Lam Research, Entegris, Gelest Team Up to Advance EUV Dry Resist Technology Ecosystem

Collaboration provides robust chemical supply chain for global chipmakers using the breakthrough technology and supports R&D for next-generation EUV applications

SAN FRANCISCO, July 12, 2022 /PRNewswire/ -- **SEMICON WEST 2022** -- Lam Research Corp. (NASDAQ: LRCX), Entegris, Inc. (NASDAQ: ENTG), and Gelest, Inc, a Mitsubishi Chemical Group company, today announced a strategic collaboration that will provide semiconductor manufacturers worldwide with reliable access to precursor chemicals for Lam's breakthrough dry photoresist technology for extreme ultraviolet (EUV) lithography, an innovative approach used in the production of next-generation semiconductors. The parties will work together on EUV dry resist technology research and development (R&D) for future device generations of logic and DRAM products that will help enable everything from machine learning and artificial intelligence to mobile devices.

A robust supply chain for process chemicals is critical to EUV dry resist technology integration into high-volume manufacturing. This new long-term collaboration further broadens the growing ecosystem for dry resist technology and will provide dual-source supply from semiconductor material leaders with provisions for continuity of delivery in all global markets.

In addition, Lam, Entegris, and Gelest will work together to accelerate the development of future cost-effective EUV dry resist solutions for high numerical aperture (high-NA) EUV patterning. High-NA EUV is widely seen as the patterning technology that will be required for continued device scaling and advancement of semiconductor technology over the coming decades. Dry resist provides the high etch resistance and tunable thickness scaling of deposition and development necessary to support high-NA EUV's reduced depth of focus requirements.

"Dry resist technology is a breakthrough that shatters the biggest barriers to scaling to future DRAM nodes and logic with EUV lithography," said Rick Gottscho, executive vice president and chief technology officer of Lam Research. "This collaboration brings together Lam's dry resist expertise and cutting-edge solutions with material science capabilities and trusted supply channels from two industry precursor chemical leaders. This important expansion of the dry resist ecosystem paves the way for exciting new levels of innovation and high-volume manufacturing with the technology."

First developed by Lam in collaboration with ASML and IMEC, dry resist extends the resolution, productivity, and yield of EUV lithography, thereby addressing key challenges associated with creation of next-generation DRAM and logic technologies. It provides superior dose-to-size and dose-to-defectivity performance, enabling higher EUV scanner productivity and lower cost of ownership. In addition, Lam's dry resist process offers key sustainability benefits by consuming less energy and five to ten times less raw materials than traditional resist processes.

"Lam's dry resist approach reflects key innovations at the material level and offers a wide range of advantages, including better resolution, improved cost-efficiency and compelling sustainability benefits," said Bertrand Loy, chief executive officer of Entegris. "We are proud to be a part of this innovative collaboration to accelerate dry resist adoption and to be a trusted process materials supplier for customers as they push to create the next generation of semiconductors with this important technology."

"Our collaboration with Lam and Entegris to advance dry resists for EUV lithography demonstrates our commitment to support chipmakers as they innovate in materials science," said Jonathan Goff, president of Gelest, a Mitsubishi Chemical Group company. "We've seen EUV demonstrate exceptional value in recent years, and we're pleased to be part of the growing ecosystem to extend its potential."

About Lam Research

Lam Research Corporation is a global supplier of innovative wafer fabrication equipment and services to the semiconductor industry. Lam's equipment and services allow customers to build smaller and better performing devices. In fact, today, nearly every advanced chip is built with Lam technology. We combine superior systems engineering, technology leadership, and a strong values-based culture, with an unwavering commitment to our customers. Lam Research (Nasdaq: LRCX) is a FORTUNE 500® company headquartered in Fremont, Calif., with operations around the globe. Learn more atwww.lamresearch.com. (LRCX-T)

About Entegris

Entegris is the global leader in electronic materials for the semiconductor market. With approximately 8,800 employees across its global operations, Entegris offers the industry's most comprehensive and innovative unit-driven end-to-end offering for semiconductor customers, in addition to solutions for the life sciences and other advanced manufacturing environments. Entegris' solutions help customers improve their performance, productivity and yields to enable technologies that transform the

world. It has manufacturing, customer service, and/or research facilities in the United States, Canada, China, France, Germany, Israel, Japan, Malaysia, Singapore, South Korea, and Taiwan. For more information about Entegris, visit us at www.entegris.com, or follow us on LinkedIn, Twitter, Facebook, and Instagram.

About Gelest

Gelest is a U.S.-based innovator, manufacturer, and global supplier of specialty silicones, organosilanes, metal-organics, and acrylate monomers that serves advanced technology end markets including medical devices, life sciences, coatings and adhesives, microelectronics, and personal care. As a Mitsubishi Chemical Group company, Gelest can leverage the expertise, research and development support, and resources of one of the world's largest and most successful chemical companies. Gelest helps contribute to customer success by developing cutting edge chemical technology, products, and services to address society's most complex material science challenges.

Caution Regarding Forward-Looking Statements
Statements made in this press release that are not of historical fact are forward-looking statements and are subject to the safe harbor provisions created by the Private Securities Litigation Reform Act of 1995. Such forward-looking statements relate to but are not limited to: the ability of Lam, Entegris and Gelest to supply tools and chemicals in sufficient quantity and quality and in a sufficiently timely manner to meet customer demands; the duration of, goals of or results delivered by the collaboration of the parties; the performance of Lam's tools and processes and, specifically, the performance and advantages obtained through the use of Lam's dry resist technology; the effect of that new technology on the cost and productivity of EUV lithography; the need for improvements to the productivity and resolution of EUV lithography; the amount of energy or raw material saved by use of the new technology; and the benefits of industry collaborations. These statements are based on current expectations and are subject to risks, uncertainties, and changes in condition, significance, value, and effect including those risks and uncertainties that are described in the documents filed or furnished by us with the Securities and Exchange Commission, including specifically the Risk Factors described in Lam's annual report on Form 10-K for the fiscal year ended June 27, 2021, and quarterly report on Form 10-Q for the quarter ended March 26, 2022 and in Entegris' annual report on Form 10-K for the fiscal year ended December 31, 2022, and quarterly report on Form 10-Q for the quarter endedApril 2, 2022. These uncertainties and changes could materially affect the forward-looking statements and cause actual results to vary from expectations in a material way. Neither company undertakes an obligation to update the information or statements made in this release.

SOURCE Lam Research Corporation

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