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Alcon Debuts Latest Digital Innovations, SMARTCataract DX and NGENUITY 1.5, at ESCRS

- **SMARTCataract DX digital planning solution provides personalized, intuitive connectivity from clinic-to-OR and enhances surgical planning experience¹**
- **NGENUITY 1.5 3D heads-up display provides superior visualization and offers digital image-guided cataract surgery^{2,*}**
- **New digital technologies bolster seamless connectivity of the Alcon Vision Suite, powered by the ARGOS Biometer in the clinic**

GENEVA, SEPTEMBER 6, 2024 – Alcon (SIX/NYSE: ALC), the global leader in eye care dedicated to helping people see brilliantly, today announced new innovations during the European Society of Cataract and Refractive Surgeons (ESCRS) Annual Meeting (6-10 September in Barcelona). Driven by the ARGOS® Biometer and future Alcon diagnostic technologies, the newly available SMARTCataract DX digital planning solution is designed to power workflow efficiencies for practices.^{1,3,4} NGENUITY® 1.5 also adds connectivity capabilities—allowing for image-guided 3D cataract surgery with ARGOS Biometer—and provides significant enhancements for superior visualization.^{2,5-11,*} SMARTCataract DX and NGENUITY 1.5 have received CE Mark and strengthen the Alcon Vision Suite ecosystem.

“As the global aging population booms and demand for cataract surgery continuously increases, now more than ever, ophthalmologists need solutions that create efficiencies and optimize patient outcomes,” said Seba Leoni, President, International Surgical at Alcon. “SMARTCataract DX clearly demonstrates our commitment to strengthening the Alcon Vision Suite ecosystem to provide ophthalmic practices complete, connected care—and we are excited to offer this streamlined planning solution to surgeons and staff globally. With innovative technologies like NGENUITY 1.5, the ARGOS Biometer and SMARTCataract DX, surgeons will be able to seamlessly conduct 3D digital image-guided cataract surgery, increasing workflow efficiency and precision.”

Addressing Today's Needs with a Fully Connected Ecosystem

Due to the aging population, global medical systems are experiencing increased demands on already resource-constrained infrastructures. This is compounded in eye care, where the fields of optometry and ophthalmology are not attracting an adequate supply of professionals and large numbers are retiring annually.^{12,13}

Planning for and performing cataract surgery has historically required manual transcription from device to device—making it a tedious and time-consuming process. Additionally, growing demand for cataract surgery, coupled with staff shortages, increases the chances for human error.¹⁴ These factors ultimately slow down workflows and potentially impact patient outcomes.³ The Alcon Vision

Suite addresses these gaps with a fully integrated ecosystem that brings together leading products, services and digital solutions. The Alcon Vision Suite now includes: ARGOS Biometer, LuxOR® Revalia™ Ophthalmic Microscope, LenSx® Femtosecond Laser, NGENUITY 1.5 3D Visualization System, CENTURION® Vision System with ACTIVE SENTRY™, ORA SYSTEM® with VerifEye+™ Datafusion and SMARTCataract DX—for cataract surgery.

Solving for Gaps in Clinic-to-OR Efficiency with an Intuitive, Personalized Digital Solution

Practices and hospital systems that use Alcon's ARGOS Biometer can now benefit from the seamless in-network clinic-to-OR connectivity delivered by SMARTCataract DX.¹⁵ This advanced planning solution eliminates transcription errors and provides EHR/PACS connectivity—ensuring a cohesive, streamlined workflow by linking data systems with Alcon diagnostic devices and OR equipment. SMARTCataract DX also simplifies planning; users can access multiple datasets in one view and quickly retrieve patients' measurements to streamline decision-making during cataract surgery. With personalized presets, in only a few clicks, surgeons can adapt SMARTCataract DX to their specific needs, including advanced formula options, individualized notifications that can spot potential outliers, and customizable printouts and templates. In addition, this solution integrates with Alcon Intelligent Services, offering remote software updates, as well as enhanced diagnostics and troubleshooting through machine data collection.¹

"Since the pandemic, we have been experiencing a consistent patient surge—with approximately two thousand cataract surgeries last year alone—and we are looking forward to experiencing the workflow efficiencies powered by SMARTCataract DX pre-, intra- and post-op in our digital operating room," said Kjell Gunnar Gundersen, MD, PhD. "As a long-time proponent of NGENUITY, I am most excited about the new visualization modes that come with the 1.5 upgrade—allowing for enhanced levels of detail for myself and the whole team in the OR during cataract and MIGS surgery. I believe the future of cataract surgery display is in 3D heads-up, rather than hunched over, and I'm thrilled to be among the first surgeons in Europe to experience this advancement in visualization."

