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SEPT. 11 - LOCAL IMPACT

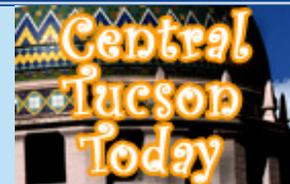
Shella Calamba

Staff

Tucson Citizen

911

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EVENTS CALENDAR

Editor's note

In the days leading up to Sept. 11, the Tucson Citizen will run stories in remembrance of the tragic events and in reflection of a resolute nation intent on healing.

Building defense

Tragedy creates more work for group of small firms

By SHELLA CALAMBA

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This time last year, Advanced Ceramics Research's drones - remote-controlled miniature aircraft - were being built to monitor whales in the Pacific Ocean, elephants in Africa and polar bears in the arctic region.

Then came Sept. 11.

The terrorist attacks resulted in new military interest in drones, and the **local** small business, which is hardly a Raytheon or Lockheed Martin defense contractor, saw its \$200,000 worth of government commitments swell to more than \$1 million.

Additional dollars are expected, with ACR planning to build its second facility on the reservation as part of its joint venture with the Tohono O'odham Tribe's San Xavier Business Development Authority, said company president Anthony Mulligan.

Although not every small defense company or supplier has seen business rise since Sept. 11, ACR is among a group of **local** small businesses getting more attention from the military as the country's defense plans evolve.

"It transitioned in the first couple of weeks from complete uncertainty to more of a realistic, pragmatic understanding that this was going to affect our defense plans," said Kathleen Perkins, vice president at Breault Research Organization, an optical engineering firm. "So we saw a surge in interest in what we provide."

Breault Research is a full-service optics firm, specializing in analysis software and engineering services. The company also provides training and writes custom software.

"Optics is critical. It intersects throughout the defense program," Perkins said.

The company's customers include large corporations, government interests, small businesses and consulting engineers.

The technology that Breault Research provides is the kind that inspires movies, except it isn't fiction. Dubbed biometrics, it includes iris scanners and similar systems for reading fingerprints, faces and hand geometry.

Large companies already use biometrics and as prices come down in the future, industry experts expect its use to become more commonplace.

"An increase in biometrics may result in an increase in business in Tucson," said Michael Stevenson, author of OpticsReport, a publication for venture capitalists published by Breault Research. "Hollywood makes the technology seem futuristic, but biometrics has been around a long time. The ideas are rooted in reality, not science fiction."

Airports can use biometrics to create a fast and convenient security system for their workers. At San Francisco International Airport, for instance, hand geometry readers allow employees to access restricted areas.

"The airport has thousands of employees, and biometrics helps get the job done," Stevenson said.

The terrorist attacks not only pushed defense suppliers' products to the forefront, they also prompted companies to re-evaluate or fine tune the way they do business.

"In our software business, we had to become even more diligent about screening potential customers



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for denied party listings, so we were not selling what amounts to rocket science to a country trying to do the U.S. harm," Perkins said.

As a company doing classified work, one of its largest departments is Information Systems and Security. "We were already very protective, but we had to step it up," she said.

Meanwhile, ACR received more financial backing to develop drones and expand their uses.

The miniature airplanes were envisioned to fly around a ship to help prevent a disaster similar to the fate of the USS Cole. A terrorist bomb blew a hole in the side of that ship, killing 17 sailors in Yemen. But such applications weren't enough to drum up the federal money needed for such a project.

But now drones are being looked at as a military asset, one that can be flown in front of a Hum-Vee or tanker as a survey scout without risking American lives, Mulligan said.

"The Navy also believes this will be helpful for homeland defense," he added, noting that the drones can fly ahead of police or firetrucks, as well as patrol borders.

Arete Associates' Tucson branch also has launched a heavier marketing campaign, said Ken Enlow, engineering and manufacturing manager for Arete.

The Sherman Oaks, Calif.-based company develops airborne laser-based imaging sensors that are used to search for floating or moored mines.

Sept. 11 "makes the kind of thing we do much more important with respect to homeland protection," Enlow said.

Although the company's military contracts may not necessarily be the result of the attacks, he noted that "the interest has grown significantly in what we do."

