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PACIFIC BUSINESS NEWS

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Fast-growing tech firm sees commercial future

Pacific Business News (Honolulu) - August 3, 2007 by [Nanea Kalani](#) Pacific Business News

As federal contract work picks up for Pukoa Scientific, the local high-tech firm hopes to expand its technologies to commercial applications.

The Honolulu company that specializes in pattern-matching technology for intruder-defense applications is set to receive a second multimillion-dollar contract from the U.S. Navy.

In April, it received the first installment of a nearly \$12 million contract from the U.S. Naval Laboratory, and expects another contract for approximately \$8 million to come through in the next month, said President Jim Karins.

Commercial potential

Karins said he wants to integrate his technology into the main Department of Defense system and also expand into the commercial sector.

Pukoa Scientific's work with matching acoustic signatures involves sensors that can recognize an unknown object -- from machinery to people -- based only on sound.

Its major contract this year involves developing software for its technology. The upcoming contract is for applying the technology to missile-seekers -- the front end of the missile that identifies what it will target -- for mobile targeting.

The increased funding, added to several smaller contracts, has enabled Pukoa Scientific to increase its office space and staff. At the beginning of last year the company had four employees who worked from their homes. In the past six months, the staff has increased to 15, mostly high-end software engineers. Karins said the company's average salary is over \$100,000.

Pukoa Scientific also moved into office space at the Manoa Innovation Center last fall, and doubled the space earlier this year to accommodate the additional workers.

Karins said the company, which spends about \$2.5 million annually on operations, is now profitable. He attributes the growth, financially and physically, to "better financial management, good products and good staff."

"You have to bring in the business but also control expenses," he said, noting that the company has added a chief operating officer and director of finance.

"We don't go after a lot of little projects, but focus on a few areas and look for large programs to basically provide venture capital," he said. "We leverage what we can get and then hope to move into the commercial area from there."

Karins said Pukoa's work has definite commercial applications, but the company will need to develop further before it can enter the market.

"Commercial applications are more difficult because, unlike the Department of Defense, which lays out its plans in advance, the commercial side is driven by the customers," he said. "It will depend on if people want these technologies."

Robotics and health care

Karins said acoustic pattern recognition has "huge and broad potential" in such areas as robotics and health care. For instance, the technology can play a part in matching patterns of high-risk behavior in a person and determining, for example, whether he or she is at risk for heart attack or stroke.

For defense applications for the U.S. Navy, acoustic pattern matching can be used to detect objects or intruders in surrounding waters.

Beyond sound recognition, the company wants to expand its work to visual pattern recognition. This technology -- based on extracting a set of characteristic features from an image -- could be used for robotics and automation systems.

Pukoa Scientific

- Founded in 2004 by Jim Karins, who was the founding president of technology company NovaSol.
- Based at the Manoa Innovation Center, which is managed by the state's High Technology Development Corp.
- Focuses on research, development, engineering and making of acoustic pattern-recognition systems.

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