

June 3, 2025

Mitsui Chemicals, Inc.

Mitsui Chemicals, Dispelix Collaborate on Polymer Waveguide Technology for AR Glasses

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: HASHIMOTO Osamu) today announced that it has begun to collaborate with Dispelix (Finland; CEO: Antti SUNNARI) to develop waveguides for augmented reality (AR) glasses, using Mitsui Chemicals' Diffrar™ to expand into the augmented and virtual reality markets.

Founded in Finland in 2015, Dispelix is a leading company in AR optical waveguide display technology. The company supports the evolution of AR devices through developing and providing transparent optical waveguide displays.

Leveraging the advanced design technology of waveguide for AR glasses, Dispelix manufactured single-layer, full-color AR waveguides using Diffrar™ X167 (refractive index: 1.67), showing high optical performance and extreme lightness. A single eyepiece without a cover glass weighted just 1.85 grams. Mitsui Chemicals and Dispelix showcased the first waveguide display demo unit at the SPIE2025 AR | VR | MR in January 2025 in San Francisco.

The meaning and feature of Diffrar™

Derived from the word “diffraction” and the abbreviation of “AR,” the name Diffrar™ has been coined to express the value provided to customers where the “D” of the logo represents an opening door that to explore new products and providing value to customers.

Equipped with outstanding optical properties, including a high refractive index of 1.67 or higher and extreme flatness, Diffrar™ optical polymer wafers offer users of AR glasses a wide field of view. In addition, the material being polymer allows Diffrar™ to have greater impact resistance, making devices safer and lighter compared to glass.

Mitsui Chemicals will continue to accelerate to the development of polymer wafer and contribute to the expansion of the AR market.



* Diffrar™; 3-inch, 6-inch, 8-inch



AR demo stand designed on this collaboration

Dispelix website: [XR Waveguide Combiners | Dispelix](#)

For inquiries relating to this release, please contact:
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URL: https://form.mitsuichemicals.com/corporate/cc_pr_csr_en?param=13

For inquiries relating to Diffrar™, please contact:

Semiconductor & Optical Materials Division, Mitsui Chemicals, Inc. Inquiry Form :

https://form.mitsuichemicals.com/business/diffrar_en