

SCHOTT

bringing augmented reality to life

SCHOTT RealView™ high-index glass wafers, made from optical glass with a high refractive index, allow more immersive augmented reality (AR) applications. In this article, we take a look at how these wafers are enabling a wider field of view (FOV) in AR devices.



MAXIMIZING THE FIELD OF VIEW: REALVIEW™ HIGH-INDEX GLASS WAFERS

Smart glasses need smart glass. SCHOTT, the international technology group, has developed optical glass

wafers for augmented reality (AR) applications — branded as SCHOTT RealView™ — that double the total internal reflection angle compared to conventional glass wafers, enabling a larger field of view (FOV) in AR devices. SCHOTT RealView™ wafers give AR device manufacturers the first opportunity to expand the FOV almost to the limit of human peripheral vision. This innovation lays the groundwork for sizeable advances in this transformative consumer tech field. SCHOTT produces

raw glass in its high-tech melting facilities in Germany, and the wafer manufacturing and optical coating takes place in China, where SCHOTT recently announced a joint venture investment together with Zhejiang Crystal-Optech.

REDEFINING AR EXPERIENCES WITH OUTSTANDING GLASS

“Augmented reality should still look like reality,” said Dr. Rüdiger Sprengard, Vice President and Head of Augmented Reality, Ad-

vanced Optics at SCHOTT. “To raise the bar and meet the requirements of this rapidly expanding market, manufacturers need superior optical wafers with qualities a full order of magnitude greater than what has previously appeared on the market — a challenge SCHOTT scientists and engineers have accepted in the spirit of pushing the limits of process technology and metrology.”

Over the past few years, researchers at SCHOTT have leveraged their expertise in melting and surface pro-



cessing of optical materials while working alongside AR technologists to understand the needs of the industry.

Today, from intense work on design, prototyping, and processes proven in mass production, the tailor-made optical glass solution for AR has become a reality: SCHOTT RealView™.

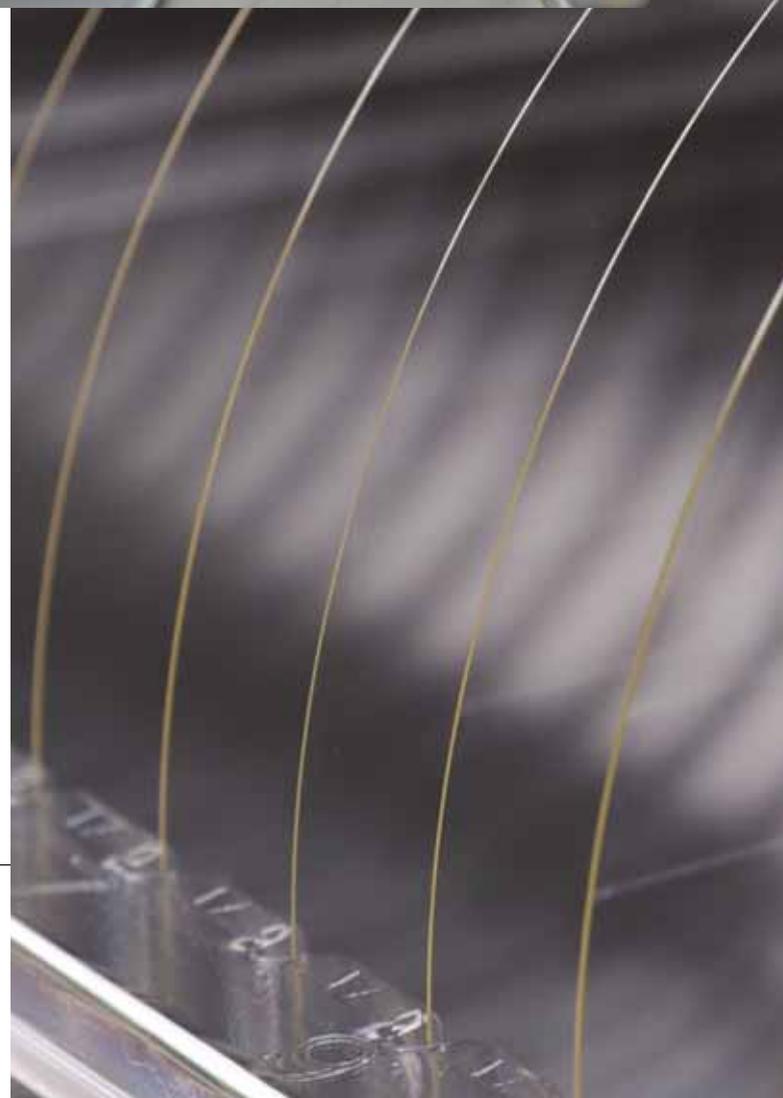
“We have the advantage of being a fully integrated supplier, covering every step of the process to control properties that are key to the quality of the image: glass melt, wafer processing, and optical coatings,” said Dr. Sprengard. “We have invested in the infrastructure to ensure we’re fully capable of ramping-

up production to meet demand.”

OPTICAL GLASS REFINED TO SCHOTT REALVIEW™ GLASS WAFERS

SCHOTT RealView™ glass wafers are available with tailored refractive index and excellent light guiding properties. As a result of engineering innovation, SCHOTT RealView™ is 10 times flatter, measured as Total Thickness Variation (TTV), than industry standard glass wafers.

The geometrical precision of the wafer surface is controlled to unprecedented accuracy, creating superior picture quality with the best contrast and highest definition, enhancing the





SCHOTT is a leading international technology group in the areas of specialty glass and glass-ceramics. The company has more than 130 years of outstanding development, materials and technology expertise and offers a broad portfolio of high-quality products and intelligent solutions. SCHOTT is an innovative enabler for many industries, including the home appliance, pharma, electronics, optics, life sciences, automotive and aviation industries. SCHOTT strives to play an important part of everyone's life and is committed to innovation and sustainable success. The group maintains a global presence with production sites and sales offices in 33 countries. With its workforce of approximately 15,000 employees, sales of USD 2.26 billion were generated in fiscal year 2016/2017.

user experience.

AR customers will benefit from the unique combination of SCHOTT's 133-year world-class heritage in optical glass and expertise in processing. SCHOTT's

production facilities in Germany have a long history of producing high-quality glass materials, with a portfolio of 120 optical glasses with refractive indexes up to 2.0. The com-



pany shares its expertise to help developers select the right material to meet their specifications. SCHOTT is capable of mass-producing materials for blockbuster products in China.

For prototyping and research, customers can rely on SCHOTT's expertise in glass, wafer processing, and coating in its German and Swiss facilities. SCHOTT is prepared

to fuel the growth of the emerging AR industry.

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glass made of ideas

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