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5 YEARS LATER...

## State Companies Tap Post-9/11 Thirst For Sophisticated Technology



ROSS TAYLOR / THE HARTFORD COURANT

**STUART FARQUHARSON**, president and chief executive of Real-Time Analyzers, is shown behind his product, the "Hoax Expositor," which can be used to analyze and identify chemical substances. His and other companies hope to profit by serving the booming security industry, which has thrived since the terrorist attacks in 2001.

## SECURITY INC.

By ERIC GERSHON • Courant Staff Writer

Inside of a minute, Stuart Farquharson's portable "Hoax Expositor" can tell powdered chalk from powdered creamer, Epsom salt from table salt, cornstarch from cocaine. Just as fast, the \$75,000 device can tell whether a substance is the toxic nerve agent Sarin or VX, or whether it's in the same family as anthrax. Indeed, the 24-pound, suitcase-sized Expositor can identify thousands of known chemical substances, according to the Middletown entrepreneur. "It allows us to do virtually any kind of chemical analysis," he said. A Ph.D. chemist who is the president and CEO of Real-Time Analyzers, Farquharson has been developing the Expositor for five years, and this year he sold the first two units to the British Ministry of Defense. Last week, he went to Virginia to demonstrate the Expositor for the U.S. Marine Corps, which helped underwrite its research and development with an \$850,000 grant. Army and Navy representatives were also present, he said.

Like many business people around America, Farquharson hopes to make his mark — and a lot of money — by serving the booming security industry, which has thrived since the Sept. 11 terrorist attacks.

Since 2001, federal domestic security spending alone has grown from \$16.8 billion to \$58 billion a year, according to the White House Office of Management and Budget. This does not include security spending by the private sector. If Connecticut has not distinguished

itself as a hotbed of security industry innovation — experts say it has not — the state has its home-grown players, from established industrial giants to small companies developing products they have yet to sell.

In the past five years, United Technologies Corp., General Electric Co. and The Stanley Works have all expanded their own holdings in security-related businesses.

UTC acquired several security businesses, including Lenel Systems

International, which makes software to consolidate the control of cameras, fingerprint scanners, key cards and alarms, for example.

Along with UTC's earlier acquisition of the British security firms Chubb and Kidde, Lenel is now part of a whole new business unit based in Farmington called UTC Fire and Security.

GE bought a California company that made devices to detect explosives

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at airports. Stanley Security Solutions, with automatic doors for buildings and related products, has meanwhile become The Stanley Works' fastest-growing major division. In 2005, its sales were up nearly 24 percent, to \$818 million.

At smaller firms, innovators such as Farquharson, Eric Rubenstein and Morton Wallach, to name just a few, rely on government grants, private investment and, in some cases, personal savings to fund the development of new security technologies.

They and others are developing products to detect intruders in ports and radiation in subways, to identify chemical and biological substances, to confirm the identities of people, and to control and monitor access to buildings and information.

Rubenstein, an astronomer with East Hartford's Advanced Fuel Research, has developed software enabling sensors in standard digital video surveillance cameras to detect and monitor radiation levels and also

to alert security personnel when radiation reaches dangerous levels.

The company is now working on a deal to test its product, called "Project RadStar," in the subway of a major city, which a spokesman declined to name.

Farquharson's company was founded as an affiliate of Advanced Fuel Research.

At PEL Associates in Groton, chemist and CEO Mort Wallach has been developing sensors and other products to detect hazardous materials in shipping containers and human intruders in ports.

One version of PEL's "smart microsensors" — each measuring just millimeters across and costing "pennies," he said — could be arrayed in the waters of a port, hundreds at a time.

The sensors would stick to objects moving through the water — a swimmer, say — and transmit an image to security monitors on land as the swimmer broke the surface, he said.

"I can't tell you all the details because these are trade secrets," said Wallach, who funds much of

his research and development projects with grants from government sources, including the Pentagon's Defense Advanced Research Projects Agency.

Farquharson expects 2006 to be a big year for Real-Time Analyzers.

The eight-employee company is just now delivering Hoax Exposors to its first customer, the British Ministry of Defense, which has ordered two units for identifying explosives and chemical agents, he said.

Other target customers for the product include transportation agencies, the U.S. Postal Service, and private mail carriers, such as FedEx and UPS, he said.

Besides the "Hoax Exposer," Real-Time is also working on a "Portable Fuel Analyzer," designed to help the U.S. military quickly (within a minute) test the motor fuels it buys overseas and determine whether they are gasoline, diesel, or jet fuel, as well as their purity.

All of Real-Time's products are based on a technology known as Raman spectroscopy.

The devices shoot a laser beam

at a substance and compare the pattern of its scattered light with patterns on file for thousands of substances until a match is found.

During the next 12 months, Farquharson's goal is to assemble, test and ship 12 to 20 instruments, he said.

Heightened demand for new and ever more sophisticated security technologies does not mean there's a buyer for every new product or service, of course, even those developed with the aid of government money.

Consultants and investment experts who follow the security industry said federal agencies have been relying mainly on big, established companies in awarding contracts for security-related products and services.

If a product fails to work as expected, for example, government officials will want to point the finger, said Joe Freeman of J. P. Freeman Co., a security consultancy in Newtown.

"They don't want to point it at the little guy," he said.

But small companies with use-

ful products are often acquired by bigger ones, and the government isn't the only source of funding for research and development.

"There's been a whole lot of private equity going after this," said Brian Ruttenbur, an equity analyst with the Tennessee financial services firm Morgan Keegan & Co.

And when it comes to security,

he said, there are a lot of basic problems that haven't been solved yet.

"If you're a World War II vet with a metal plate in your head, you still have to get the full body search," he said.

"If you go ship a bunch of stuff through UPS, FedEx or U.S. Postal and have it shipped airmail, a lot of that's going to go on a commercial aircraft unscreened."