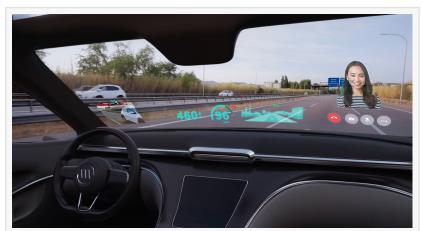


Eastman partners to advance holographic transparent display HUD technology for automotive

Collaboration to develop industry's first market-ready stack of holographic and windshield interlayer materials and manufacturing processes to meet OEM demand.

KINGSPORT, TN, UNITED STATES, December 17, 2024 / EINPresswire.com/ -- <u>Eastman</u>, Ceres Holographics and Covestro announced the signing of a Memorandum of Understanding (MOU) to explore the commercial production of the cuttingedge Holographic In-Plane Transparent Display (HIPTD) laminated solution for automotive and transportation glazing applications that they have jointly



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developed. This collaboration focuses on enabling next-generation HUDs in the automotive sector, addressing the growing demand for enhanced convenience, safety, and user experience features among global OEMs.

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"We're excited to define a path to viable holographic transparent displays globally."" *Hemant Dandekar, Eastman* Eastman, Ceres Holographics, and Covestro unveil cuttingedge holographic HUD technology for enhanced automotive safety.

These new displays overcome the performance, size and geometric limitations of traditional HUD systems, enabling the practical and scalable implementation of multiple displays in one windshield and elsewhere in side-light glazing. Proof of concepts (PoCs) developed with OEMs will

be showcased at CES 2025 in Las Vegas from January 7–10. The agreement builds on years of collaboration, leveraging each company's technologies to manufacture holographic-enabled

transparent HUDs for the automotive market. It enables the companies to look into the steps needed to setup and establish the required facilities and manufacturing capacity, ensuring an efficient, market-ready supply chain to meet the planned production timelines of OEMs wishing to adopt the technology for new driver and passenger experiences. The partnership aims to accelerate the commercialization of the HUD solution, with Eastman leveraging its relationships with automotive OEMs and Tier One suppliers.

A proven solution In 2024, Ceres and Eastman demonstrated the latest holographic transparent display HUDs to OEMs in Europe, the USA, and China. These HUDs featured multiple transparent displays within a single, fully laminated windshield, each measuring up to 400mm by 300mm. Custom-designed holographic optical elements (HOEs) were incorporated into a single sheet of Bayfol HX[®] film, laminated with Eastman's new developed interlayer stack, achieving the industry's largest field of view.

This achievement was enabled by combining Covestro's expertise in photopolymer films, Ceres' digital mastering and HoloFlekt[®] roll-to-roll replication system, which produces finished films up to 1400mm wide, and Eastman's solutions to encapsulate functional films into automotive-approved laminates.

At the SID2024 conference, Ford Motor Co. reported on its two-year program with the partners and glass laminator, validating the production process, and performance of the triple-screen holographic HUD system.

"This agreement solidifies our collaboration and moves us closer to delivering a full-stack solution for innovative display implementations," said Hemant Dandekar, Eastman's global commercial director of automotive for advanced materials, interlayers. "With the building blocks and relationships in place, we're excited to define a path to viable holographic transparent displays globally."

"Our Bayfol HX enables truly transparent projection displays that meet automotive safety requirements for windshields," said Günther Walze, Head of Holographic Lightguiding at Covestro. "With the necessary establishment of hologram mastering and scalable massproduction replication equipment by Ceres, combined with Eastman's windshield lamination technology, this innovation is ready for deployment to end customers."

"We have been working closely with global OEMs for years and are now at a tipping point for adoption and scaling of this display technology," said Andy Travers, CEO of Ceres Holographics. "This is being driven by a combination of a desire for more safety-oriented and intuitive information display features, pressure from safety regulators to reduce driver distractions, and the accelerated pace of innovation and associated need for differentiation among a new generation of car makers."

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