



Changing the economics of energy storage

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DOE Selects Planar Energy for Oak Ridge National Laboratory Collaborative R&D Program to Advance Next-Generation Battery Development

Initiative to further commercialization of new energy-storage technologies for electric vehicles

ORLANDO, FLA., April 20, 2010 – Planar Energy, the developer of large-format, solid-state, ceramic-like batteries at half the cost and triple the performance of lithium-ion batteries, is one of four companies selected through a competitive-solicitation process to collaborate in a U.S. Department of Energy research-and-development initiative at Oak Ridge National Laboratory (ORNL) to address energy-storage challenges presented by lithium-based batteries.

“This program allocates \$400,000 to help advance the commercialization of our breakthrough solid-state [battery technology](#),” said [Scott Faris](#), Planar Energy’s president and CEO, who said the company’s energy cells and batteries “are substantially smaller, cheaper and safer, and can deliver more power than any existing rechargeable chemical battery technology.”

Faris noted that last month University of Central Florida researchers [independently confirmed](#) that the company’s new generation of solid-state electrolytes have ionic conductivity metrics comparable to liquid electrolytes used in traditional chemical batteries, and that novel cathode and anode materials have been developed that work in conjunction with Planar Energy’s electrolyte, further improving overall energy density.

“That fundamental materials breakthrough coupled with Planar Energy’s proprietary low-cost manufacturing process will allow solid-state battery fabrication that will enable manufacturers to increase their capacity by 200-to-300 percent, while reducing costs more than 50 percent,” he said.

“Access to the tremendous talent and capabilities at ORNL will allow us to accelerate our technology- and product-development roadmap, spurring the transition from chemical batteries to all solid-state batteries that exceed the performance and cost requirements required to make electric vehicles a practical option for consumers and a profitable product for the automotive industry,” Faris continued.

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Funding for the program comes from the American Recovery and Reinvestment Act through the DOE's Office of Energy Efficiency and Renewable Energy (EERE) Industrial Technologies Program and EERE's Vehicle Technologies Program, along with in-kind matching contributions from the four participating companies. The companies responded to an industry proposal and were chosen by an independent council comprising ORNL and DOE representatives. Accordingly, the Michigan Economic Development Corporation (MEDC) is also providing funding to ORNL's overall battery research effort to help ensure success of the industry.

The collaborative research activities at ORNL, which is managed by UT-Battelle for the DOE, began in February and will continue for an 18-month period.

(See today's [ORNL news release](#) for details on all companies selected.) .

About Planar Energy

Planar Energy was established in Orlando, Fla., in 2007. It was spun out of the U.S. Department of Energy's National Renewable Energy Laboratory in Golden, Colo., by Princeton, N.J.-based Battelle Ventures and its Knoxville, Tenn.-based affiliate fund, Innovation Valley Partners (IVP). In 2008, Planar Energy identified a new deposition technology, Streaming Protocol for Electroless Electrochemical Deposition, or SPEED, a high-speed, roll-to-roll deposition process for large-format and high-power ceramic-like batteries. SPEED is dramatically more flexible and scalable than existing methods, allowing Planar Energy to make self-assembled, nano-structured electrolyte and electrode materials with superior chemistries and to overcome production barriers to low-cost solid-state batteries. With the SPEED process, Planar Energy's solid-state electrolyte materials are deposited as thin films directly on active layers in the battery. This direct film deposition of the film allows building stacks of film on top of each other, eliminating the historic process of having to deposit films on separate substrates and then mechanically join them. The SPEED deposition process was developed by [Dr. Isaiah Oladeji](#), a semiconductor materials researcher that came from Bell Labs, who is now senior research scientist at Planar Energy. For more information, visit www.planarenergy.com .