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Wanted: materials stronger than steel but less costly WNC COMPANY GETS GRANT TO RESEARCH LIGHTWEIGHT CAR PARTS

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STORY

Wanted: materials stronger than steel but less costly

HENDERSONVILLE -- When Tiger Woods drives the ball, he relies on both his natural talent and a new composite golf shaft manufactured by Mitsubishi Rayon.

That ultralightweight golf shaft can go for about \$450 compared with \$5 for a tempered steel shaft, says Bill Austin, the finance director of Materials Innovation Technologies, a new research company based in Hendersonville.

While fans buy Woods' style of golf club in hopes of shaving points off their game, MIT has a game plan to reduce the manufacturing costs of such composite materials.

Composites come these days in golf shafts and bicycle helmets, military helmets and body armor, NASCAR stock cars and orthopedic implants -- wherever lightweight, superstrength materials can replace traditional steel. But most composite materials are still 10 times more expensive than steel, said Jim Stike, president of MIT. Armed with a new \$100,000 grant from the U.S. Department of Energy, the company will look at how to mold a lower-cost, carbon fiber composite that can be used as lightweight automobile parts.

A lower-weight car could ultimately save consumers money at the gas pump, Stike said. For example, General Motors has built a concept car entirely of composite materials, which got 100 miles per gallon of gas with a conventional engine and 190 mpg with a hybrid- electric engine.

Stike is no stranger to start-up companies or federal grants.

At SELEE Corp. in Hendersonville, he headed the spinoff of Porvair Fuel Cell Technology in 2001. Porvair licensed a carbon plate developed by Oak Ridge National Laboratory, which could be used in fuel cells, and won a \$6.2 million contract from the U.S. Department of Energy to start production.

But the market for fuel cells, which could replace gasoline or diesel engines, has been slow to develop. Stike and Austin left Porvair after SELEE Corp. took over the separate company.

Last December, they formed MIT along with Mike Henthorn as technical director, looking at a bigger picture for emerging technologies. Rather than focus on making carbon plates to be used in fuel cells, MIT wants to work with multiple industries and research universities to lower production costs for all sorts of new materials.

MATERIALS: Uses sought for other industries

"We have more than one horse in the race," Stike said. The company will look at how composite materials could be made more cheaply for aerospace and defense industries, for cleaner catalytic converters or for surgical supplies.

The company will use the initial \$200,000 grant to work up a plan, then go back to the Department of Energy for another \$750,000 to set up a two-year pilot program.

MIT's federal grant is the second of its kind coming to Western North Carolina.

Ravi Gorthala of Asheville has received \$200,000 from NASA to develop ThinkTek, an after-school learning lab for high school students.

"That type of grant money is a real positive for the region," said Jim Roberts, executive director of the Blue Ridge Entrepreneurial Council and the Blue Ridge Angel Investors Network.

"Jim has a good business model. Our local universities are not top research institutions, so we have find ways to bring more technologies to the region."

While the focus is on manufacturing composite materials at lower costs, Stike and Austin don't predict any large factories taking hold in Western North Carolina any time soon. If their company grows, it will be with technical workers such as engineers and other researchers.

"That's where the money is going to be, the opportunities for new jobs," Austin said.

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DALE NEAL/Staff Photographer

Jim Stike, seated, president of Materials Innovation Technologies, along with finance director Bill Austin, scour opportunities posted by the U.S. Department of Defense, looking for proposals to manufacture low-cost composite materials for helmets, aerospace and other items. The new Hendersonville company has landed a \$100,000 grant from the Department of Energy to study cheaper ways to manufacture carbon fiber composites that could be used in automobiles.