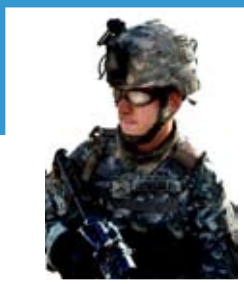

Federal and Military

Yes, on the Mississippi Gulf Coast.

QinetiQ North America Technology Solutions Group creating cutting-edge devices for military

The list is impressive: A shoulder-mounted system that detects the location of snipers; a device that checks for explosives at airports; a system that makes supply drops more accurate. There are more products, including some the company can't talk about.

Much of the work on those products and more is done at Long Beach Industrial Park by the QinetiQ North America Technology Solutions Group's (QNA TSG) Engineering Center out of its 25,000 square-foot engineering and production facility. It's been here for several decades and has quietly been doing some of the most cutting-edge, niche engineering work imaginable.

You might be forgiven if images of the scientists and technicians for James Bond 007 come to mind. It's an image that the parent company in the United Kingdom would not discourage.

"It is a collection of well-educated, just plain old smart people," said Dan DeSandro, business development manager, about the people he works with in Long Beach. "They see things from the side of the user."

None of the troops in Afghanistan and Iraq would disagree with the value of that "side of the user" approach. One of the company's most interesting products is called Ears® (Early Attack Reaction System). It's a gunshot detection system that allows a soldier to find a sniper a fraction of a second after a shot is fired. The type worn by a soldier is called SWATS (Soldier-Wearable Acoustic Targeting System), with four microphones, multiple sensors and high-powered processors that weigh just 6.4 ounces. The Army late last year placed a $9.9 million order.

That in itself would be enough of an accomplishment for a company. But for QNA TSG, it's just one of a bagful of interesting, life-saving devices they've cooked up to solve sticky problems for the military.

DARPA-like roots

The Long Beach Engineering Center was opened in 1986 to handle some work at Stennis Space Center. From the start the focus has been on using cutting edge science to solve difficult problems for the government.

Then came a series of purchases that would eventually make the Engineering Center a part of the QinetiQ Group plc, of Farnborough, UK, founded as a spinoff of the United Kingdom's version of DARPA called DERA. Like its U.S. counterpart, DERA delved into pushing science and technology to the limit to solve problems. QinetiQ's subsidiary in the United States, QinetiQ North America, bought Foster-Miller in 2004 and put it under its Technology Solutions Group of Waltham, Mass. TSG serves both commercial and government clients. Foster-Miller purchased Planning Systems Inc. including the Engineering Center for QNA in 2005.

Like other QNA operations, the Engineering Center does research and development and engineering as well as manufacturing, and its engineers support other QNA offices in North America. The Technology Solutions Group has more than 700 employees nationwide. In Long Beach the last count was 35 engineers and about 24 technicians and assembly people. But the number fluctuates depending upon projects.

In the immediate region, TSG also has an office in Slidell, La., which provides staff to two locations at Stennis Space Center and provides technical services to both the Navy and NOAA.

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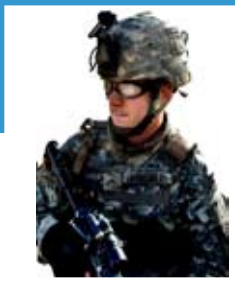

Federal and Military

Yes, on the Mississippi Gulf Coast.

QinetiQ North America Technology Solutions Group creating cutting-edge devices for military (continued, pg. 2 of 3)

"The solutions are not purely from the mind of a scientist stuck in a laboratory or in the recesses of a research facility. The solutions are well thought out, designed, and built from the perspective that our products are to be used in situations where 'almost' doesn't count," said DeSandro.

QinetiQ provides research and engineering services, mainly for defense applications, in the United Kingdom and the United States. Its scientists and engineers help some of the world's top manufacturers push the boundaries of technology in such areas as aviation, defense, energy, IT, and space exploration. In addition to providing technical services, the company licenses some of its technologies to manufacturers. Major customers include the United Kingdom Ministry of Defence, NASA and the U.S. Department of Defense.

The products developed by QinetiQ are used on land, some in the air and some in the sea. And much they won't discuss.

"Some of the more interesting and intriguing uses of our people's skills and knowledge are esoteric and must remain confidential," said DeSandro.

But what they can discuss gives a sense of what they do.

Products
The gunshot detection system, whether stationary or mobile, monitors the acoustic environment and the position and orientation of the sensor package. It can calculate the origination point of the projectile and provide the operator with the location. Pressure and sound waves, rapid changes in geographic location, and orientation of the sensor package are all measured and calculated during the sequence of events.

All the sensors, electronics, and software are contained in a 4" x 4"x 1" box that sits on a soldier's shoulder. The urban and marine variants have different hardware and algorithms for their environments. The urban variant also ties in with video systems to document the event and aid authorities in identifying the shooter. The technologies inside the box have application for the commercial world, including devices for the hearing impaired.

Dropping supplies to troops is crucial, but there are real dangers, including exposing both the aircraft and troops on the ground to enemy fire. But QNA TSG came up with PADS® (Precision Airdrop System), which enables the accurate delivery of supplies from high altitudes without the high cost of a steerable, one-time-use-only parachute.

Developed jointly with the Defense Department over the past decade, PADS uses drop sondes packed with instruments to measure winds, corresponding altitudes and a super-accurate GPS during the tool's descent from altitudes as high as 25,000 feet to precision-guide cargo pallets to troops. It was first used successfully by the Air Force to re-supply troops in Afghanistan in August 2006.

A ground penetrating radar (GPR) system developed by the QNA TSG Engineering Center is being used to find buried improvised explosive devises (IED's). Using radar to penetrate the ground and image buried metal isn't new, but doing it from a vehicle traveling at 50 mph is.

The system employs a technique that allows the use of a large amount of RF energy in a way that someone could stand in front of the antenna array and use a cellular phone, with neither the cell phone nor

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(continued, pg. 3 of 3)

the user being affected.

It may wind up with some commercial applications. It's of interest to the oil and gas industry for use in underground pipe detection, where the apparatus (miniaturized) is mounted on an all-terrain vehicle for high-speed field data collection.

The amount of pipe buried on land along the Gulf Coast and in the waterways of the coast is large. Over the years, surveys have been lost or pipe has been shifted and/or moved from its original location.

"The GPR technique works for land based operations, however the same customer has operations in the inland waters, rivers, and offshore. The solution we are exploring is to miniaturize a pulsed magnetometer and mount the hardware on a submersible autonomous robot," said DeSandro. The robots are the creation of another QNA operation.

"If you've seen a video of bomb squads using robots to neutralize or isolate a package or the use of a robot to enter a hazardous space, you most likely have seen a QNA product in action," DeSandro said.

"One of our more intriguing recent projects was the development of an acoustic signature capture solution for the U.S. Navy," said DeSandro. "In essence, the technology provides a highly accurate sound picture of a ship at sea. This technology has a very functional place in harbor safety and security. This technology makes it possible to acoustically 'see' a swimmer on the surface or below the surface of the water with extreme clarity, not to mention any vessel or device that might be on or under the surface of the water."

If that's one of the things QNA TSG can talk about, imagine what they can't discuss.

- David Tortorano

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