



The Materials Metrology™ Company

Press Release

ReVerA Increases Metrology System Market Share in Flash Memory and DRAM Manufacturing Markets

Multiple VeraFlex tools enabling development and inline production of advanced memory devices with additional systems shipping over next quarter

Sunnyvale, Calif., July 12, 2007 – ReVerA Incorporated, a leader in materials metrology solutions, today announced that it has significantly increased its penetration of the memory market. Multiple VeraFlex™ metrology systems are currently installed at major memory manufacturers, with additional shipments to high volume manufactures scheduled over the next quarter. ReVerA has also rolled out a new suite of critical memory applications to support its growing customer base. As memory manufacturers transition to new materials and more complex processes, ReVerA's XPS-based VeraFlex systems are increasingly seen as an enabling technology in the development and the production of their most advanced memory devices.

"From the outset our strategy has been to first serve gate dielectric metrology needs, while at the same time developing our applications breadth and continually improving our metrology technology to enable us to address the requirements of additional markets," commented ReVerA CEO Dave Ring. "We have successfully accomplished the first goal, with a significant number of tools deployed worldwide for gate applications. Now we've extending the reach of our technology to support the advanced processes used in the manufacture of flash and DRAM storage cells. Our success in the memory market demonstrates the value of our system in enabling the development of new, critical memory processes and their rapid transition into high volume manufacturing."

Addressing Memory Manufacturing Requirements

The aggressive development path for memory devices, seen as exceeding Moore's Law of generational device shrinks, is driving the need for memory manufactures to integrate more and more advanced new materials and processes. In addition, the requirements of these new processes are often outside of the process ranges of traditional metrology equipment. ReVerA's VeraFlex system fills these gaps in both development and high volume production applications by providing direct measurement of critical parameters with a high degree of sensitivity – all in one wafer pass. The detailed, comprehensive results provided by VeraFlex enable users to rapidly identify excursions and take direct action to immediately address them.

The end result is fast, effective development of new materials and processes, and a smooth transition to production, both critical to meeting the tight market windows for advanced memory devices. ReVerA has demonstrated its ability to meet these requirements, as exemplified by a leading Taiwanese memory device manufacturer having already adopted the company's technology as its primary inline approach for monitoring key memory capacitor layers in high-volume manufacturing.

New Suite of Memory Applications

To support the flash and DRAM markets, ReVerA has developed a suite of new applications specifically targeted at emerging technology challenges where tighter compositional control is critical for yield improvement. These customer proven applications address a broad range of high K, metallization and implant processes, including:

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- *Boron plasma doping for poly* – Developed to provide critical dopant concentration control of an extremely high dose surface implant, outside the capabilities of traditional metrology.
- *High K capacitor* – Allows thickness and composition control of multi-component and laminate high K material with a single metrology technology whereas traditional methods requiring multiple measurement tools.
- *Engineered flash dielectrics* – Provides critical thickness, composition, and depth profile information for highly engineered dielectric layers such as tunnel oxide and charge trap layers for SONOS and TANOS type flash devices.
- *Advanced metallization for memory cell electrode* – Developed to control composition and contamination of thin metal films for work function tuning and yield control.

In addition, the architecture of ReVera's materials metrology systems enables rapid development and deployment of new applications to address emerging process and material challenges.

To learn more about ReVera's materials metrology solutions for logic and memory applications, please visit ReVera at SEMICON West in San Francisco, Calif., July 17-20, 2007. ReVera will be exhibiting in the North Hall at Booth T6 as a part of the SEMI 2007 Technology Innovation Showcase (TIS), and is the only metrology company selected this year as a TIS winner.

About ReVera's Technology

With a large installed base of tools in high-end device manufacturing fabs, ReVera's XPS (x-ray photoelectron spectroscopy) technology is recognized as the preferred technique to control the thickness, composition, depth distribution and chemical properties of critical films. While standard optical metrology tools rely on numerous estimates and assumptions to generate thickness and composition data, ReVera's advanced x-ray based technique directly measures critical parameters that must be controlled in production and provide comprehensive results that enable direct action. ReVera's approach dramatically simplifies the process control task and assures customers that their devices can be manufactured within the defined performance specifications.

About ReVera

ReVera Incorporated is a leading provider of materials metrology solutions for advanced semiconductor processing. Its products allow device manufacturers to measure, monitor and control critical materials properties, enabling them to rapidly integrate and manage the new materials required for 65 nm, 45 nm and beyond. ReVera systems are proven in production in a broad range of applications, and are backed by a global network of applications, field service, sales and logistics personnel. ReVera was established in 2004 as a management-led spin-out from Physical Electronics and its wholly owned subsidiary, Charles Evans and Associates.