



## SEALEVEL ADAPTING TO THE MILITARY

Sealevel got its start producing adapters for personal computers, but is now developing products for the U.S. Department of Defense too. (Photo/Liz Segrist)

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**S**ealevel Systems Inc. of Liberty recently expanded to support its new contracts with the U.S. Department of Defense and a defense company – the largest contracts in the company's 25-year history.

Sealevel was chosen to design, manufacture and supply equipment for DOD projects that require product designs certified to comply with demanding technical specifications and environmental challenges.

"We specialize in how computers talk to other pieces of equipment and the military is a very strong channel for us," said Sealevel Chief Operating Officer Ben O'Hanlan.

Sealevel was chosen by VT Miltope to design and manufacture docking stations for ruggedized laptop computers used by the U.S. military for diagnostics and maintenance of vehicles and aircraft. The laptops will hook up to all of the military's fleets – vehicles, tanks or helicopters – and run preventative maintenance on them.

Production and delivery began for these sturdy docking stations early this year. Each one is tested to operate under extreme conditions such as extended temperatures, rain, sand and dust.

Sealevel competed against Plextronics

and won the contract. "We did a turn-key design; all the mechanical and electrical work; much of the certification; and now the manufacturing as well," O'Hanlan said.

Sealevel will also supply electronic equipment to an unnamed company that specializes in defense, homeland security and other government markets worldwide in an effort to modernize the company's Patriot Air and Missile Defense System. Sealevel's product was chosen because of its functional specifications and the contractor's need to buy a commercial, off-the-shelf product.

### Product development

Sealevel works with OEMs through the design, manufacturing, testing and integration processes of custom product development to ensure the final product fits the application.

The company partners with Clemson University's International Center for Automotive Research, or CU-ICAR, to conduct testing of electromagnetic interference, or EMI. This is critical for defense contracts to ensure products will not interfere with other equipment in use nearby.

CU-ICAR has highly accurate testing instruments for a quick turn around and rapid product development, O'Hanlan said.

"It's fine in your office environment to have EMI, but in a military environment you can't have the missiles

launching or the radar reading funny because our dock station is reading funny," O'Hanlan said. "The testing in the lab is critical and CU-ICAR was a big help in getting us certified."

Sealevel has 300 standard products and a full line of custom solutions for the military, government, medical, broadcast communications and process control industries. Its 48,000-square-foot facility encompasses all aspects of product construction from assembly to environmental testing.

The facility at 2779 Greenville Highway in Liberty houses its design, sales, support and manufacturing. The company has relocated several times to larger facilities to meet contract needs and industry demands.

Sealevel is a family-owned company, which began with Ben O'Hanlan's father, Tom O'Hanlan. Tom O'Hanlan worked at the NCR Liberty plant in 1981 before it closed. He then worked as a consultant in the textile industry hooking up computers to textile looms to monitor efficiencies at Adams Inc. before it closed due to the demise of the South Carolina textile industry.

"My dad designed the company's first communications adapter and when it went out of business, he took his product and started this company," Ben O'Hanlan said. "I never thought I'd follow in their

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## MARKET FACTS

### Big slice

Defense spending was nearly cut in half in 2011 in South Carolina but still accounted for more than 8.8% of the federal money coming into the state. Here are the top five federal agencies by spending in the state.

#### Federal agency S.C. funding in 2011

Social Security.....\$13.2 billion  
 Health and Human Services...\$4.7 billion  
 Defense.....\$2.4 billion  
 Energy.....\$2.2 billion  
 Veterans Affairs.....\$1.3 billion

SOURCE: www.usaspending.gov, a website of the federal government.

### On the defensive

Funding from U.S. Department of Defense declined in all but one Congressional district in South Carolina this year. The chart shows funding awards from the U.S. Department of Defense by Congressional district in South Carolina.

Congressional district	2010 funding	2011 funding
1 (T. Scott)	\$2.4 B	\$1.4 B
2 (J. Wilson)	\$1.3 B	\$276.6 M
3 (J. Duncan)	\$73.2 M	\$30.3 M
4 (T. Gowdy)	\$311.8 M	\$201.9 M
5 (M. Mulvaney)	\$202.9 M	\$68.6 M
6 (J. Clyburn)	\$290.0 M	\$319.9 M

SOURCE: www.usaspending.gov

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The chart shows states that received the most U.S. Department of Defense funding in 2011. South Carolina is middle of the pack.

Rank	State	Funding
1	Virginia	\$38.2 billion
2	California	\$33.2 billion
3	Texas	\$29.6 billion
4	Maryland	\$12.3 billion
5	Connecticut	\$11.2 billion
6	Massachusetts	\$10.7 billion
7	Florida	\$9.8 billion
8	Arizona	\$9.4 billion
9	Pennsylvania	\$9.0 billion
10	Missouri	\$7.7 billion
22	South Carolina	\$2.4 billion

SOURCE: www.usaspending.gov

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**Entrepreneurship**



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footsteps at the time."

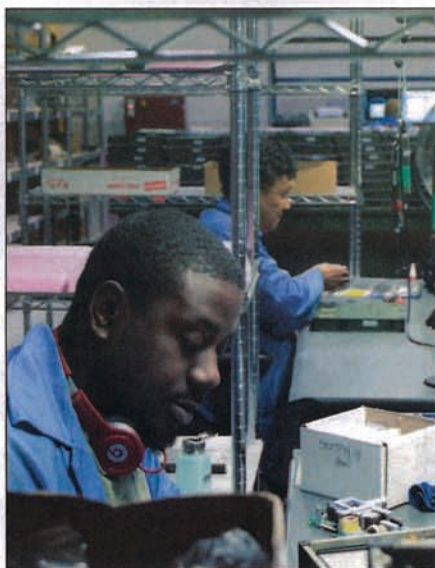
In 1984, Tom O'Hanlan designed the first RS-422/485 communication adapter for the IBM PC. He, and his wife Susan, an artist, then decided to start their own company in 1986 to meet an industry-wide need. They opened Sealevel Systems Inc. with only themselves as employees.