The tragedy also struck a personal chord for Arete, which lost a part-time employee who was on the plane that flew into the Pentagon, Enlow said.

"We were all shocked, angry, and I think most of us now take our jobs much more seriously," he added.

Mark Angier, executive vice president and chief operating officer of ACR, noted that employees are staying and working later.

"They're not earning more money, so it's not economic reasons. They want to make a difference," he said.

The company is also spending more on travel costs because Angier and Mulligan find themselves out of town nearly every week.

"I think most companies are thinking this isn't the time to worry about being profitable," Mulligan added.

While ACR has sold two drones commercially, the intent is not to market to the commercial sector right now but to help the military effort, he said.

The drone project employs 15 people, but the company plans to increase the size of its staff by year's end.

Mulligan noted that in his 13 years of business, the company didn't use **local** companies to help manufacture products until the drone project was launched.

Similar to ACR, Arete also employs **local** companies, including about 20 machine shops in town, to help assemble its systems, Enlow said.

The aerospace and defense industries play a pivotal role in Tucson's economy. The aerospace sector is the leading industry in Tucson, generating an estimated \$5 billion in revenue and 22,000 to 30,000 jobs, said Sally Garza Fernandez, president of the Southern Arizona Industry & Aerospace Alliance.

"A downturn in the industry could affect over 500 companies who are aerospace companies or suppliers to aerospace," she said.

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Although new commercial applications of many projects in the private sector haven't surfaced since Sept. 11, new military applications are emerging all the time, she said.

ANATOMY OF A DRONE

- Operating altitude: 1,000 feet
- Controls: ground-based, hand-held
- Cost: about \$2,000
- Speed: 65 mph
- Range: 24 hours on a tank of fuel
- Original use: monitoring wildlife

Fort's anti-terror role increased

The base trains counter-intelligence agents and interrogators, among others.

By SHELLA CALAMBA

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The mission of training military intelligence soldiers is well-rooted at Fort Huachuca, but the Sept. 11 attacks nonetheless magnified the fort's role in the country's anti-terrorism strategy.

Since the tragedy, the base has increased training for reservists and activated a mobile team that travels to some of the reserve units, where they provide training on site, said Brigadier General James Marks.

Signal and military intelligence soldiers from the base have been used to support Operation Enduring Freedom.

Available training courses at Fort Huachuca include those intended for counter-intelligence agents, interrogators, unmanned aerial vehicle operators and maintenance staff, as well as military intelligence analysts.

"Military intelligence, along with aviation, is the most requested career field in the Army," Marks said.

The base also serves as the Army's center of automated language technologies, which has become a crucial aspect of counter-terrorism efforts.

"We cannot train new linguists fast enough to meet the quickly changing requirements we are presented with today," Marks said.

"We are working with a number of government agencies to expand language databases and make use of the latest high-tech equipment and see if we can field it to our troops," he added.

Meanwhile, the Battle Command Battle Lab has been working on biometric devices to help process detainees.

"They were able to develop a system with fingerprint and facial recognition software," which has become more critical since Sept. 11, Marks said.

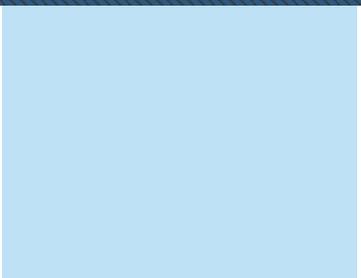
Such systems have been used at Guantanamo Bay, while another one was sent to the Army in Hawaii for homeland security missions.

Along with other funding, Fort Huachuca and the U.S. Army Intelligence Center this fiscal year also received \$10.4 million for unmanned aerial vehicle training enhancements.

PHOTO CAPTION: JEFF STANTON/Tucson Citizen

Mark Angier (from left), executive vice president at Advanced Ceramics Research in Tucson Anthony

Mulligan, president and Blane Boynton, an unmanned aerial vehicle researcher, show off one of the drones they hope will help fight the war on terrorism. Boynton holds the monitor, which allows an operator on the ground to view what the plane sees.



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