

Value Added: The future of manufacturing might just be in Ashburn



(Richard A. Lipski / FOR THE WASHINGTON POST) - T. Worx Ventures, Prototype Productions' new startup, makes a nozzle designed to improve rocket trajectory.

By Thomas Heath 4/25/2011

Tucked in a corner of an industrial park in Loudoun County, a few football fields from Redskins Park, is an innovation hothouse called Prototype Productions Inc. that would make any geek proud.

The company invents and manufactures everything from parts for the International Space Station to snowboards to prefabricated mobile meeting pods.

They've built or invented 176 gadgets over the years, spanning the defense, aerospace and medical industries. They've made stuff for the Patriot missile, grenade launchers and Chinook helicopters.

PPI even advised on a pooper-scooper for dog lovers.

Until recently, the company was a boutique manufacturer. Other companies and universities and the government would come to PPI with plans and schematics and say, "Can you build this?"

For that, PPI earns a fee. Sometimes, it takes equity in return for its manufacturing. It owns pieces of eight other companies.

PPI is one of the most offbeat companies I have written about.

Co-owners Joe and Italo Travez, brothers born in Ecuador, have built PPI over two decades into a think tank for engineers.

Their business plan for the past two decades has been "have a really cool place with really cool people."

It's cool, all right.

I felt like I was walking into a Brookstone store when I took a tour of PPI's 30,000-foot Ashburn headquarters recently. The company has another 20,000-square-foot manufacturing facility in Rockville.

One wing had tables strewn with a super-engineered Patriot missile rocket nozzle housings, thumbprint readers and a model for something called a Zipnut for the International Space Station. A white board had phrases such as "Hubble telescope" and "driver vision enhancement" scrawled on it. A nearby wall had photos of the solar-powered car one of PPI's engineers drove across sunny Australia. There was a deconstructed rifle in its various parts.

I have a theory that those anonymous companies that fly under the radar screen in suburban industrial parks are actually cash machines. So when I was invited to see what goes on behind the neatly trimmed grass and smoked-glass office windows, I said yes.

PPI grossed \$20 million in 2008, but that number dropped to about \$11 million for 2009 and 2010, due largely to the recession and a slowdown on government contracts. The company expects revenue to rise to \$15 million this year, and it is hoping to hit \$30 million to \$50 million by mid-decade.

PPI has only \$1.5 million in debt because it rolls most of its profits back into the company. Its manufacturing equipment costs from \$50,000 to \$800,000, depending on the sophistication of the machine.

Joe Travez, 49, said PPI earns between 10 percent and 20 percent profits on its gross. It has lost money in only two years, 2001 and 2009. PPI has 90 employees, which is down from well over 100 in its pre-recession days.

It's the variety of its work that makes the place so interesting.

When the military wanted kits allowing military vehicles to see in the dark and in sandstorms without lights, PPI built it.

"We have become a boutique go-to innovations place for companies to come here and get their products developed," said Joe, who calls himself "Joda" to his inventor brother Italo's "Yoda." "We can go from napkin sketch to functional robotic device, all in-house."

The third way PPI makes money is through licensing. The company has formed a new arm, called T. Worx Ventures, whose goal is to own and license its inventions. That will be far more profitable than being hired to make widgets for someone else.

T. Worx, run by former Marine Carl Wallace, is in charge of scaling up several marketable products, the biggest of which is the "powered rail," a super-efficient power pack that will attach to rifles, making life much easier — and safer — for soldiers.

T. Worx's \$8 million investment in the powered rail could bring it a return of many times that amount, according to the company.

"We were tooling along making other people's stuff and making other people a lot of money," Joe said. "But we decided to do it ourselves."

Their father, machinist Jose Maria Travez, left Quito, Ecuador, and arrived in the United States in 1966 after being recruited for a job. Machinists, Joe said, were in short supply in the United States in the 1960s.

The family settled in the D.C. area. After Italo, 44, graduated from the University of Maryland at College Park in 1991, he was recruited by Honda and General Motors. Joe had graduated from Catholic University with a degree in architecture. He was working at Marriott International, designing and building hotels.

"My brother calls me and says, 'I don't want to work for Honda. I want to start a company,' "

Joe said.

Joe mortgaged his house. Their father donated a couple of key manufacturing tools: a lathe and a milling machine. Italo pitched in \$500 and came up with the Prototype Productions name.

They rented a small space in Rockville and started driving up and down Montgomery County's Interstate 270 corridor, knocking on doors and asking if anyone needed a manufacturer.

PPI made \$20,000 its first year. But that grew. The big breakthrough came in the mid-1990s, when HT Medical gave them a contract to create surgical simulation machines, so doctors could practice colonoscopies, endoscopies and vein harvesting without the blood and guts.

The company has 50 robotic manufacturing machines, half in Ashburn and half in Rockville. They bulked up in 2008, buying \$5.8 million in machinery for defense contracts. They were celebrating several multi-year contracts worth \$50 million a year when the financial crisis cut everything in half. PPI laid off 40 workers and lost money in 2009.

During our tour, Joe took me to a room and pointed at a box the size of two refrigerators. He called it a 3D laser printer. It's too technical to get into, but he said the printer is the next advance in manufacturing.

“Many say America is losing its industrial base, which is true to some extent,” he said. “But in the future, we won’t worry about this because we will no longer manufacture things. We will print things. Laser sintering is the next trillion-dollar industry.”