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On the Map: Oxnard Duo Computerizes Thomas Guide Information For Pilots of Helicopters
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One day at Oxnard Airport in 1994, self-professed computer nerds Gary Petrowski and Mark Gassaway threw a 50-pound inverter, a global positioning unit and a bulky desktop computer downloaded with Thomas Guide maps into the back of a single-engine plane.

Once aloft, the computer was switched on, and what appeared on its screen was a crude, real-time display of the streets they were flying over.

Since that day, law enforcement agencies from as far afield as Delaware and as near as Ventura County have beaten a path to the duo's hangar in search of their ``seamless mapping technology."

The technology the two pioneered and the company they founded, AeroComputers Inc., has allowed helicopter pilots to fly without paper maps strewn around the cockpit. What the pilot sees is the image of a map on a computer display with indicators telling him which way to steer, estimated time of arrival and other key data.

``Before I met these guys, I was literally flying around while flipping through the Thomas Guide," said Bob Pettee, pilot-reporter for KNBC-TV News. ``(The unit) allows me to go point to point. Between (the company's) map display unit and a gyro-stabilized camera, my workload in the cockpit has been reduced by 50 percent, which means more time to concentrate on safety."

The Maricopa County Sheriff's Department, based in Phoenix, has been using the system in its two helicopters and reports similar efficiencies. At 9,200 square miles, Maricopa County is the fifth-largest in the nation geographically. It has both rural desert land and highly populated urban regions, requiring different maps for different areas.

``We've increased our response time by probably 75 percent," said Flight Technician Deputy Vince Hatcher.

``We can zero in on a specific address. We couldn't do that before. With the flick of a finger, I can go from a Thomas Guide map to an aviation map to a topographical."

The company now has about 40 units out in the field for about 15 police and fire agencies. Most are in California and overlap Thomas Bros. map markets.

``We developed the technology," Gassaway said, ``because the place you needed to be was always where one map ended and the other began. With this, the pilot can watch the aircraft's progression over surface streets on a seamless computer display."

The two sold their first unit in 1995 after spending more than two years in the design and development stage. Petrowski calculates they pumped about $100,000 into the venture over a two- or three-year period, not including their time.

``It's definitely unique how they are applying the technology," said William Shook, a sales consultant with Thomas Bros. Maps in Irvine. ``To the best of my knowledge, they're the only company that uses our data in aircraft and the only ones to put our maps in motion."

Their success has not come without growing pains, and the two have made a few concessions.

``We're farming out a lot of our jobs, like making the cases and assemblies," Petrowski said. ``We could probably grow the company faster if we were willing to take more risk, but we're taking a conservative approach."

``I've watched these guys, and I'm now convinced they've got a tiger by the tail," said Ken Coddington, a Coast Guard Auxiliary search and rescue pilot who occupies the hangar next door and is familiar with their technology.

What brought Petrowski and Gassaway together was their mutual interest in flying. Petrowski, who holds a doctorate in chemistry, worked as an industrial chemist for Carnation in Van Nuys and at a firm in San Diego that developed uses for kelp. Gassaway has a degree in aeronautical engineering and worked for McDonnell Douglas on the L-1011 program.

Both dabbled in side businesses - Petrowski in real estate investment and Gassaway in small manufacturing - but it was their ``airport bum" status that brought them together, along with their mutual interest in the Loran navigational system and its successor, the satellite-driven global positioning system, which was in its infancy when they began working together.

``We're constantly developing new things," Petrowski said, ``like downlinking data in helicopters to ground units and integrating data from air traffic collision avoidance devices to give users of our system an additional display showing the whereabouts of other aircraft."

One feature of AeroComputers' system is that it can record and replay an incident.

Petrowski said AeroComputers' system was on a helicopter during a police chase in which a motorcycle outran patrol cars in Valencia. The police helicopter continued the chase, which concluded on a golf course.

The biker was taken into custody, and when the suspect's attorney interviewed the air crew in a deposition, they had with them AeroComputers' unit that had been aboard the chopper during the chase.

The pilot and co-pilot simply replayed the chase for the nonplused attorney, who decided that the chase had been so well-documented that he advised his client to plead no contest.

AeroComputers' marketing consists of attending trade shows and gatherings and passively exploiting the buzz their equipment generates. Sometimes, it's as simple as receiving a phone call from someone at a law enforcement agency somewhere in the country who has heard of their displays through a colleague.

From there, they demonstrate the product to the agency and let them use the unit for several weeks to decide whether they like it or not.

``Usually, we have to fight them to get it back," Petrowski said.

After three years with the device, going back to the old ways of paper maps has been tough on the two occasions Pettee's display unit has been off-line.

``Once, after they upgraded to a new processor, the unit was down for a short time," Pettee said. ``I'd gotten so spoiled to it that my hand kept instinctively reaching for it."