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EV Group NIL Platform Integrates Notion Systems Inkjet Coating – April 19, 2023

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EV Group (EVG) and Notion Systems agree to develop the first fully integrated and automated nanoimprint lithography (NIL) solution with inkjet coating capabilities.
EVG is a leading supplier of wafer bonding and lithography equipment for the MEMS, nanotechnology and semiconductor markets. Meanwhile, Notion Systems is a leading supplier of industrial inkjet coating systems for functional materials.

Dr. Thomas Glinsner, Corporate Technology Director for EV Group, and Antonio Schmidt, SVP Sales and Marketing for Notion Systems, at SPIE Photonics West 2023 in San Francisco

Per the joint agreement, the two companies will develop a customized inkjet module. It will be integrated in EVG's industry-benchmark HERCULES® NIL platform based on EVG's SmartNIL® technology. Specifically, the new inkjet module will complement EVG's existing spin-coating modules. Also, they will offer it as an alternative option for dispensing NIL photoresists on substrates for high-volume manufacturing (HVM) applications for NIL with unique film deposition and uniformity needs. Through this partnership, EVG further cements its leadership in NIL with inkjet capabilities in a fully integrated and automated NIL solution.

HERCULES NIL platform

"As both a pioneer and established market leader in NIL, EVG partners with companies across the nanoimprint supply chain within its NILPhotonics® Competence Center to continually innovate NIL to support new applications and provide greater benefits for our customers," stated Dr. Thomas Glinsner, corporate technology director at EV Group.

“By teaming up with Notion Systems, a specialized supplier of industrial, high-volume-production inkjet systems with an established and field-proven solution for the optical/display, electronics, and semiconductor markets, we can reduce the time to market for incorporating this unique additive manufacturing approach to our own NIL portfolio, and more quickly bring the performance benefits of inkjet-based nanoimprint to our customers,” Dr. Glisner continued.

Inkjet Coating Enables New Opportunities for NIL

Specifically, inkjet deposition enables fine-tuning of the resist amount and placement on a substrate. This achieves uniform residual layer thicknesses after the NIL process. This, in turn, allows for high-quality pattern transfer. Also, inkjet deposition allows for selective area resist coating, independent of the fill factor and structure size and height, making it ideal for applications, like augmented/virtual reality (AR/VR) gratings with narrow spaces and unique topographies. This unique deposition approach can also reduce material consumption, resulting in significant cost savings associated with nanoimprint resists.

“We are pleased to be partnering with EV Group on this important development for the NIL market,” stated Dr. Kai Keller, VP Business Development, Notion Systems. “With its high precision, drop placement accuracy and uniformity, our n.jet inkjet deposition technology in combination with EVG’s SmartNIL technology provides the perfect match for supporting new NIL applications that cannot be met with current spin coating approaches. This collaboration provides EVG with a powerful new and unique additive manufacturing capability to support its customers’ growing needs, while at the same time providing us with first-mover status in the rapidly growing NIL market.”

Demonstrations of EVG’s HERCULES SmartNIL UV-NIL system in conjunction with standalone inkjet deposition capabilities are available at the company’s NILPhotonics Competence Center located at EVG’s corporate headquarters.

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