



ITRI and Applied Materials Collaborate to Advance 3D IC Technology

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TAIPEI, Taiwan--(BUSINESS WIRE)--Oct. 15, 2009-- Taiwan's Industrial Technology Research Institute (ITRI) and Applied Materials, Inc. announced today a collaboration to accelerate the development and commercialization of 3D* chip stacking technology. To enable this important effort, a full line of processing systems from Applied Materials has been selected by ITRI for its 3D laboratory in Hsinchu, Taiwan. These state-of-the-art systems will be used for fabricating through-silicon vias (TSVs), a key technique for making compact, energy-efficient, high performance CMOS image sensors, and stacked memory and memory/logic chips for mobile communications devices.

Applied and ITRI intend to work together as members of the Stacked-System and Application Consortium (Ad-STAC). Formed in 2008, Ad-STAC aims to improve 3D IC technology by bringing together academic institutions and leading semiconductor companies to share research, leverage government resources and establish standards. Using Applied's Etch, PVD, CMP and PECVD* systems, Applied and ITRI will focus on the integration of via first, via last and via reveal TSV process flows, enabling Ad-STAC's member companies to more rapidly bring their advanced 3D chip designs to market, greatly reducing development time and initial investment.

"Joining forces with a leading research institution such as ITRI is a very effective way to advance 3D technology and successfully integrate it into the manufacturing community," said Dr. Randhir Thakur, senior vice president and general manager of Applied's Silicon Systems Group. "ITRI's selection of Applied's entire TSV suite is a testament to our integrated 3D packaging technology, a capability that is unparalleled in the industry. By performing customers' early stage development on a proven toolset, the transition to volume manufacturing can be made as fast and transparent as possible."

"We are pleased to be collaborating with Applied Materials in advancing 3D IC technology. ITRI believes that 3D ICs will be a significant part of semiconductor development during the next ten years. We plan to drive 3D IC integration and set up a pilot line in our 3D IC lab," said Dr. Sheng-fu Horng, deputy general director of the Electronics and Optoelectronics Research Laboratories at ITRI. "ITRI provides an open environment for new pilot technologies. We have therefore selected the latest TSV equipment from Applied Materials so that we can offer companies from different fields, as well as research institutes, a unique environment to develop and test new technologies and products."

Underscoring the significance of this collaboration, there will be a ceremony attended by top officials from Taiwan's Ministry of Economic Affairs. The event will be held on October 15th at the Taipei Formosa Regent Hotel and will also feature a joint press conference with executives from ITRI and Applied Materials.

Industrial Technology Research Institute (ITRI) is Taiwan's largest high-tech R&D institution. Since its founding in 1973, ITRI has worked to promote development of Taiwan's high-tech industry. To date, ITRI has received over 9,000 patents and has assisted in the creation of over 150 start-ups and spinoffs, including global semiconductor leaders Taiwan Semiconductor Manufacturing Co. (TSMC) and United Microelectronics Corp. (UMC). Since 1979, ITRI has established units in the Silicon Valley in the United States, Japan, Germany and Russia in an effort to extend its R&D scope and promote opportunities for international cooperation. ITRI presently maintains long-term collaborative arrangements with MIT, Carnegie Mellon University, University of California at Berkeley and Stanford University. Learn more at <http://www.itri.org.tw>.

Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in Nanomanufacturing Technology™ solutions with a broad portfolio of innovative equipment, service and software products for the fabrication of semiconductor chips, flat panel displays, solar photovoltaic cells, flexible electronics and energy efficient glass. At Applied Materials, we apply Nanomanufacturing Technology to improve the way people live. Learn more at www.appliedmaterials.com.

* 3D = three-dimensional; PVD = physical vapor deposition; CMP = chemical-mechanical planarization; PECVD = plasma enhanced chemical vapor deposition

Photos/Multimedia Gallery Available: <http://www.businesswire.com/cgi-bin/mmg.cgi?eid=6073706&lang=en>

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