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## Tucson Citizen

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### Pentagon spending in Arizona surges

*In Pima County, a brigade of smaller firms is joining defense giant Raytheon in securing Department of Defense contracts*

*David Pittman and Teya Vitu*

*File photo*

*Citizen Staff Writer*

By DAVID PITTMAN and TEYA VITU

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The Department of Defense is **spending** more money in **Arizona** as items developed and produced here are increasingly used by the military in Iraq and elsewhere.

Since 1998, the amount spent in the state has grown from \$3 billion to \$7.5 billion. In Pima County, contracts have grown from about \$900 million to nearly \$2.7 billion.

By far the largest contractor in the Tucson area is Raytheon Missile Systems, which brings in about 97 percent of the defense dollars to Pima County.

Smaller companies, however, could see growth with new technologies.

EOS Technologies of Tucson, for example, has produced a system that allows U.S. soldiers to safely target and fire vehicle-mounted weapons at enemy targets. Congress has approved \$12 million in funding for the project in fiscal 2005.

An elite telescope production company, EOS is shifting its personnel's expertise to making electronic fire control systems (EFCS) that could become standard equipment on Army High-Mobility Multipurpose Wheeled Vehicles - or Humvees.

Can you imagine a machine gun mounted on a Humvee staying locked onto a target no matter what sort of rough terrain the armored vehicle bounces across in Iraq?

The laser-based technology allows gunners to vacate the exposed perch atop the vehicle and tuck themselves securely inside, where they can operate the machine gun courtesy of a video screen and joystick.

EOS, 925 W. Grant Road, is among a varied list of Pima County firms drawing U.S. defense dollars.

"Defense contractors are an important part of our economic base," said Marshall Vest, a University of **Arizona** economist. "It is important to produce goods that are exported because it brings fresh, new dollars into our community."

Another growing company is Advanced Ceramics Research, a maker of high-strength ceramic materials and, now, unmanned aerial vehicles. The firm this week received a \$25 million contract from the U.S. Navy to produce more of the UAVs that were used in Afghanistan and are being used in Iraq as advance scouts for convoys.

Raytheon had revenues of \$3.5 billion in 2003, including contracts for sales to foreign countries. Vest said Raytheon's total economic impact in Pima County last year was \$8.75 billion, once a 2.5 economic multiplier is applied. He bases the multiplier on a 1992 UA study of Hughes Aircraft that indicated money that comes into Tucson multiplies as it is spent locally.

Raytheon products used by U.S. forces in Iraq include the Tomahawk Cruise Missile; JSOW (Joint Stand-off Weapon), a glide we apon; Maverick, an air-to-ground missile; HARM (High-speed Anti-radiation Missile) that takes out enemy radar sites; an air-to-ground missile called Paveway; an anti-tank missile called Javelin; and TOW (Tube-launched, Optically tracked, Wire-guided Missile).

Raytheon, which employs more than 10,000 people here, had a payroll of \$792 million in 2003. It is the largest private employer in Pima County and the fourth-largest private employer in **Arizona**.

"About half of our work force is engineers," said Sara Hammond, a Raytheon spokeswoman. "So we provide challenging, meaningful work, not only for engineers, but a range of other jobs from legal and finance to human resources and communications."

Attempting to rank Pima County defense contractors is no easy task because "companies don't provide data to any centralized location in any meaningful way," said Sally Garza Fernandez, an executive committee member of the Southern **Arizona** Industry & Aerospace Alliance.

Some of the more significant local defense contractors are MER Corp., American Turbo Systems, AGM Container Controls, Breault Research, Honeywell, Precision Southwest Manufacturing and **Arizona** Capacitors LLC.

MER Corp., a Tucson research and development company that delivers components to major defense contractors, pulled in about \$8 million in defense **spending** in 2003, said Jim Withers, MER's chief executive.



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Withers said greater defense dollars are now being made available to firms such as EOS Technologies that are developing weaponry for use by U.S. ground troops in Iraq.

"There is more procurement in that area," he said.

Measuring Defense Department procurement, however, falls far short of total military **spending** in Tucson.

For instance, the Maguire Co., a Phoenix economic consulting firm, concluded in a 2002 study that Davis-Monthan Air Force Base received \$562 million in direct government **spending** for military operations in 2000 and the **Arizona** Air National Guard received \$124 million in that same time frame.

Also, in the 10-year period from 1992 to 2001, the University of **Arizona** received \$186.4 million from the Defense Department for research.

### Department of Defense **spending**

#### in **Arizona**

1998 \$3 billion

1999 \$4.17 billion

2000 \$4.54 billion

2001 \$4.9 billion

2002 \$6.68 billion

2003 \$7.5 billion

#### GRAPHIC:

#### Department of Defense **spending** in Pima County

Billions of dollars

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#### Other companies and what they do

- **AGM Container Controls:** Manufactures environmental control hardware and other components directly for the Defense Department and such companies as Raytheon, Lockheed Martin and Northrup Grumman. The company has 82 employees.
- **Precision Southwest Manufacturing:** Makes liners for Patriot Missiles, nose cones for ship-launched missiles and machine components and fabricated assemblies for the Defense Department and contractors such as Raytheon, Aerojet and General Dynamics. The company has 22 employees.
- **Arizona Capacitors:** Builds capacitors and electronic components for the Defense Department and military contractors such as Boeing, General Motors, General Dynamics, Raytheon, General Electric and Honeywell. The company has 18 employees.
- **Honeywell:** Provides air data computers, cabin pressure control systems, engine controls and smoke detectors to the Defense Department and military contractors. The company employs about 800 people in Pima County.
- **American Turbo Systems:** Manufacturer and product support facility for airborne and ground aircraft support equipment for commercial and military applications. The company has 27 employees.
- **Breault Research Organization:** An optical engineering software company whose customers include some of the nation's leading defense companies and government-run labs. Breault's Advanced Systems Analysis Program is used to design and analyze night vision systems, missile guidance systems, telescopes and space imaging systems. The firm has 45 employees.

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- Advanced Ceramics Research: Makes high-strength ceramic materials that can withstand high temperatures for use in missile cones. It also makes unmanned aerial vehicles. It has 80 employees.

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