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## RF Nano's Founders Took Risk on Startup, Get \$8M Vote of Confidence

**TECHNOLOGY: Money set to go for making samples of cell-phone chips**

By Sarah Tolkoff

ORANGE COUNTY BUSINESS JOURNAL STAFF

RF Nano Corp. Chief Executive Steffen McKernan says he wasn't always a risk taker.

McKernan, who was born in Sweden and raised in Orange County and Norway, sat soundly in the world of academia for most of his life. He has a collection of advanced degrees from the University of California, Berkeley, and Princeton University.

That led him to a career in business consulting. McKernan left that to take a chance on an obscure, unproven chip technology that might change the way consumers use the Internet on their cell phones.

"I had a really lucrative job before," he said. "I took no pay for a year and then I took a 70% pay cut. But I want to build up a successful company."

The company is Newport Beach-based RF Nano, the chipmaker McKernan formed with a University of California, Irvine, professor and a handful of doctorate students.

It got a recent vote of confidence with an \$8 million round of venture funding that's set to help the company produce prototypes for would-be customers—the top cell phone makers.

Washington, D.C.-based Oxantium Ventures led the round and added its founder, Richard Wirt, to RF Nano's board. Laguna Beach's Okapi Venture Capital also took part in the funding.

RF Nano has raised \$9.5 million in all.

The company is set to spend the latest funding on hiring and readying samples, McKernan said.

The eight-person company has what it calls a more efficient way to bring power to chips in cell phones.

It uses what's known as a carbon nanotube, a ring of carbon atoms that direct electrons in a linear fashion and "charge" the chips, which are used in cell phones and other wireless gear.

The electrons file into the nanotube one at a time, instead of randomly, so the chips are more rugged, use less power and are protected from interference by other signals, according to RF Nano.

So far, the technology has had interest from the Army and the Air Force.

The end goal is to mass-produce the chips for fourth-generation cell phones and speed up Internet connections on wireless devices.

RF Nano is the brainchild of Peter Burke, the company's chief technology officer and associate professor of electrical engineering and computer science at UC Irvine.

He approached grad school colleague McKernan about starting a company based on the technology in 2003.

It didn't get off the ground until 2005 when both put in money to pay its first employees—doctorate students from UCI.



McKernan: "I want to build a successful company"

The company's beginnings have some parallels to another local chipmaker: Irvine's Broadcom Corp.

Cofounder Henry Samueli was a professor at the University of California, Los Angeles, where cofounder Henry Nicholas was one of his graduate students.

The two went on to work at Tustin's PairGain Technologies Inc., now part of Minneapolis-based ADC Telecommunications Inc., before starting Broadcom.

### **Conexant Tie**

RF Nano has ties to Newport Beach's Conexant Systems Inc.

McKernan headed Conexant's acquisition strategy from 1999 to 2001. RF Nano's Director of Marketing Peter Kempf did business development for Conexant's chips that go into home networking devices.

The company currently leases space at Conexant's offices.

Its chips are made at UC Irvine's plant at the Integrated Nanosystems Research Facility, part of school of engineering named for Broadcom's Samueli.

The company still has a lot of research and testing to do before it goes after potential customers, which include the likes of Samsung Corp., Nokia Corp. and others.

The biggest challenge is "making the materials reliably and with the purity and consistency," he said. "What we are trying to do is fundamentally very hard—it's not yet a slam dunk but there is very large promise here."

The company is looking to raise a third round of venture funding two years from now, he said.