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**Elpida, PTI, and UMC Partner on 3D IC Integration Development  
For Advanced Technologies Including 28nm**

*Cooperation will focus on Through-Silicon Via (TSV) process advancement to establish  
a total 3D IC Logic+DRAM integration solution*

**HSINCHU, Taiwan, June 21, 2010** -- Elpida Memory Inc., Powertech Technology Inc. (PTI), and United Microelectronics Corporation (NYSE: UMC; TSE: 2303) ("UMC"), today announced their entry into a 3-way cooperation to advance 3D IC integration technologies for advanced processes including 28 nanometer (nm). This collaboration will leverage the strengths of Elpida's DRAM, PTI's assembly, and UMC's foundry logic technologies to develop a total 3D IC Logic+DRAM integration solution.

"Last year Elpida was the first to successfully develop an 8-gigabit DRAM based on TSV technology," said Takao Adachi, Director and Chief Technology Officer of Elpida Memory. "The big advantage of this technology is that it enables a large number of I/O connections between logic and DRAM devices. This can massively increase the data transfer rate and reduce power consumption, making possible completely new kinds of high-performance devices. However, we need a solid partnership with a logic foundry to make this happen. The joint development that we now plan with UMC means that we can use the most advanced TSV integration technology to bring together our advanced DRAM technology and UMC's leading-edge logic foundry technology including experience in providing SoC solutions such as advanced microprocessors. Our plan now is to speed up development in a way that supports ultimate system solutions that

will be made possible by freely joining together all kinds of devices through TSV integration."

"Also, moving forward with TSV integration in a big way means we need less expensive product technology and a manufacturing process that can handle large-volume production on neutral ground," said Adachi. "We can accomplish this by working with PTI, which brings advanced assembly technology to our partnership. We believe this 3-way cooperation will allow us to deliver a variety of services using TSV technology and enable customers to build more powerful high-performance systems."

Mr. Iwata, Senior Vice President and R&D CTO of PTI noted, "This 3D IC integration with TSV technology can completely match PTI's business and technology strategy. PTI has been providing advanced memory package and testing services to global 1<sup>st</sup> tier memory companies by using wafers as thin as 50um and superb die attach technology which enables 8Die to be stacked in one package in commercial base for smart phone applications. PTI has also been developing a stacked package with 16Die or more to maintain a low package profile. Meanwhile, PTI has been developing SiP for Logic customers since 2007, which we equip with WLCSP, Flip Chip and Passive components by wire bonding and SMT technologies such as System In Module for mobile handheld devices. PTI commits to this collaboration with Elpida and UMC in order to realize high performance from 3D IC integrated devices that are cost effective and contribute to the evolution of the semiconductor industry."

Mr. S. C. Chien, vice president and head of advanced technology development at UMC, noted, "UMC's aggressive pursuit of leading-edge technology solutions for our customers has led to a number of significant milestones. We successfully introduced 40nm high performance production for our customers' ICs in Oct. 2009. Our 28nm, gate-last high-K/metal gate development will be ready to support customer IP verification by the end of 2010. Now, with the increasing technology and cost challenges of CMOS scaling, 3D-IC with TSV becomes another viable "More than Moore" option. However, customers requiring 3D-IC TSV solutions for next generation products are currently encountering multiple challenges such as standardization, supply chain infrastructure, design solutions, thermal stress, integration of package and testing, cost and etc. As a foundry provider of integrated 3D-IC solutions, we are excited to partner with Elpida and

PTI to develop a fully integrated TSV solution suitable for a wide range of applications. Leveraging UMC's leading-edge logic technology-and logic design interface with Elpida's DRAM/TSV technology and PTI's packaging and testing, this joint development project will allow us to provide our customers with a total solution for their 3D IC designs." In the meantime, UMC will also support customers requiring other TSV approaches and will actively develop solutions for their needs by working with existing package partners.

Close integration of DRAM and Logic technologies using TSV technology are expected to deliver the performance required for the ongoing convergence of communication, consumer and computing (3C) applications with mobile and handheld electronics. The collaboration will facilitate the development of a total solution that includes Logic+DRAM interface design, TSV formation, wafer thinning, testing and chip stacking assembly for customers. The resulting technology is expected to increase cost competitiveness, improve logic yield impact, and accelerate entry into the 3D IC market.

### **About Elpida**

Elpida Memory, Inc. (Tokyo: 6665) is a leading manufacturer of Dynamic Random Access Memory (DRAM) integrated circuits. The company's design, manufacturing and sales operations are backed by world class technological expertise. Its 300mm manufacturing facilities, consisting of its Hiroshima Plant and a Taiwan-based joint venture, Rexchip Electronics, utilize the most advanced manufacturing technologies available. Elpida's portfolio features such characteristics as high-density, high-speed, low power and small packaging profiles. The company provides DRAM solutions across a wide range of applications, including high-end servers, mobile phones and digital consumer electronics. More information can be found at <http://www.elpida.com>.

### **About PTI**

Powertech Technology Inc. (PTI) was founded in 1997 and is the world's leading provider of IC backend services. The services cover IC chip probing, packaging and testing to end products with worldwide delivery.

Currently, PTI has over 5000 employees. With strategic alliances and continuous improvements, PTI provides reliable quality by implementing mainstream technology to fulfill the customers' demands through our world-class manufacturing plants in Hsinchu County, Taiwan.

With more than 50% compound average growth rate in the past 10 years, in 2008, PTI ranked number five among worldwide IC backend subcontractors and number one scale in memory device application. Shipping more than 260M units per month to customers worldwide, our customers are primarily first-tier integrated devices manufacturers (IDM) or fabless companies, which highlights our excellent manufacturing capacity and capability. More information can be found at <http://www.pti.com.tw>.

### **About UMC**

UMC (NYSE: UMC, TSE: 2303) is a leading global semiconductor foundry that provides advanced technology and manufacturing services for applications spanning every major sector of the IC industry. UMC's customer-driven foundry solutions allow chip designers to leverage the strength of the company's leading-edge processes, which include production proven 65nm, 45/40nm, mixed signal/RFCMOS, and a wide range of specialty technologies. Production is supported through 10 wafer manufacturing facilities that include two advanced 300mm fabs; Fab 12A in Taiwan and Singapore-based Fab 12i are both in volume production for a variety of customer products. The company employs approximately 13,000 people worldwide and has offices in Taiwan, Japan, Singapore, Europe, and the United States. UMC can be found on the web at <http://www.umc.com>.

### **Note From UMC Concerning Forward-Looking Statements**

Some of the statements in the foregoing announcement are forward looking within the meaning of the U.S. Federal Securities laws, including statements about future outsourcing, wafer capacity, technologies, business relationships and market conditions. Investors are cautioned that actual events and results could differ materially from these statements as a result of a variety of factors, including conditions in the overall semiconductor market and economy; acceptance and demand for products from UMC; and technological and development risks.