

Nano-Enabled Coating from NanoDynamics Targets Electronics and Semiconductor Industry Pain Point

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Strategic Partnership with ALD NanoSolutions Solves Powder Material Reactivity and Functionality Issues for Electronics Industry

BUFFALO, N.Y.--(BUSINESS WIRE)--Nov. 29, 2005--Despite the electronic and semiconductor industries' widespread dependence upon powders, metals and carbon nanotubes for benefits such as high thermal conductivity and lubrication, these compounds represent major processing challenges for manufacturers. In answer to these material-processing problems, NanoDynamics Inc.(TM), a leading manufacturer of superior nanomaterials, has partnered with ALD NanoSolutions(TM), Inc. of Broomfield, Colorado. Leveraging ALD's licensed atomic layer deposition technology, NanoDynamics has developed a new manufacturing approach to creating uniform, nano-meter thick coatings that encapsulate powders, along with any number of other elements, enabling them to retain inherent thermal and conductive properties, while eliminating reactivity and functionality issues.

Materials problems exist in every established manufacturing process, and the electronic and semiconductor industries are laden with those pain points. Deficiencies in essential properties like thermal management, structural integrity, surface property mismatches, electrical conductivity, and chemical reactivity characteristics are most often addressed by encapsulating the materials in another substance. The ALD particle technology being brought to market by NanoDynamics enables uniform, ultra-thin encapsulation that achieves the desired combination of properties, while preventing interference with the inherent properties of the core material.

"The gate to future applications is through the ability to innovate at the surface level where particles interact with the surrounding environment," said Dr. Karen Buechler, president and CTO of ALD NanoSolutions. "Particle-ALD serves as an enabling technology, potentially providing for the control of ultra fine particles in their chemical, electrical, optical, magnetic, physical, and other surface properties."

"We've been very successful in identifying new nanotechnologies that exhibit significant commercial potential, and this market-ready deposition technology certainly delivers on that promise," said Keith Blakely, CEO of NanoDynamics. "The technology itself is available today, and our next step is to develop customized solutions that address end-user needs in making these advanced materials even more useful to manufacturers and processors. We've already begun partnering with customers in the electronics industry to ensure that our ALD-enabled offering meets their particular process needs."

About NanoDynamics

NanoDynamics is a diversified technology and manufacturing company utilizing nanoscale engineering to address some of the world's biggest challenges. With nano-enabled solutions in the fields of energy, water processing, life sciences, electronics, advanced materials and consumer products, NanoDynamics is committed to delivering the power of nanotechnology to the global marketplace. For more information, visit the company's website at www.nanodynamics.com.

About ALD NanoSolutions

ALD NanoSolutions, Inc. is focused on commercializing its nano-coating processes, called Particle-ALD and Polymer-ALD, and is targeting collaborative research agreements with domain partners for the discovery and validation of innovative composite materials in selected industries. The company's proprietary technology is based on atomic layer deposition (ALD) coating chemistry methods developed for depositing ultra-thin films on particulate and polymeric surfaces. For more information, visit www.aldnanosolutions.com.

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