

Deal creates first nanoimprint lithography system with inkjet coating – April 17, 2023

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By Nick Flaherty

The EV Group has teamed up with Notion Systems to develop a high speed, fully automated process for nanolithography using an inkjet printing process rather than spin coating.

The deal will create the first fully integrated and automated nanoimprint lithography (NIL) system with inkjet coating capabilities. This will enable high volume displays for AR/VR systems.

The two companies in Austria and Germany will develop a customized inkjet module to be integrated in EVG's industry-HERCULES NIL platform based on EVG's SmartNIL technology.

The new inkjet module will be complementary to EVG's existing spin-coating modules and will be offered as an alternative option for dispensing NIL photoresists on substrates for high-volume-manufacturing (HVM) applications for NIL that have unique film deposition and uniformity needs.

- [Nanoimprint lithography runs at full scale on 300mm substrates](#)
- [EVG, Toppan team for nanoimprint photonics lithography](#)
- [Canon prepares to ramp nano-imprint lithography](#)

Inkjet deposition can enable fine tuning of the resist amount and placement on a substrate to achieve uniform residual layer thicknesses after the NIL process, which in turn allows for high-quality pattern transfer.

Inkjet deposition also allows for selective area resist coating, independent of the fill factor and structure size and height, making it suitable for 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.

“With its high precision, drop placement accuracy and uniformity, our 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,” said Dr. Kai Keller, VP Business Development, Notion Systems. “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.”

- [German partners form new OLED technology alliance](#)
- [Mastering service cuts nanoimprint litho costs](#)
- [\\$9.6m boost for multi-nozzle 3D printed electronics](#)

“As both a pioneer and the established market leader in NIL, EVG partners with companies across the nanoimprint supply chain within its NILPhotonics Competence Centre to continually innovate NIL to support new applications and provide greater benefits for our customers,” said Dr. Thomas Glinsner, corporate technology director at EV Group (above left).

“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,” he said.

www.evgroup.com/products/nanoimprint-lithography/uv-nil-smartnil/hercules-nil/; www.notion-systems.com

<https://www.eenewseurope.com/en/deal-creates-first-nanoimprint-lithography-system-with-inkjet-coating/>