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Semiconductor Technology

EVG and Silicon Austria Labs

Collaboration in optical technology research

EVG and Silicon Austria Labs expanded their collaboration and installed EVG's Lithoscale maskless exposure system, EVG7300 UV-NIL system and complementary resist processing systems.

Silicon Austria Labs (SAL) has received and installed multiple EVG lithography and resist processing systems at its MicroFab R&D cleanroom facility in Villach, Austria. The installations are part of a strengthened collaboration between the two companies to accelerate the development and deployment of advanced optical technologies for heterogeneous integration applications, including wafer-level optics used for microcameras and micromirrors, diffractive optics, and automotive optics used to enable autonomous driving and automotive lighting.

These systems join SAL's existing installed base of multiple EVG bonding, mask alignment and lithography systems, including the first installation of the next-generation 200-mm version of the EVG150 automated resist processing system, which provides significantly higher throughput, increased flexibility and smaller tool footprint compared to the previous-generation platform.

In addition, SAL has been working closely with the technology development and application engineering team at EVG's headquarter, including the NILPhotonics Competence Center, to leverage EVG's equipment and process knowhow and develop processes that are transferrable and scalable to high-volume manufacturing.

"We have recently been immersed in a range of cutting-edge R&D projects spanning meta-optics, integrated photonics, and MEMS, necessitating the use of advanced lithography and bonding tools", says Dr. Mohssen Moridi, Head of Research Division Microsystems of Silicon Austria Labs. "Through our valued partnership with EVG, we have gained access to tools of exceptional reliability and precision, paramount for successful R&D endeavors. Notably, the EVG7300 SmartNIL system has emerged as a pivotal tool, enabling the mass production of nanostructures for emerging photonics and MEMS devices. Its applications extend to diverse fields such as smart lighting systems, AR/VR, automotive optics, telecommunication, and quantum technology."



Combining powerful digital processing that enables real-time data transfer and instant exposure, high resolution and scalable throughput, EVG's Lithoscale overcomes previous bottlenecks. (Bild: EVG)

SAL was among the first customers to receive the new EVG7300 system, which is

EVG's most advanced solution to combine multiple UV-based process capabilities, such as nanoimprint lithography (NIL), lens molding and lens stacking (UV bonding), in a single platform. The EVG7300 was specifically developed to serve advanced R&D and production needs for a wide range of emerging applications involving micro- and nano-patterning as well as functional layer stacking.

EVG's revolutionary Lithoscale maskless exposure system addresses lithography needs for markets and applications that require a high degree of flexibility or product variation. It tackles legacy bottlenecks by combining powerful digital processing that enables real-time data transfer and immediate exposure, high structuring resolution and throughput scalability. It is ideally suited for rapid prototyping, providing fast turnaround and R&D cycle times.

According to Thomas Glinsner, corporate technology director at EV Group, "Silicon Austria Labs is a leading research center for optical miniaturization and heterogeneous integration, and is a strategic partner for EV Group. This latest shipment and installation of our advanced lithography and resist processing systems further strengthens our relationship and supports SAL's ability to develop future key technologies and apply our leading-edge solutions into real-world industrial applications." (ha)



SAL has installed, among others, the UV-NIL system EVG7300 and complementary resist process systems in its R&D MicroFab in Villach, Austria. (Bild: EVG)

EVG, Hall B1, Booth 233