



PRESS RELEASE

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## AUTOMATED PRODUCTION OF PURE ALD THIN FILMS

### **Picosun's new generation ALD reactor will be developed in a TEKES project**

HELSINKI, Finland – June 18, 2007 - The ALD tool manufacturer Picosun Oy, located in Espoo, Finland, has started a development project of a new generation ALD reactor. The total budget of the program is 1,5 M € and the main provider of funds is Tekes (Finnish Funding Agency for Technology and Innovation).

The new equipment developed within the project will have, for example, an integrated automatic loading system of base materials, enabling loading of the objects into the ALD reactor in vacuum. Neither air humidity nor particles can enter the reactor which is isolated from the loading chamber by a port valve. This brings advantages especially when growing humidity-sensitive films or covering particle-sensitive components.

"ALD is one of the best methods of producing nanosize structures. Picosun's 30-year experience and know-how of ALD technology prepares the ground for developing new high-technology export items", states Juhana Kostamo, the Managing Director of Picosun Oy.

Picosun Oy, a Finnish company started in Espoo in 2003, develops and manufactures ALD reactors for nanotechnology applications. Atomic Layer Deposition (ALD) is a thin film deposition method that has been developed in Finland since 1974. In ALD, the reactive gases separated from each other are fed one by one on a hot substrate, where these gases react and form a thin film. Each gas pulse cycle increases the film thickness the same amount, less than an atomic layer per cycle.

ALD technology enables thin-film coating of nanosize structures and objects with a desired film thickness, conforming to the shapes of the surface precisely. The coatings can be dielectric, conductive, electrostatically charging or they can have, for example, optical or magnetic properties tailored for intended use.

ALD technology has been applied successfully in manufacturing thin displays, microprocessors, mass memories, solar panels and catalytic materials. The emergence of new generation ALD reactors promotes the enhancements of the existing electronic devices as well as boosts the inventions of completely new nanotechnological applications.

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