

InnerSense Introduces a New Diagnostics Instrument for High Volume Semiconductor Manufacturing Environment



Released on: October 22, 2009, 3:36 am

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Industry: [Semiconductors](#)

Ein Harod, ISRAEL, October 22, 2009 – InnerSense Ltd., a leading global developer and manufacturer of precision auto-diagnostics instruments for the semiconductors industry, introduced a new system for eliminating handling-related yield loss in 300mm wafer process tools running high volume production.

The new system, coined SMW2, consists of a 300mm wafer instrumented with sensitive three dimensional vibration sensors, and a "Smart FOUP™" that serves as a recharge and communication station, as well as a clean storage container. The "Smart FOUP" employs contact-less recharging and data transfer that enable the system to interface with standard robotic wafer handlers and be operated with minimal interruption to the production line.

Yigal Tomer, InnerSense's Co-CEO, commented, "The new system is based on six years of excursion control experience. Built on our successful Smart Wafer technology, it brings to the high volume production environment the monitoring ability that has enabled predictive maintenance and statistical analysis of tool condition, previously available in engineering mode only."

In addition to 3D vibration sensing and FOUP-based, contact-less reader/recharger station, the SMW2 features advanced analytical tools that facilitate troubleshooting, SPC-based trend identification and tool-

to-tool comparison. These tools allow even untrained operators to use the system effectively to enhance the availability of expensive wafer process equipment.

ABOUT "SMART WAFER" TECHNOLOGY

A semiconductor wafer is typically handled hundreds of times during its manufacturing process. Collisions and rubbing against other objects may result in edge cracks and back scratches. Uneven or abrupt lifting may cause skidding and misalignment, or even dropping the wafer inside the tool. Particles generated in mechanical contact cause contamination. In total, handling related defects are believed to cause over 30% of wafer yield loss.

Instrumented with sensitive multi-axial accelerometers, InnerSense's Smart Wafer travels just like a production wafer through the entire path in the process tool and record the vibrations and tilting it experiences during the various handling operations. The recorded data is analyzed to pinpoint problem sources and detect mechanism deterioration to trigger predictive maintenance. By providing quantitative and statistical information on a regular basis, the Smart Wafer becomes a valuable tool for Advanced Equipment Control (AEC). The resulting enhanced yield and productivity translate to significant cost savings.

ABOUT INNERSENSE

Established in Jerusalem, Israel, in 2002, InnerSense develops, manufactures and markets diagnostic solutions for the semiconductor, flat panel display and solar cell industries. InnerSense's products, such as the Smart Wafer described above, help customers in over 25 fabs around the world increase their manufacturing yields and reduce operation and maintenance costs. InnerSense supports its customers through operations in China, Taiwan, Japan, Korea, Europe and the USA. Ricor Cryogenic and Vacuum Systems of Ein Harod, Israel, has acquired InnerSense in 2008.

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