

ASM International and NuTool Announce Strategic Alliance on Copper/low-k for Next Generation Semiconductors

ASM International Takes Minority Position in NuTool; Combined Processes Address Major Barrier to Copper Metallization Today; Reduce Need for CMP Processing; Provides Major Cost Savings

BILTHOVEN, The Netherlands and MILPITAS, Calif., Oct. 22, 2001

(PRIMEZONE) -- ASM International N.V. (Nasdaq:ASMI - news; Euronext Stock Exchange in Amsterdam: ASM) and NuTool, Inc., a privately funded, closely held semiconductor technology company, today announced a strategic alliance on copper/low-k insulators, technologies critical to the semiconductor industry's migration from aluminum to copper interconnects. ASM International also announced it will take a 15% minority interest in the California-based company.

Arthur del Prado, president, CEO and founder of ASM International, stated: "We believe NuTool has the most advanced third-generation copper metallization tool in the industry. NuTool's ECMD(tm) process is radically changing the copper interconnect road map by offering significant cost-of-ownership reduction and improved yield in the fabrication process of copper interconnects. NuTool's ECMD technology combines the copper deposition process with the planarization process in one processing chamber, which is a very innovative and attractive solution to several challenges in copper processing."

According to Homayoun Talieh, president and founder of NuTool, "This alliance enables us to overcome one of the critical barriers facing the transition to copper in the semiconductor industry. We believe our combined processes will not only accelerate the integration of low-k with the copper metallization process, but also speed up the industry transition to these enabling technologies while providing significant cost savings, largely through the elimination of up to 60 percent of chemical mechanical polishing (CMP) processing steps. By generating such significant savings, compared with current copper technology, a semiconductor fab can recover its total investment within one month of production."

In the next several years, the industry will change from aluminum wires in silicon oxide insulators, to one of copper wires in low-k insulators (the „interconnect“). The deployment of copper interconnects in chips will grow very fast. According to Semiconductor International, a market research firm, the use of copper interconnects in devices will grow from about 5% currently for 180 nm devices, to about 60% for 100 nm devices. Market research firm Dataquest predicts a corresponding market growth for copper deposition equipment from \$160 million in 2000 to over \$900 million in 2005.

ASM is a leader in technology for Chemical Vapor Deposition (CVD) low-k films, Atomic Layer CVD(tm) (ALCVD(tm)) thin films, and anneal technologies, while NuTool is the leader in ECMD(tm) deposition technologies. The copper ECMD(tm) films will be deposited in the NuTool 2000(tm) system on Aurora(tm) low-k films. The Aurora low-k films will be made in ASM's Eagle(r) 10 Trident(tm) 200mm platform, and the Eagle(r) 12 Rapidfire(tm) 300 mm platform. ASM's Aurora films are the hardest low-k films in the industry, and provide the largest resistance to CMP for a given k-value. Usually porous materials with ultra low k-values are softer than fully dense materials. The combination of ASM's low-k films with the NuTool technology opens the path for a further reduction in k-value, without compromising the integration of the insulator in a multilevel interconnect structure.

ASM Minority Interest ASM International also announced it is purchasing a 15 percent minority interest in NuTool; terms of the investment were not disclosed. ASM will receive board representation in connection with this investment. NuTool's current investors include some of the world's top 10 semiconductor manufacturers.

„Our commitment to NuTool, both financially and technologically, affords tremendous benefits to ASM by further expanding our strategy in semiconductor wafer processing technologies, particularly in the field of interconnect formation,“ Mr. del Prado remarked.

NuTool, Inc., headquartered in Milpitas, Calif., a leader in providing innovative copper deposition technologies to the semiconductor industry, focuses on developing and commercializing innovative, value-added technology. NuTool's patented Electrochemical Mechanical Deposition (ECMD(tm)) technology offers entirely new process solutions for copper deposition and planarization, providing significant savings in IC manufacturing, enabling new IC designs and enabling new process technologies.

ASM International N.V. is headquartered in Bilthoven, the Netherlands. ASM International is a global company, serving one of the most important and demanding industries in the world. The Company possesses a strong technological base, state-of-the-art manufacturing facilities, a competent and qualified workforce and a highly trained, strategically distributed support network. ASM International's subsidiaries design and manufacture equipment and materials used to produce semiconductor devices. ASM International and its subsidiaries provide production solutions for wafer processing, assembly and packaging through their facilities in the United States, Europe, Japan and Asia. ASM International's common shares trade on Nasdaq (symbol ASMI) and the Euronext Stock Exchange in Amsterdam (symbol ASM). For more information, visit ASM's Website at <http://www.asm.com>.

Safe Harbor Statement under the U.S. Private Securities Litigation Reform Act of 1995: All matters discussed in this statement, 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 in the semiconductor industry, currency fluctuations, the timing of significant orders, market acceptance of new products, competitive factors, risk factors related to litigation and other risks indicated in filings from time to time with the SEC and Stock Exchange Authorities.

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