



FOR IMMEDIATE RELEASE

EV GROUP BRINGS NANOIMPRINT LITHOGRAPHY TO FULL-SCALE PRODUCTION WITH THE FIRST FULLY INTEGRATED 300-MM NANOIMPRINT LITHOGRAPHY TRACK SYSTEM

HERCULES® NIL 300 mm is a fully modular platform incorporating EVG's SmartNIL® technology to support AR/VR, 3D sensor, photonic and biotechnology production applications

ST. FLORIAN, Austria, June 11, 2019—EV Group (EVG), a leading supplier of wafer bonding and lithography equipment, today unveiled the HERCULES® NIL 300 mm—a fully integrated track system that combines cleaning, resist coating and baking pre-processing steps with EVG's proprietary SmartNIL® wafer-level nanoimprint lithography (NIL) process in a single platform for wafers up to 300 mm in diameter. The HERCULES NIL 300 mm is a highly versatile platform designed for companies aiming for high-volume manufacturing (HVM). It is the first NIL system based on EVG's fully modular equipment platforms with swappable modules to give customers maximum freedom to configure their systems to best meet their production needs, including bridge capabilities for 200-mm and 300-mm wafers. EVG's SmartNIL technology has also been improved and modularized for the HERCULES NIL 300 mm—providing the most advanced nanoimprint capabilities on the market with low force and conformal imprinting, fast high-power exposure and smooth stamp detachment.

The HERCULES NIL 300 mm supports the production of a variety of devices and applications, including optical devices for augmented/virtual reality (AR/VR) headsets, 3D sensors, bio-medical devices, nanophotonics and plasmonics. Demonstrations of the new HERCULES NIL 300 mm system are now available at EVG's NILPhotonics® Competence Center at its headquarters. EVG has already received multiple orders for the new system.

Fulfilling the potential of nanoimprint lithography

NIL has proven to be a highly efficient method to fabricate micro- and nanopatterns on large areas, to replicate complex structures and to directly pattern functional layers for a wide range of structure sizes and shapes. As a result, NIL is increasingly becoming a key enabling technology to support the production of new devices and applications across a wide range of markets, particularly in photonics and biotechnology. As demand for NIL-enabled devices and applications continues to grow, NIL solutions must be capable of scaling up to higher levels of productivity while maintaining low cost of ownership. EVG's SmartNIL technology is the result of years of research, development and field experience to address nanopatterning requirements that cannot be supported by conventional lithography, and has been field proven to be easily scalable from die-level sample sizes all the way up to large-area substrates.

According to Paul Lindner, executive technology director at EV Group, "EVG's SmartNIL technology is the most advanced NIL process available on the market today, and the HERCULES NIL 300 mm represents a major leap forward in bringing SmartNIL to high-volume, wafer-level manufacturing. The platform has literally been built from the ground up for high productivity and to provide customers with a high degree of flexibility to support their evolving production needs. For more than 20 years, EV Group has pioneered NIL technology, and today we have the dominant market share worldwide. We work in close collaboration with our customers to ensure their success in implementing NIL in their manufacturing strategy and to provide them with the best possible solution to meet their needs. An example of this is our NILPhotonics Competence Center, which reduces the entry barrier for nanoimprinting and gives easy access to a world class infrastructure and nanoimprint experts."

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Key attributes of the HERCULES NIL 300 mm include:

- Fully automated UV-NIL imprinting and low-force detachment
- Processing substrates up to 300 mm in diameter
- Fully modular platform that can accommodate up to eight swappable process modules (imprinting and pre-processing), for higher tool productivity
- 200-mm/300-mm bridge-tool capability, providing greater flexibility and longer tool lifetime
- Full-area imprint coverage, which avoids pattern stitching errors associated with step-and-repeat lithography systems due to limited field size
- Volume manufacturing of structures down to 40 nm and smaller
- Supports a wide range of structure sizes and shapes, including 3D
- Can be used on high-topography (rough) surfaces
- Ability to replicate multiple-use soft stamps to extend the lifetime of master imprint templates
- Equipment Front-end Module with up to four load ports (300-mm FOUPs/200-mm open cassettes) for continuous operation

For more information on EVG's UV-NIL / SmartNIL systems including the new HERCULES NIL 300 mm, please visit <https://www.evgroup.com/products/nanoimprint-lithography/uv-nil-smartnil/>

About EV Group (EVG)

EV Group (EVG) is a leading supplier of equipment and process solutions for the manufacture of semiconductors, microelectromechanical systems (MEMS), compound semiconductors, power devices and nanotechnology devices. Key products include wafer bonding, thin-wafer processing, lithography/nanoimprint lithography (NIL) and metrology equipment, as well as photoresist coaters, cleaners and inspection systems. Founded in 1980, EV Group services and supports an elaborate network of global customers and partners all over the world. More information about EVG is available at www.EVGroup.com.

Contacts:

Clemens Schütte
Director, Marketing and Communications
EV Group
Tel: +43 7712 5311 0
E-mail: Marketing@EVGroup.com

David Moreno
Principal
Open Sky Communications
Tel: +1.415.519.3915
E-mail: dmoreno@openskypr.com

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