Introducing Superior Visualization, Increased Workflow Efficiency and Precision

Surgeons can see more with up to 48% increased magnification with NGENUITY 1.5, while also seeing more detail with up to 42% increased depth resolution.^{2,*‡} NGENUITY 1.5 introduces new enhancement modes, all designed to help surgeons distinguish every detail, including:

- Tissue Detail Mode to visualize even more detail and depth during the delicate steps of a procedure^{4,†}
- Blue Boost Mode with edge detection to help improve ability of identifying capsule construction, compared to standard microscopes, for the toughest cases^{16,*‡,‡}
- Performance Green Mode, a specific digital mode for green dyes allowing for excellent visualization and contrast of membranes during macular work^{4,†}
- MIGS (Minimally Invasive Glaucoma Surgery) Mode, which allows surgeons to benefit from up to 34% greater contrast leading to enhanced precision and efficiency when placing a device such as Hydrus Microstent^{17,†,§}

Similar to SMARTCataract DX, NGENUITY 1.5 integrates seamlessly with the ARGOS Biometer, and will allow for in-network or cloud-based 3D image-guided cataract surgery. Biometry measurements and images can be imported, enabling surgeons to precisely overlay incision location, capsulorhexis, IOL centration and toric alignment. To further streamline surgical planning, NGENUITY 1.5 increases the total number of OR devices it connects with, including Alcon Image Guidance, Argos Biometer, Centurion Vision System Datafusion, ORA with VerifEye+ Datafusion and CONSTELLATION® Vision System Datafusion.^{5-11,15-20}

NGENUITY 1.5 received CE Mark earlier this year and is currently being rolled out in select markets in Europe. SMARTCataract DX also received CE Mark in August 2024; pilots will begin in Q4 in select markets, with a broader rollout starting in 2025. SMARTCataract DX and NGENUITY 1.5 are supported by Alcon's best-in-class training, product maintenance and services teams. Attendees at this year's ESCRS conference can preview SMARTCataract DX and NGENUITY 1.5 as part of the Alcon Vision Suite at booth #7.A00. The Alcon Vision Suite will continue to grow with cutting-edge products expected to be introduced over the coming years, adding to Alcon's market-leading legacy products which will continue to be available and serviceable.

About Alcon

Alcon helps people see brilliantly. As the global leader in eye care with a heritage spanning over 75 years, we offer the broadest portfolio of products to enhance sight and improve people's lives. Our Surgical and Vision Care products touch the lives of more than 260 million people in over 140 countries each year living with conditions like cataracts, glaucoma, retinal diseases and refractive errors. Our more than 25,000 associates are enhancing the quality of life through innovative products, partnerships with Eye Care Professionals and programs that advance access to quality eye care. Learn more at www.alcon.com.

* Compared to analog microscopes.

† Default setting provided for each mode, with the ability to personalize in real time.

‡ Specified performance was achieved at maximum system magnification with an aperture setting of 30% open and viewing distance of 1.2 meters.

§ Compared to SOM and non-image processing digital processing systems.

Please refer to relevant product direction for use and operator manual for list of indications, contraindications and warnings for the following products: ARGOS® Biometer, LuxOR® Revalia™ Ophthalmic Microscope, LenSx® Femtosecond Laser, NGENUITY® 1.5 3D Visualization System, CENTURION® Vision System with ACTIVE SENTRY™, ORA SYSTEM® and SMARTCataract DX. Available at: <https://ifu.alcon.com>.

The products mentioned may not be approved in all markets; please reach out to your Alcon Representative for questions about availability in your local market.

This content is intended for Healthcare Professionals (HCPs) only. Please note that product-related promotion of Medical Devices to non-HCPs may be subject to restrictions based on local rules and regulations.

