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## SOUTHWEST NANOTECHNOLOGIES AWARDED LITHIUM ION VEHICLE BATTERY DEVELOPMENT GRANT WORTH \$500,000

-- Project Focused on Developing Carbon Nanotube Enhanced Cathode Materials for Electric Powered Vehicle Batteries --

NORMAN OK, July 21, 2010 -- SouthWest NanoTechnologies Inc. (SWeNT), a leading manufacturer of single-wall and Specialty Multi-Wall (SMW™) Carbon Nanotubes (CNT), along with the University of Oklahoma (OU) have been awarded a prestigious grant from the Oklahoma Center for the Advancement of Science and Technology (OCAST).

This \$500,000 funding is provided to develop CNT enhanced Cathode Materials that will form the basis for the production of low-cost and highly-efficient Li-ion electric vehicle batteries.

This Oklahoma Nanotechnology Applications Project (ONAP), "Advanced Cathode Materials for Next Generation Batteries used in All Electric Vehicles," is aimed at improving the Li-ion battery cyclability using SWeNT's SMW™ CNTs.

Under this three-year grant, SWeNT will be working with OU to solidify partnerships with automotive manufacturers as well as Li-ion battery producers to advance fully battery-powered vehicles. SWeNT will supply "nanocomposite paste" formulations containing SMW™ CNTs which will be sold to fabricators of finished cathodes and battery manufacturers. In ten years, SWeNT estimates that demand for these materials could exceed six tons of CNT daily.

"We are honored to receive this significant ONAP grant and we are truly grateful for the continued support of OCAST," says SWeNT CEO Dave Arthur. "We plan to demonstrate that our SMW™ carbon nanotubes are the best cost/performance solution of all available carbon nanomaterials for Li-ion batteries used in automotive and other applications. Our success could lead to significant economic growth for the state of Oklahoma, as well as help enable a key strategic initiative for our country -- to stimulate domestic production of Li-ion batteries for electric powered vehicles and greatly reduce our dependency on foreign oil."

Today, Li-ion batteries have a limited lifespan, due to the degradation of battery capacity after each charge/discharge cycle. "Consumers have accepted this battery performance for mobile devices such as laptop computers and cell phones, but this limitation will not be tolerated for electric powered vehicles", Arthur explains. During charging and discharging, the conductive carbon black particles used in today's Li-ion battery cathodes start to separate, which diminishes the ability of the carbon particle network to conduct electricity and heat efficiently, resulting in significant degradation of battery capacity over time.

Due to the ultra-long tubular shape of SMW™ CNTs, they can form three-dimensional conductive networks at much lower loading than carbon black particles (capacity advantage). These networks are expected to be much more robust, to better withstand swelling/de-swelling and thermal/mechanical stresses (cyclability advantage).

"SWeNT SMW™ CNTs offer performance advantages over traditional multi-wall CNTs because of their significantly higher purity (99.9%) and superior tube structure (smaller diameter, fewer walls, fewer defects)," Arthur says. "They are also manufactured using the patented CoMoCAT® process, which is inherently scalable and leads to consistent quality control at an affordable price. This is especially important when production rates are in the range of "tons" per day."

Another key differentiator is SWeNT's willingness and ability to make customized nanocomposite paste formulations that combine SMW™ CNTs with other cathode material components such as solvents, binders and possibly lithium compounds. These nanocomposite pastes are easier and safer to use than traditional multi-wall CNT powders.

About ONAP:

ONAP was created by the Oklahoma Legislature to initiate a statewide project to develop an infrastructure that supports Oklahoma's nanotechnology industry. ONAP, in partnership with academic, commercialization and economic development resources, provides a mechanism to extend financial support and technical services for the application of nanotechnology in Oklahoma's manufacturing and business community.

About SWeNT:

SouthWest NanoTechnologies (SWeNT) is a privately-held specialty chemical company that manufactures high quality single-wall and specialty multi-wall carbon nanotubes, printable inks and CNT-coated fabrics for a range of products and applications including energy-efficient lighting, affordable photovoltaics, improved energy storage and printed electronics. SWeNT was created in 2001 to spin off nanotube research developed at the University of Oklahoma. For more information, please visit [www.swentnano.com](http://www.swentnano.com).

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