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SCHOTT Drops Weight of Augmented Reality Glass by 20% - September 13, 2021

The new optical glass shaves five grams off the weight of the waveguides currently used in AR devices .

With a new 20% lighter RI 1.9 high-index glass wafer, SCHOTT can reduce an AR wearable's overall weight by roughly 7%. SCHOTT RealView 1.9 lightweight doesn't sacri-fice image quality or durability, even with the dramatic reduction in density. (Photo: SCHOTT)

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SCHOTT unveiled the next innovation in AR, SCHOTT RealView 1.9 lightweight. The new optical glass shaves five grams off the weight of the waveguides currently used in AR de-vices, in which means a lighter, more comfortable, more immersive experience for the user.

Manufacturers designing consumer-grade products target a total device weight of 70 grams, so saving 5 grams only by incorporating the new lightweight glass is a milestone in material and device development.

The weight cut is mainly due to a reduced density of the material. The result: AR devices that offer highest wearing comfort while not compromising in image quality thanks to the 1.9 high-refractive index.

With consumer spending on AR and VR expected to eclipse $72 billion by 2024, SCHOTT has positioned itself as an industry leader with its latest optical glass wafer innovation. This iteration of SCHOTT RealView maintains the highest RI available, allows for customization with anti-reflective coatings or other finishes, is mass-production ready with wafer sizes up to 300 mm (12 inches), and offers superb image quality.

"Every optical component in AR must push the boundaries of technology to keep manu-facturing costs low, while also achieving a high-quality image, a large field of view, and a full immersion experience in a

compact form factor without added weight or bulk," said Dr. Rüdiger Sprengard, VP Augmented Reality at SCHOTT. "With those goals in mind, we created an all-new glass formulation that was tailor-made for AR use while pushing the limits of what was possible for density, clarity, and robustness."

SCHOTT's manufacturing ecosystem partners have proven compatibility with the new wafers. Inkron, Finland, has developed an index-matching nano-imprintable resin. Compatibility with nanoimprint mass production equipment of both the new SCHOTT RealView 1.9 lightweight and the new resin has been demonstrated by EV Group (EVG), a leading supplier of nanoimprint lithography (NIL) equipment for high-volume manufacturing.

SCHOTT RealView high-index glass wafers have previously been awarded the 2019 Display Industry Award for Display Component of the Year from the Society of Information Display, SID.

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