References

1. SMARTCataract DX User Manual.
2. Alcon Data on File, 2017.
3. Zavodni Z, MD., Li-Chen P, MPH., Saylor M, BA., Cheng H, MSc. Enhancing Clinic and Operating Room Connectivity Via a Cloud-Based Application to Improve Practice Efficiency for Cataract Surgery. ASCRS, Washington D.C. April 22, 2022.
4. Multack S, et al. Time efficiency metrics of an innovative swept-source OCT biometer (SS-OCT) for cataract evaluation: A comparative time-and-motion study. Presented at ASCRS 2022.
5. NGENUITY® 3D Visualization System User Manual.
6. Kita M, Mori Y, Hama S. Hybrid wide-angle viewing-endoscopic vitrectomy using a 3D visualization system. Clin Ophthalmol. 2018;12:313-317.
7. Eckardt C, Paulo EB. Heads up surgery for vitreoretinal procedures: An experimental and clinical study. Retina. 2016;36:137-147.

8. Cheng TC, Yahya MFN, Mohd Naffi AA, Othman O, Seng Fai T, Yong MH, Wan Abdul Halim WH, Mustapha M, Che Hamzah J, Md Din N, Bastion MC. Evaluation of Three-Dimensional Heads-up Ophthalmic Surgery Demonstration From the Perspective of Surgeons and Postgraduate Trainees. *J Craniofac Surg*. 2021 Mar 24. doi: 10.1097/SCS.00000000000007645.
9. Palácios RM, de Carvalho ACM, Maia M, Caiado RR, Camilo DAG, Farah ME. An experimental and clinical study on the initial experiences of Brazilian vitreoretinal surgeons with heads-up surgery. *Graefes Arch Clin Exp Ophthalmol*. 2019 Mar;257(3):473-483. doi: 10.1007/s00417-019-04246-w.
10. Zhang Z, Wang L, Wei Y, Fang D, Fan S, Zhang S. The Preliminary Experiences with Three-Dimensional Heads-Up Display Viewing System for Vitreoretinal Surgery under Various Status. *Curr Eye Res*. 2019 Jan;44(1):102-109. doi: 10.1080/02713683.2018.1526305.
11. Weinstock RJ, Ainslie-Garcia MH, Ferko NC, Qadeer RA, Morris LP, Cheng H, Ehlers JP. Comparative Assessment of Ergonomic Experience with Heads-Up Display and Conventional Surgical Microscope in the Operating Room. *Clin Ophthalmol*. 2021 Jan 29;15:347-356. doi: 10.2147/OPTH.S292152.
12. Berkowitz ST, Finn AL, Parikh R, Kuriyan AE, Patel S. Ophthalmology Workforce Projections in the United States, 2020-2035. *Ophthalmology*. Published online September 1, 2023. doi:https://doi.org/10.1016/j.ophtha.2023.09.018.
13. Terveen DC. Ophthalmology numbers cause for concern. AAO.org. August 19, 2022. Accessed July 5, 2023. <https://www.aao.org/young-ophthalmologists/yo-info/article/ophthalmology-numbers-cause-concern>.
14. Mansoor Q, Qurashi N, Chen Y. A Modular Cataract Surgery Training Model Incorporating Human Factors and a Pedagogical Theory. *Clin Ophthalmol*. 2024;18:1171-1180. Published 2024 May 1. doi:10.2147/OPTH.S451594.
15. Tamaoki A, Kojima T, Hasegawa A, et al. Clinical evaluation of a new swept-source optical coherence biometer that uses individual refractive indices to measure axial length in cataract patients. *Ophthalmic Res*. 2019;19:11-23.
16. Mouro-Coelho N, Nascimento J, Henriques J, Medeiros MD. Three-dimensional display systems in ophthalmic surgery – a review. *European Ophthalmic Review*. 2019;13(1):31-36.
17. Alcon Data on File, 2022.
18. Shammas HJ, Ortiz S, Shammas MC, et al. Biometry measurements using a new large-coherence-length swept-source optical coherence tomographer. *J Cataract Refract Surg*. 2016;42:50-61.
19. Whang W, Yoo Y, Kang M, et al. Predictive accuracy of partial coherence interferometry and swept-source optical coherence tomography for intraocular lens power calculation. *Sci Rep*. 2018;8(1):13732.
20. Shammas HJ, Shammas MC, Jivrajka RV, Cooke DL, Potvin R. Effects on IOL power calculation and expected clinical outcomes of axial length measurements based on multiple vs single refractive indices. *Clin Ophthalmol*. 2020;14:1511-1519.

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