

LITHOSCALE Maskless Exposure System from EV Group Wins 2021 Best of West Award – December 8, 2021



‘Unprecedented Collaboration’ – Department of Commerce Deputy Secretary Addresses CHIPS Act and Asks for Industry Coordination

SHANNON DAVIS, Web Editor

Deputy Secretary Don Graves of the U.S. Department of Commerce joined SEMI President Ajit Manocha on the keynote stage



Don Graves

Tuesday morning to share the current status of the CHIPS Act, as well as address the current struggles of the chip supply chain.

“This is unprecedented collaboration

with the Department of Commerce,” Dr. Manocha said of having the Deputy Secretary at this year’s SEMICON West. In SEMI’s 50 years, Dr. Manocha said the conference had never had a speaker from the Department of Commerce.

“Now is the most important time for us to be collaborating and having deep discussions about the



Dr. Manoch

future of the industry,” Mr. Graves told everyone, adding that it is absolutely vital that the industry and the federal government work collaboratively to address the current chip shortage.

“We’ve seen the challenges that we’re facing — we know it’s particularly problematic in chips,” he said. “Folks are realizing that chips power everything that we do... we have to make sure”

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LITHOSCALE Maskless Exposure System from EV Group Wins 2021 Best of West Award

The LITHOSCALE® maskless exposure system from EV Group (EVG) has won the 2021 Best of West award, SEMI and Semiconductor Digest announced today at SEMICON West 2021 Hybrid, December 7-9

at the Moscone Center in San Francisco. EVG is a leading supplier of wafer bonding and lithography equipment for the MEMS, nanotechnology and semiconductor markets.

Presented by SEMI and Semiconductor Digest each year, the Best of West award recognizes

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Best of West

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innovative new products or services that are significantly advancing the electronics manufacturing supply chain or a particular manufacturing capability.

LITHOSCALE is designed to address backend lithography needs for markets and applications requiring a high degree of flexibility or product variation, including semiconductor advanced packaging, MEMS, bio-medical and PCB manufacturing (see Figure). The first product platform to feature EVG's revolutionary MLE™ (Maskless Exposure) technology, LITHOSCALE combines high-resolution (<2 microns L/S) with no exposure field limitations, powerful digital processing that enables real-time data transfer and immediate exposure, and a highly scalable design that supports high-volume manufacturing.

The system's high precision is matched by distortion-free high-intensity optics and subnanometer-range stage motion accuracy, which ensures seamless projection across the entire substrate. LITHOSCALE also employs dynamic alignment modes and die-level compensation with automatic focus in order to adapt to the substrate material and surface variations. The result is the world's first maskless lithography system

Exposure method	Priority Mask Aligner	MSL Projection Stepper	MLP Maskless Exposure Technology
			
Exposure field size	Full size	Reticle Size limited	Customize with Flex
Exposure throughput	Structural (g, h, i, k)	1 layer Reticle based	Multiple wavelength Exposure System
Resolution (L/S)	> 2 μm	< 2 μm	< 2 μm
Mask Parts	<ul style="list-style-type: none"> Resistive substrate for production Layers need to be regularly exchanged & optimized Mask based resolution loss Flexibility No real compensation features for CD, F, or alignment Mask warpage, distortion, residue, misalignment, ... 	<ul style="list-style-type: none"> Layers need to be regularly exchanged & optimized CD control CD Mask based resolution loss Flexibility No real compensation features for CD, F, or alignment Mask warpage, distortion, residue, misalignment, ... Masking of die area difficult 	<ul style="list-style-type: none"> Flexibility Scaling of high resolution High CD combined with wide flex Real-time optimization Instant exposure without pre-compensation allows fast processing Advanced CD capabilities Die level patterning, real time distortion compensation

for high-volume manufacturing (HVM) with up to a 5X increase in throughput compared to existing maskless exposure systems in the market.

"Semiconductor manufacturers have long relied on the ingenuity of equipment suppliers such as EV Group to make chips smaller and faster," said Pete Singer, Editor-in-Chief of Semiconductor Digest. "The LITHOSCALE maskless exposure systems is a great example of the know-how that's on display at SEMICON West this year."

The EVG Group will receive the Best of West award today at SEMICON West 2021 Hybrid. 🏆