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Global repositioning

Poway-based SeaSpace seeks new uses for its technology, now that Internet gives scientists free access to satellite data

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Before SeaSpace Corp. came along, environmental studies of the Earth were more or less grounded.

The Keeling curve that began 50 years ago, for example, was based on measurements of atmospheric carbon dioxide recorded atop Hawaii's Mauna Loa volcano by the late San Diego scientist Charles David Keeling. His data provided the first clear evidence that carbon dioxide generated by burning fossil fuels was accumulating in the atmosphere.

SeaSpace, though, helped scientists take their studies of the planet to a whole new level.

The company, founded in 1982 by Robert "Buzz" Bernstein and his wife, Linda, developed a successful business selling ground-station technology that enabled scientists to get sensor data directly from orbiting satellites. Such data allowed scientists such as Bernstein, who was a researcher at UCSD's Scripps Institution of Oceanography, to publish surprising research about the oceans – including studies showing that ocean temperatures are rising.

But SeaSpace has been eclipsed by the Internet, which gives scientists the ability to download massive amounts of satellite data from certain online databases at no cost.

"Ten years ago, it probably would have cost me half a million dollars to get a terabyte of satellite data," said Greg Mitchell, a Scripps scientist who uses satellite-based data to study microscopic plants called phytoplankton. "Now I get global satellite data for free."

This reversal represents the crucial challenge for Hyong Ossi, a Korean-born executive who heads the Poway-based company and its 31 employees.

Under Ossi, SeaSpace has sought to develop new uses for its proprietary TerraScan software, developed to analyze satellite data, and to identify new customers.

"What I'm trying to do is change what we do with the data," Ossi said.



SCOTT LINNETT / Union-Tribune
SeaSpace President Hyong Ossi stood among antennas atop the roof of the company's Poway headquarters.

The business thrived under the Bernsteins because SeaSpace developed technology that bridged a gap, giving a broader range of scientists access to data that was previously available only at places such as NASA's Goddard Space Flight Center.

Now such data can be distributed via the Internet far more easily, and at a fraction of the cost. But SeaSpace also developed sophisticated hardware and software tools needed to manipulate, analyze and archive the data – and that technology has retained its value, Ossi said.

The company plans to expand by adapting its technology to generate new satellite data that would be useful in forecasting weather and managing farmland, fisheries and other maritime industries.

“Our goal is to do \$7.8 million in revenue in 2008, which would be break-even for the company,” Ossi said. Sales last year fell between \$4.5 million and \$5 million, he added.

Ossi, who worked for SeaSpace in Korea as a sales executive, believes strongly in the company, saying SeaSpace helped “make everybody aware there is global warming. . . . We have a certain pride in our heart.”

Ossi was named SeaSpace president last summer, after a defense contractor sold the company to a Korean holding company for about \$1.5 million. But Ossi said the holding company deal was temporary, the company lacked the necessary financial resources, and SeaSpace changed hands again less than four months later.

A Korean industrial corporation acquired SeaSpace at essentially the same price Nov. 1.

Just five years earlier, the Allied Defense Group of Vienna, Va., paid \$12 million to acquire SeaSpace from the Bernsteins, who are now retired.

Ossi said that under Allied Defense, SeaSpace was focused mostly on developing a new dish antenna that could be used for military-related communications. But he said the company spent very little time addressing the critical problem posed by the basically free distribution of satellite data via the Internet.

One strength that Ossi sees is the company's existing customers. SeaSpace's technology is used at 450 ground stations operated around the world by universities, government agencies and other institutions.

“We never really used our customer base to really jump ahead,” Ossi said. “We need to talk to our ground-station clients to see what products they are interested in.”

Skeptics abound, including scientists such as Mitchell.

“There's been a fundamental paradigm shift in the distribution mechanism for large amounts of data from satellites,” he said. “Just because somebody pioneered the technology doesn't mean that it gets to last forever. Economic models change.”

Nevertheless, Ossi remains optimistic.

“This company is tiny, but it had great impact,” he said. “If this company deteriorates and goes down the drain and has to shut down, that would dishonor the work that was done here.”

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