

Eco-Snow™ CO2 systems help clean up MEMS sensors

LIVERMORE, California, U.S., July 7, 2008 – Eco-Snow Systems, an affiliate of The Linde Group, has developed automated cleaning technology for the Micro Electrical Mechanical Systems (MEMS) industry that helps reduce defect rates and increase device reliability.

Eco-Snow Systems is the leading supplier of automated, carbon dioxide (CO2)-based wafer cleaning tools and processes to the semiconductor industry.

Two major U.S. MEMS manufacturers have installed the Eco-Snow VersaClean™ system for packaging component cleaning and the Eco-Snow WaferClean™ system for released device level cleaning prior to wafer dicing.

“Our customers have seen the effectiveness of the Eco-Snow automated CO2 snow cleaning technology in removing contaminants on MEMS wafer caps, released devices and packaging components,” said Joe Clark, general manager, Eco-Snow Systems.

Cleaning is an essential process for MEMS applications in order to prevent device failure due to foreign material. Small particles located on MEMS devices, or within their protective packaging, are significant causes of device rejection.

“The Eco-Snow tools are a particularly good fit for the MEMS accelerometer market, since we can perform gentle to aggressive cleaning on wafers or in packaging. The all-dry process has a unique ability to remove particles from the released cantilever beams of accelerometers without removing the anti-sticktion lubricant or corrupting the device,” Clark said.

Marc Papageorge, MEMS consultant and founder of Pleasanton, California-based Semiconductor Outsourcing Solutions, which helps manufacturers source the best products for their processes, says, “The Eco-Snow tools provide an excellent solution for backend-assembly MEMS providers to remove contaminants that otherwise would have ended up sealed in the package.”

As a dry solid, CO2 snow works by transferring momentum from the snow particle to the contaminant material. The Eco-Snow technology is easy to maintain, reliable, economical and simple to integrate into front or back end production lines.

Compared with traditional wet cleaning, the Eco-Snow process is cost effective and minimizes environmental impact, as CO2 has a much lower global warming potential than the solvent cleaning alternatives.

About The Linde Group

Eco-Snow Systems is a wholly owned subsidiary of The Linde Group. As a leading innovator of dry CO2 technology, with over 100 tools installed, Eco-Snow Systems sets the standard for quality dry process cleaning solutions. Eco-Snow, based in Livermore, California, holds over 20 U.S. patents and has R&D clean room facilities to conduct process qualification and testing for customer application development.

For more information visit the Eco-Snow Systems' website at <http://www.eco-snow.com>