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Business News

SMALL BUSINESS

Vycon's flywheel device helps power seaport cranes

The company says the technology could help reduce diesel emissions and fuel consumption.

By Ronald D. White, Times Staff Writer
March 7, 2007

Once they were five friends looking for a way up in the aerospace rat race. They evolved into colleagues with a patented solution in search of a problem. Now comes the scary part: They are business partners in a field crowded with competitors selling a flywheel technology as old as the potter's wheel.

The five started a tiny Cerritos company called Vycon Inc., which is marketing a device that could help reduce diesel emissions and fuel consumption at seaports around the world. Another version could serve as a less costly and more reliable source of emergency power.

The 14-employee company is at a crucial stage, said Louis Romo, one of the five, who regularly gathered at a Mexican restaurant in Los Angeles to discuss their dreams. The 4-year-old business has relied on \$17.5 million in venture capital and must make the leap to product sales to survive.

"We are trying to run a production-line-level company. It's pretty exciting," said Romo, Vycon's vice president for sales and business development, who met his friends while they worked at AlliedSignal Inc. in Torrance, now part of Honeywell International Inc.

At the ports of Los Angeles and Long Beach, the nation's largest seaport complex, a Vycon device sits like a large refrigerator on an eight-wheeled behemoth known as a transtainer crane. It is like any of the dozens of workhorse machines that lift, sort and stack cargo containers at the ports. But Vycon executives hope that this crane is running more efficiently than all the others.

It's there because of an epiphany one of Vycon's engineers had at an Italian port two years ago, during that stage when Vycon was looking for a business problem that its product could solve. As the engineer watched a crane stacking containers, Romo said, it occurred to him that Vycon's flywheel device — which is like a mechanical battery that can store a great deal of energy and then release it in a few seconds — could help a crane's engine.

"Once we had a prototype, we went looking for applications. Where do you need that kind of power? We just kind of stumbled on it, really," Romo said.

With each lift, a port crane's exhaust pipes spew out a stream of toxins, helping make cargo movement the largest source of air pollution in Southern California. Vycon's Regen system, a 400-pound vacuum-sealed flywheel spinning on a frictionless electromagnetic field, is designed to reduce pollution from crane engines by doing some of the engine's work.

The flywheel system collects energy as cargo containers are lowered and then releases it as containers are lifted. That reduces the power the diesel engine has to supply, cutting fuel consumption and the release of pollutants.

Vycon sold its first six units for \$150,000 each to the Long Beach Container Terminal in December. One is being used at the ITS Terminal at the same port, and another machine is being tested at Evergreen Marine's Seaside Transportation Services terminal at the neighboring Port of Los Angeles.

Vycon's business plan is to market its products at seaports around the world. In February, the company took a step in that direction by selling a unit to the Incheon Container Terminal in South Korea.

Vycon's other major product serves as a bridge between a regular power supply and an emergency generator for a business computer network. The company wants to sell the device to businesses looking for an alternative to the more traditional lead acid battery systems that serve as uninterrupted power supply sources.

"Each of those markets are global and we are trying to attach our products to them," said Tony Aoun, Vycon's chief executive, who joined the company in 2003 to provide practical expertise in running a production-scale company. "We are aiming at playing in the big leagues."

Romo remembers that he wasn't aiming so high in 1996, when he met four other new employees at AlliedSignal: Vatche Artinian, Patrick McMullen, Larry Hawkins and Co Huynh. All were in their mid-20s and working in the motor and generator design group.

The five engineers would hang out at Hermosa and Manhattan beach or meet up at El Coyote Mexican Cafe on nights after work. But after a few years at Allied, "we all began to get that five-year itch. We figured it would take as many as 20 years to move up into management there," Romo recalled.

They agreed after several Saturday morning meetings seven years ago to combine their efforts, first forming a company called Calnetix Inc. to design high-speed motors and generators. Vycon is an offshoot of that first business.

"Working together for us was a natural fit," Romo said.

Vycon is up against several established competitors in the flywheel field, including Pentadyne Power Corp. of Chatsworth; Active Power Inc. in Austin, Texas; AFS Trinity Power Corp. in Medina, Wash.; Beacon Power Corp. in Wilmington, Mass.; and Hitec Power Protection in the Netherlands.

The company also faces scrutiny from the California Air Resources Board, which will analyze the performance of Vycon's crane technology, board spokesman Jerry Martin said. Vycon would have to reduce diesel emissions at least 25% to receive a recommendation, he said.

Vycon's own testing claims major reductions in diesel particulates and nitrogen oxide, as well as a reduction in fuel consumption of 20% to 25%.

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