

Helping New Technologies Grow Into Businesses, the San Diego Way

So far, San Diego remains a fertile breeding ground for entrepreneurs, despite the problems in the broader economy.



Connect, a nonprofit organization led by Duane Roth, right, helped husband and wife Rolf Muller and Judy Muller-Cohn obtain a \$1 million investment to start Biomatrix, their business.

That is due in large part to a nonprofit organization, Connect, that was created 23 years ago to bring together people knowledgeable about business and investment capital with researchers at the universities and research institutes in San Diego.

“In 2007, we helped 54 companies start up, and there are 150 in the queue,” said Duane Roth, chief executive of Connect.

Connect is neither a business nor a philanthropy. It offers prospective biotechnology, telecommunications, computer software and electronics companies advice and programs that introduce them to investment and venture capital firms. It does not charge for those services, but it relies on contributions from 200 members, among them business, legal and financial people, as well as the directors of research institutes in the San Diego area like the Scripps Research Institute, the Salk Institute for Biological Studies and the Burnham Institute for Medical Research.

This idea of combining scientific potential and financial heft was the brainchild of the founders of the Qualcomm Corporation, which became a telecommunications giant; Hybritech, a pioneering firm in biotechnology that is now owned by Eli Lilly; and Richard Atkinson, the president of the University of California, San Diego. In 1985, they formed Connect as an extension of the university to turn faculty ideas into commercial products. Connect did just that under the leadership of William Otterson, a computer executive who built the organization over 13 years, despite his long struggle with cancer, which ultimately took his life at age 69 in 1999.

“Bill Otterson created the culture here, telling scientists and research people to share ideas and then compete in the marketplace,” said Mr. Roth, a pharmaceutical industry entrepreneur who took

Connect's reins in 2004. Today, he says of San Diego, "We have a chance to become the premier region in the country for innovation."

Rolf Muller, a founder and chief scientific officer of Biomatrix Inc., is one of the people Connect has helped. Mr. Muller and his wife, Judy Muller-Cohn, chief executive of Biomatrix, are molecular biologists. They met at Oregon State University, married, went to Paris to earn doctorates at the Pasteur Institute and came to San Diego 14 years ago to work in bioscientific research.

As Mr. Muller recounts it, some of their work involved storing samples of genetic DNA and RNA, which requires preserving cell structures in freezers capable of extremely low temperatures.

"For 80 years, we have stored tissue samples and cellular structures in freezers. The costs are huge — \$60,000 a year at least for each freezer, and 500 university laboratories have hundreds of freezers to store 10,000 samples a week," Mr. Muller said.

The Mullers were studying small animals called tardigrades that exist in extreme environments, like the Sahara desert. Tardigrades can suspend their metabolism by dehydrating themselves and living in such a state for as long as 10 years.

"They dry up completely but come back to life when you put them in water," Mr. Muller explained. So, he said, he and his wife got to thinking: what if such a state could be duplicated technologically in a simple plastic matrix in which shrink-wrapped molecules are stored at room temperature, eliminating the need for freezers?

Four years ago, they decided to give their idea a try. Mr. Muller kept his job at the Salk Institute for Biological Studies "to support our four children" while Judy Muller-Cohn left her job at a biotechnology firm to work at their new company. "We mortgaged the house, took the college money out of savings and threw it all in," Mr. Muller said in a recent interview at Biomatrix's headquarters while Mrs. Muller-Cohn was traveling.

Connect "was a huge help because scientists need help from people who know something about business," Mr. Muller said. Connect helped Biomatrix get a \$1 million investment from an angel investor and then advised the company on securing technical partners in molecular diagnostics.

In 2006, Biomatrix presented its story to investors in what Connect calls its Springboard competition. "We were looking for \$2 million, but before the competition was finished, we were oversubscribed," Mr. Muller said.

For Benchmark Revenue Management, a company with a software program for hospital management, Connect played a different role. Tyson S. McDowell, 26, the chief executive, founded the company six years ago. A software writer, Mr. McDowell founded one company in high school and sold it. With Benchmark, he and associates devised a software system that helps hospitals train employees and organize patient information in such a way that it is easier to qualify for cost reimbursement from insurance companies.

But when Benchmark needed money to expand, Mr. McDowell said, he came away from venture investors empty-handed. He realized after working with Connect, he said, that he was the problem. "I used to think the guy on the other side of the table was an idiot," Mr. McDowell said. "But Connect helped me to articulate the pitch about my company so that the people really do believe me."

He secured \$1.7 million from investors, and now Benchmark has 13 employees, \$2 million in revenue and more hospitals signing on as customers. Connect, Mr. McDowell said, not only helped him learn patience and humility, but "its lessons have served us incredibly well with management boards, employees and investors."

Barbara Bry, one of Connect's first employees, managed its programs in technology and entrepreneurship from 1986 to 1997. She went on to found two companies, help start another and with her husband, Neil Senturia, a real estate developer and backer of software firms, started Blackbird Ventures, a firm that invests in start-up companies.

Blackbird invested \$1 million two years ago in Quanlight, essentially backing the invention of Vladimir Odnoblyudov, an electrical engineer from Russia who came to the University of California, San Diego, for his doctorate.

Mr. Odnoblyudov, working with an engineering professor at the university, Charles Tu, developed a semiconductor for light-emitting diodes that provided greater stability for red light, a major need in liquid-crystal displays. Quanlight, with Mr. Senturia as chief executive and Mr. Odnoblyudov as technology officer, raised \$3 million last year to develop the invention under license from the university. The process is less expensive than current technology, Mr. Senturia said, "but for red light, stable is more important than cheap. Quanlight's red is wonderful for backlight on L.C.D. television."

Ms. Bry and Mr. Senturia have a San Diego radio show called "I'm There for You, Baby: the Entrepreneur's Guide to the Galaxy." They said they hoped that Connect "could develop more connections to sources of venture capital and international investors and global strategic partners," Ms. Bry said. But in the meantime, "I feel blessed to live in San Diego," she said, "where the environment for innovation and entrepreneurship is so rich."

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