

## BUSINESS

December 22, 2006 12:00AM

### New business offers innovative product

By Jim Wooldridge  
Special to Friday Homes Preview

A new Henderson County company will soon be turning out products made of a material that could jump start progress in some industries.

The company is Materials Innovation Technologies, now in a small cottage in Flat Rock, but with a scheduled opening the first week in January at 320 Rutledge Road, Fletcher. The 10,000-square foot building is about a half-mile from the airport.

The new firm will be installing machinery for processing mainly carbon fiber composites -- materials that have equal strength but only a third of the weight of steel.

The two-year-old company is headed by Jim Stike, former president of Porvair Advanced Materials in Hendersonville; Bill Austin, former treasurer at Porvair; Mike Henthorn, former operations manager at Alcan/Pechiney; and Ed Stike, financial adviser.



Materials Innovation Technologies owners, William R. Austin, left, and James E. Stike, display a b-pillar post, a light weight automotive part, the company is manufacturing. (MICHAEL JUSTUS/TIMES-NEWS)

Zoom

### Broad market expected

"Any company trying to reduce weight of its products is now a prospect," Stike said. "In the past, cost has been a major factor, with raw carbon fiber costing about \$15 a pound and fiberglass about 70 cents."

But with MIT's new processing, the cost of the carbon fiber components can be cut by about half, he said, without decreasing the impressive tensile strength of the material. "And yes, we have patents and trade secrets that will protect us," Stike said.

It is not only patents that protect a small company doing business with Fortune 500 corporations, he explained. It is also the practicability of a small company already equipped to supply finished parts and the large company not having the special machinery and personnel needed to make the parts.

### Only DOE grant in state

It's a good business model, he continued, when you can find the solution to a problem and offer that solution on a long-term basis to a collaborative partner who needs it. Being small, he said, also allows moving quicker and providing instant answers.

Company size didn't prevent MIT's winning the only U.S. Department of Energy development grant given in North Carolina last year, he pointed out.

For many years, carbon fiber has been the material of choice in aircraft, high-performance autos, specialized heat exchangers, wind generators, orthopedic implants, tennis rackets and applications where the cost of material is not a critical factor.

He foresees the new company turning out parts for a number of industries, especially those where the technology is now emerging and where a light-weight material could permit new designs. Stike said some engineers who have seen the concept call it "disruptive" when compared to current technology.

### **How it started**

Stike, a graduate in chemistry and biology from the University of West Virginia, has been working in materials development for 27 years. He was founder and president of Porvair Advanced Materials, founder and president of Porvair Fuel Cell Technology and vice president of sales for Selee Corp.

He was mainly responsible for Porvair's obtaining a \$6.2 million grant from the U.S. Dept. of Energy to produce carbon fiber plates for fuel cells. A fuel cell is like a battery in that it employs a number of plates with similar electric properties to generate a current.

Stike was later retained as a consultant by Advanced Process Technologies, a Fort Wayne, Ind., firm that manufactured carbon-fiber cones for the speakers in auto radios. The firm had a unique process for molding the light-weight speaker cones that Stike realized could vastly improve existing techniques. A 50 percent interest in the Indiana company was purchased by MIT after managers saw the two firms were working in many of the same areas.

### **New feasibility study**

In the Hendersonville plant, production will be aimed at new markets, some of which are already being tested with small orders. "We're aiming at emerging industries where the technology can benefit from new materials," he said.

The company successfully completed the \$100,000 Phase I of a DOE study to determine whether a B-pillar post of an auto -- the vertical post between the front and rear doors of a four-door sedan -- can be efficiently molded from a carbon-fiber composite.

Phase II of the study will obtain data on molding this complex shape in a manufacturing

setting. The Indiana 21st Century Research and Technology Fund has granted \$100,000 to make the study.

### **Less weight, less fuel**

Federal energy officials want to develop lighter weight autos, Stike said, to reduce the amount of energy required to move them. A 10 percent reduction in weight means a 6 to 8 percent drop in fuel consumption.

Auto fuel cells are a possible market for the young company, but the deployment of these power plants by major auto manufacturers appears to be years away, Stike said. He's convinced the cells will become practical for autos and the plates in the cells will be made of carbon fibers.

"In the meantime," he said, "we can't just sit here and wait for that market to develop."

Honda appears to have a lead on getting fuel-cell cars to market, with production scheduled to start some time in 2008, according to company spokesmen. Toyota is said to be close behind.

At its new plant, MIT will have jobs for people with special skills. Because of the new technology, the company will need engineers and specially trained technicians -- those with experience in advanced laboratory procedures, automation, robots and new materials.

Austin said the new company will offer a small portion of its equity to the public, probably in January. The offering, he said, will be in response to individuals who have asked about participation. The Internet address of the new company is [www.emergingmit.com](http://www.emergingmit.com). The telephone is 698-1330.

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