



PRESS RELEASE

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LARGE-SCALE PRODUCTION OF SMALL-SCALE COMPONENTS

Novel Batch ALD Reactor Design Wins New Orders for Picosun

Helsinki, Finland – December 12, 2007 - Finnish Atomic Layer Deposition (ALD) equipment manufacturer Picosun Oy report on their novel SUNALE™ PicoBatch ALD tool. First SUNALE™ PicoBatch ALD system has been accepted for production at a customer site. The tool is used for coating a batch of 25 wafers simultaneously.

"We are very pleased to introduce to the market our novel small-footprint SUNALE™ PicoBatch ALD reactor. I am positive that this tool will win several additional orders for Picosun Oy in the near future", states the inventor Sven Lindfors, CTO and Founder of Picosun Oy. "The reasonable price level of this unique production tool will surprise our customers positively". The test results reported by our customer are very satisfying as well as the production capacity increase.

Picosun provides sophisticated tools for ALD, allowing studies on Single-wafer, Minibatch, or Maxibatch processes within the same tool. The SUNALE™ PicoBatch ALD tool can be used for pilot production studies and extended to stand alone production for Atomic Layer Deposition. Loading of the batch can be done manually or automatically with preloaded holders and a Robotic handler.

SUNALE™ P-series ALD reactors are optimized for ALD especially for micro- and nanotechnology production purposes. The SUNALE™ PicoBatch ALD reactor is also well suited for decorative and protective coating of 3-dimensional devices.

SUNALE™ P-series ALD reactors can be equipped with ventilated Picosolution™ liquid source cabinet, ventilated Picogases™ gas cabinet and proprietary new type Picosolid™ and Picohot™ sources for low vapor pressure precursors.

SUNALE™ PicoBatch ALD tool has a footprint of less than 1 square meter, and is able to coat 25 – 50 pieces of 4-inch wafers in a single run. The SUNALE™ PicoBatch ALD tool can be upgraded to take a batch of up to 8-inch wafers. Repeatability of Al₂O₃ process of 0.3% 1sigma and uniformity of 0.6% 1sigma have been demonstrated at the customer site. Added particle count of 4 pieces larger than 0.2 micrometers per a single 50 nm film deposition run, including loading and unloading has been achieved. Extremely fast cycle times enabled by efficient purging of the reaction chamber, easy and fast maintenance, low precursor, gas and power consumption combined with a very high uptime through reliable industrial software and electronics lower the cost-of-ownership of the SUNALE™ PicoBatch ALD tool far below the usually accepted level.

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