

Almere, The Netherlands

July 13, 2022, 5.45 p.m. CET

ASM INTERNATIONAL N.V. LAUNCHES TENZA™ ALD FOR SILICON OXIDE GAP-FILL AND LINERS

New process technology addresses 300mm advanced memory and logic/foundry applications with best film quality, highest productivity and lowest cost of ownership in its class.

San Francisco, USA – ASM International N.V. (Euronext Amsterdam: ASM) today announced TENZA™ ALD, an innovative single wafer atomic layer deposition (ALD) process technology for 300mm wafers. TENZA™ ALD is optimized for gap-fill applications and provides the best film quality, conformal coverage through the full trench and highest productivity in its class.

TENZA™ ALD is offered on ASM's high productivity quad chamber module (QCM) architecture, with four tightly integrated reactors on each QCM. In a compact configuration, up to 4 QCMs running the TENZA™ ALD process can be attached to the XP8 platform, enabling processing of up to 16 wafers at a time.

"TENZA™ ALD leverages ASM's production proven QCM quad chamber module architecture and XP8® platform, which have been in high volume manufacturing fabs for several years, to bring enhanced process capability at the lowest cost of ownership to the market. TENZA™ ALD enables ultra-high aspect ratio (>100:1) gap-fill for advanced memory devices", said Hichem M'Saad, Chief Technology Officer and Member of the Management Board.

TENZA™ ALD utilizes a novel design optimized for ALD reactions, minimizing process volume for maximum precursor utilization efficiency, reducing precursor consumption up to 50% and increasing productivity more than double compared to conventional ALD approaches. Each reactor chamber controls the RF plasma power supply and matching system individually to improve process reproducibility. The small volume reactor also provides excellent defect performance and extended reactor life (run time before preventive maintenance). Process reactions are confined within each small volume reactor space to minimize consumable parts, making maintenance very easy and less costly.

TENZA™ ALD enables a variety of silicon oxide applications for gap-fill and liners for a range of structures in advanced transistors, memory devices and interconnects. The industry can count on TENZA™ ALD to deliver a high quality, reliable, repeatable, production proven gap-fill process with the lowest cost of ownership on the market today.

Deliveries of TENZA™ ALD have begun to multiple global customers, among them leaders in memory device manufacturing. ASM's mature compact ALD quad chamber module architecture has a proven track record with more than 2,000 reactors shipped to customers.

About ASM International

ASM International N.V., headquartered in Almere, the Netherlands, and its subsidiaries design and manufacture equipment and process solutions to produce semiconductor devices for wafer processing, and have facilities in the United States, Europe, and Asia. ASM International's common stock trades on the Euronext Amsterdam Stock Exchange (symbol: ASM). For more information, visit ASM's website at www.asm.com.

Cautionary Note Regarding Forward-Looking Statements: All matters discussed in this press release, except for any historical data, are forward-looking statements. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. These include, but are not limited to, economic conditions and trends in the semiconductor industry generally and the timing of the industry cycles specifically, currency fluctuations, corporate transactions, financing and liquidity matters, the success of restructurings, the timing of significant orders, market acceptance of new products, competitive factors, litigation involving intellectual property, shareholders or other issues, commercial and economic disruption due to natural disasters, terrorist activity, armed conflict or political instability, changes in import/export regulations, epidemics and other risks indicated in the Company's reports and financial statements. The Company assumes no obligation nor intends to update or revise any forward-looking statements to reflect future developments or circumstances.

This press release contains inside information within the meaning of Article 7(1) of the EU Market Abuse Regulation.

CONTACT

Investor and media contact:

Victor Bareño

T: +31 88 100 8500

E: investor.relations@asm.com