Lam Research Establishes 28nm Pitch in High-Resolution Patterning Through Dry Photoresist Technology

Advanced Patterning Approach Delivers Best-in-Class Defectivity

FREMONT, Calif., Jan. 14, 2025 /PRNewswire/ -- Lam Research Corporation (Nasdaq: LRCX) today announced that its innovative dry photoresist (dry resist) technology has been qualified for direct-print 28nm pitch back end of line (BEOL) logic at 2nm and below by imec, a leading research and innovation hub in nanoelectronics and digital technologies. An advanced patterning technique introduced by Lam, dry resist enhances the resolution, productivity and yield of extreme ultraviolet (EUV) lithography, a pivotal technology used in the production of next-generation semiconductor devices.

"Lam's dry photoresist technology provides unparalleled low-defectivity, high-resolution patterning," saidVahid Vahedi, chief technology and sustainability officer at Lam Research. "We are excited to offer this technology to imec and its partners as a critical process in the design and manufacturing of leading-edge semiconductor devices."

As chipmakers move to advanced technology nodes, transistor features and pitch sizes continue to get smaller. Ambitious next-generation device roadmaps require direct-print 28nm pitch BEOL to enable scaling. Small pitch size can often result in poor pattern resolution, but Lam's dry resist technology helps optimize patterning by overcoming the well-known tradeoff between EUV exposure dose (cost) and defectivity (yield).

At imec, Lam's 28nm pitch dry resist processes are paired with a low NA EUV scanner, and extendible to a high NA EUV scanner. They enhance EUV sensitivity and the resolution of each wafer pass — improving cost, performance and yield. In addition, dry resist offers key sustainability benefits by consuming less energy and five to ten times less raw materials than existing wet chemical resist processes.

"Through joint research and development, imec acts as a neutral partner for equipment manufacturers, demonstrating feasibility of new materials and equipment, supporting process development, and providing integrated device manufacturers and foundries early access to innovative processes that accelerate their manufacturing roadmaps," said Steven Scheer, senior vice president of research and development at imec. "Lam's dry resist achieves excellent defectivity and fidelity at competitive dose."

Additional Media Resources:

- Press release: Lam Research Unveils Technology Breakthrough for EUV Lithography
- Blog: Why New Photoresist Technology Is Critical

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.

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: industry and market trends and expectations, and product performance, including sustainability benefits. Some factors that may affect these forward-looking statements include: trade regulations, export controls, trade disputes, and other geopolitical tensions may inhibit our ability to sell our products; business, political and/or regulatory conditions in the consumer electronics industry, the semiconductor industry and the overall economy may deteriorate or change; the actions of our customers and competitors may be inconsistent with our expectations; supply chain cost increases and other inflationary pressures have impacted and may continue to impact our profitability; supply chain disruptions or manufacturing capacity constraints may limit our ability to manufacture and sell our products; and natural and human-caused disasters, disease outbreaks, war, terrorism, political or governmental unrest or instability, or other events beyond our control may impact our operations and revenue in affected areas; as well as the other 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 our annual report on Form 10-K for the fiscal year ended June 30, 2024 and our quarterly report on Form 10-Q for the fiscal quarter ended September 29, 2024. These uncertainties and changes could materially affect the forward-looking statements and cause

actual results to vary from expectations in a material way. The Company undertakes no obligation to update the information or statements made in this release.

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