view	150° (Diameter of pupil Φ2.5mm or more) 120° or more (Diameter of pupil Φ2.0mm)
Internal fixation target	LED The display method (the following) is adjustable: • Positions • Steady light/Blinking light • Blinking speed • Brightness
Auxiliary functions	Auto-alignment Auto-focus Auto-shoot
ELECTRIC RATING	
Source voltage	AC 100 - 240V
Frequency	50 - 60Hz
Power input	130VA
DIMENSIONS AND WEIGHT	
Dimensions	334 - 646 (W) × 549 - 573 (D) × 672 - 702mm (H)
Weight	31kg

Connectivity

With flexible export options via shared network folders or standard DICOM, GAIA adapts easily to a wide range of clinical environments. When connected to IMAGEnet7, it integrates seamlessly into existing workflows and creates a unified patient record across imaging modalities.



IMPORTANT In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.

Not all products, services, or offers are available in all markets. Contact your local distributor for country-specific information and availability.

CLASS 1 LASER PRODUCT (IEC60825-1:2014) PRODUIT LASER DE CLASSE 1 (CEI60825-1:2014)

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GAIA Product Information

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