Press Release

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Bayfol® HX films for holographic optical elements

Visual aids become smart data glasses

Covestro's strategic partner META® at Augmented World Expo USA 2021

Holography makes it possible to produce special optical elements with functions that conventional optics with bulky lenses, prisms and apertures cannot offer. The innovative applications that are possible with volume holographic elements will be demonstrated by Meta Materials Inc (META®) company at Augmented World Expo (AWE), which will be held Nov. 9-11 in Santa Clara, California. The company is implementing the holographic elements using Bayfol® HX photopolymer films from Covestro. Bayfol® HX is composed of a transparent base material, a photoreactive layer with customizable properties and a protective top layer.

One particularly sensational application is the possibility of superimposing changing information on the edge of corrective lenses for eyeglasses. This turns ordinary visual aids into smart data glasses. For instance, wearers of data glasses or head-mounted displays can communicate with experts remotely during inspections or service work, while keeping their hands free for work.

META is presenting itself at the show as a one-stop shop for advanced optical components: "We are pleased to present a range of smart applications that can be embedded in correction lenses for augmented reality (AR) glasses," said George Palikaras, president and CEO of META. "Our collaboration with Covestro enables us to offer highly functional, advanced materials and proprietary systems for high-volume production from a single source."

META's one-stop-shop approach, combined with Covestro's Bayfol® HX technology, offers a number of benefits for OEMs. A wide variety of holographic optical solutions can be realized with a wide range of material thicknesses and

formats. "The strength of our strategic collaborative effort is based on the versatility of combining Bayfol® HX films with META's ARfusion™ lens casting technology," emphasizes Moritz Winterstein, Head of Growth Ventures Specialty Films at Covestro. The eyeglass lenses, including the volume holographic elements, can be produced in high volumes and cost-effectively - thanks to roll-to-roll coating and deposition technologies as well as state-of-the-art plastic processing. META and Covestro cater to the entire value chain, from optical design and material selection, to mass production and integration.

About Covestro:

With sales of EUR 10.7 billion in 2020, Covestro is among the world's largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative, sustainable solutions for products used in many areas of everyday life. In doing so, Covestro is becoming fully circular. Its main customers are the automotive and transport industries, the construction industry, the furniture and wood processing industries, and the electrical, electronics, and household appliance industries. Other sectors include sports and leisure, cosmetics, healthcare and the chemical industry itself. As of the end of 2020, Covestro produces at 33 sites worldwide and employs around 16,500 people (converted to full-time positions).

Forward-looking statements
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