

Friday, December 21, 2007

## **APJeT is set with true believers and fresh equity**

**New Mexico Business Weekly - by [Kevin Robinson-Avila](#) NMBW Staff**

[North Carolina State University](#) says a new fabric-treatment process developed by Santa Fe-based [Affiliated Plasma Jet Technologies](#) (APJeT Inc.) could fundamentally alter the textile industry.

The process -- known as Atmospheric Pressure Plasma Jet (APP) technology -- allows fabric manufacturers to use a blast of ionized gas to make textiles resistant to water, stains and other substances.

APP is cheaper and more environmentally friendly than the traditional treatment process of dunking fabrics in huge vats of chemicals and drying them with industrial ovens, said Peter Hauser, head of the university's Department of Textile Engineering, Chemistry and Science.

University experts were so impressed with APP that they agreed to host a permanent demonstration lab where textile makers can see the technology in action.

"It's one of the few really new things happening in textiles," Hauser said. "This process lets you do things to fabrics that were previously impossible with traditional treatment processes. We see this as the next step in the evolution of textile processing, and we want to be at the forefront of it."

With the university's backing -- as well as \$1 million in fresh private equity and a newly formed partnership with South Carolina-based [Morrison Textile Machinery](#) -- APJeT executives expect to hit the textile market running in 2008.

"Our technology represents a paradigm shift in the textile process," said Alex Padilla, APJeT's director of business development. "We expect to start installing machines at customer sites by next summer."

APJeT has been working on APP technology since 2002, when company founder Gary Selwyn licensed the process from [Los Alamos National Laboratory](#). Selwyn headed the LANL team that developed the technology.

APP produces a gas stream of reactive chemicals that can be sprayed like a fire extinguisher to clean, decontaminate, etch or coat surfaces in the open air. Until now, such plasma treatments could take place only in a vacuum, making the process considerably slower and more costly.

The plasma spray -- first developed for security purposes such as decontaminating surfaces exposed to chemical and biological agents -- can be used for a range of commercial applications, such as removing residue from silicon wafers or sterilizing medical instruments.

For now, APJeT is focusing on lucrative textile markets, beginning with sportswear and fabrics for medical use, such as hospital gowns.

"Our process is perfect for both of those markets because we offer a simple and cheap process to make the outside of fabric repel water and the inside absorb moisture or perspiration," Padilla said.

Morrison Textile Machinery has agreed to build APP machines, beginning with the TexJet -- a compact unit that APJeT developed to process textiles.

"That company has been building textile machines for over 100 years," Padilla said. "We made a model machine and sent it to them to industrialize it. Together we'll provide machines to textile mills and charge a royalty fee for each yard of fabric treated."

APJeT CEO John Emrich said Morrison has a wide customer base to draw on.

"They'll help us put together deals to take this technology to market," Emrich said. "We've already identified many potential customers."

Emrich -- a textile industry veteran with 38 years experience -- became CEO in May to guide APJeT to market. He replaced Selwyn, who is now the chief technology officer.

The change in leadership helped pave the way for a new \$1 million round of funding, said George Richmond, a veteran investor who joined three other angels in contributing \$150,000 to the deal. The bulk of financing came from Morrison, and from Pennsylvania-based Air Products & Chemicals Inc. -- an industrial gas and chemical processor that invested \$2.3 million in APJeT in 2003.

"Selwyn is a brilliant scientist, but it was a smart move to replace himself with Emrich," Richmond said. "In terms of quality, the management team has gone from 'B' to 'A.' The backing of North Carolina State University and APJeT's two industry partners also show a pretty powerful endorsement."

Apart from private equity, APJeT received \$100,000 from LANL's Venture Acceleration Fund, and last year obtained a \$700,000 Small Business Technical Research (SBTR) grant from the U.S. Air Force.

With the new funds, Padilla said APJeT will start aggressively marketing its technology. The company has seven employees. It will hire at least five more next year.

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