Today, the privately-held company has around 60 employees and provides communication adapters for the IBM PC and compatibles. It also serves as a government contractor, working closely with the military to develop products that specifically meet its requirements.

Although the recession affected the company, it continued to hire and expand space throughout it. The company hired 10 people so far this year.

"This year has been tremendous growth for us," Ben O'Hanlan said. "These contracts are really moving us forward. This two-and-a-half-year development effort kind of overlapped the recession, so we were able to weather through the storm without cutting any jobs because we knew we'd be in production of this product eventually."

The company expanded for future operations in 2010 by turning 5,000-square-foot of warehouse space into manufacturing and office space and installing 15,000-square-foot of electrostatic discharge tiling space, which prevents static electricity charge damage to the electronic equipment.



Sealevel has hired 10 people this year and now employs 60 in Liberty. (Photo/Liz Segrist)

This electrostatic discharge strip that runs the perimeter of the facility is essential to ensuring the safety and effectiveness of products, Ben O'Hanlan said. Bodies carry a static charge, which can damage the products, and the heel straps on employees' shoes on the specialized floor take the static out.

"You can zap a product and it will still pass a functionality test, but it will die on the field," he said. "You can't see or test the damage that you're doing, so you need to overdo it on the safety side to make sure you're not damaging the products."

Sealevel conducts 90% of its direct sales

in the U.S. Sealevel's customers then ship products worldwide from there. Sealevel has tens of thousands of its ACC-188 USB synchronous serial radio adapters currently in use, along with free software from the Defense Information Systems Agency.

These adapters enable tactical radios to transmit and receive IP data such as email, text messages, GPS maps, images, coordinates, and other communications, making it easy for warfighters to enhance their critical high-speed data communication on the battlefield, O'Hanlan said.

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rise above the politics and parochialism that have too often plagued considerations of our nation's defense – whether from inside the Pentagon, from industry and interest groups, and from one end of Pennsylvania Avenue to the other."

Months later, Congress dealt the defense department a double-edged fiscal blow in its Budget Control Act of 2011, which was designed to break gridlock between Congressional Democrats and Republicans who couldn't agree on debt limit increase.

The act cut \$350 billion from the base defense budget and established the Joint Select Committee on Deficit Reduction, which became responsible for proposing a plan to reduce the deficit by at least \$1.5 trillion during the next 10 years.

If Congress does not pass the committee's proposed legislation, automatic reductions in spending would begin. Half of the reductions would come from the defense spending.

Defense industry experts fear the cuts will trickle down to the local level because of the defense department's use of contracts.

The Aerospace Industries Association analyzed the potential fallout, finding more than a million direct and indirect jobs could be lost if the joint select committee doesn't find an alternative to the automatic reductions and if the cuts hit \$1 trillion.

**S.C. impacts**

In the past decade, South Carolina companies have received nearly \$30 billion in contracts from the Department of Defense. Defense funding in the state spiked to \$5.1 billion in 2009. It has been declining since.

In 2010, South Carolina received \$4.6 billion in contracts from the Department of Defense. That dropped to \$2.4 billion this year.

Defense contractors are watching the defense budget and say contractions in spending are cyclical, especially with the wars in Iraq and Afghanistan concluding. Historically, defense spending peaked

"Because our products are designed and manufactured at our headquarters in Liberty, we have direct control over product development, production, burn-in and testing," O'Hanlan said. "By maintaining a state-of-the-art facility, we can ensure our customers receive the highest quality products and services."

Sealevel provides industrial computing solutions in addition to a variety of communications and I/O products, such as PCI Bus cards, Ethernet serial servers and USB serial adapters. ☐

during war times and Ronald Reagan's presidency, said Gadomski of the Charleston Defense Contractors Association.

"Right after a great deal of spending, there's always a trough," Gadomski said.

Mahoney, CEO of SCRA, said the National Defense Industrial Association gives guidance about the cuts. The association advises its members that the government cuts defense budgets if they rise above 3% of gross domestic product.

Mahoney said the budget is well above that figure, and the industry expects cuts. In 2009 and 2010, defense discretionary outlays were 4.7% of the GDP, according to the Congressional Budget Office.

Mahoney said SCRA's research and development business could benefit from the competitiveness created by the cuts.

Mahoney said about 70% of SCRA's business comes from the federal government. About three-quarters of its government business consists of defense contracts.

The remaining 30% comes from corporations outsourcing their research and development.

"So we have a little bit of a hedge in that we're not purely defense," Mahoney said.

But a lot of that work is for companies that eventually deliver a product to the military, he said.

Mahoney said SCRA performs value engineering that has implications for asymmetrical warfare like the conflicts in Iraq and Afghanistan.

"What you have to do is come up with stuff that allows you to fight effectively against an enemy who on first inspection may seem to be much weaker than you," Mahoney said, adding that that innovation type will be needed for future conflicts.

SCRA is developing a laser-guided mortar that can work in uneven terrain. So when a soldier fires a mortar, Mahoney said, it won't drift from its target into a neighborhood or school.

"Those types of technology are going to continue to be valuable," Mahoney said. "We're cautiously optimistic that those types of requirements will continue to drive the R&D side of the defense equation." ☐



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