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Offshoring blamed for loss of funding, jobs in industry

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The business of biotechnology is undergoing a seismic shift, and for some companies there's no surviving the jolt.

Take Discovery Partners International. The San Diego company ceased to exist in September, a victim of trends that are reshaping the biotech industry and, at least in the short term, threatening innovation and job creation in the nation's third-largest biotech cluster.



HOWARD LIPIN / Union-Tribune

Richard A. Kenley is chief operating officer of Anaborex and is the La Jolla drug developer's sole employee. His firm's contractors are marked on a map in his office.

Increasingly, the venture capitalists who fund new life-science companies are shopping for existing drugs to refine instead of backing scientists to make discoveries. When startups are created, they're often minimally staffed. More drug companies are farming out research work to scientists in China, India and Eastern Europe, where tasks are done more cheaply.

For California, the birthplace of biotechnology, the stakes are high. Of the estimated 260,000 Californians who work in the life-science industry, about 70 percent are employed in high-paying jobs in drug, medical-device or diagnostic-tool companies. In

San Diego, an estimated 36,600 employees work at about 500 companies, according to BIOCOM, the local biotech trade association.

“Offshoring is what destroyed our business, literally,” said Michael Venuti, former chief executive officer of Discovery Partners. “We had one of the premier chemistry services businesses in 2000, when the company went public, and through 2004 this company was profitable.”

A year ago, Discovery failed to win a competitive bid that would have renewed its contract with drug giant Pfizer, which provided half the company's annual revenue.

Two other U.S. biotechs that provided drug research services to Pfizer – Boston's ArQule and St. Louis-based Tripos – also lost out on bids to renew multimillion-dollar contracts with the company.

OVERVIEW

Background: The life-science industry in California employs about 260,000 workers, the majority in high-paying jobs in drug, medical-device or diagnostic-tool companies. San Diego has about 500 life-science companies with a work force estimated to be 36,600, according to BIOCOM, the local biotech trade association.

What's changing: U.S. pharmaceutical and biotech companies are beginning to do more of their research work through companies in China, India and Eastern Europe, where labor is cheaper. Gone are the days when investment money flowed into U.S. biotech startups with big ideas but few products. Today's biotech scene is more frugal and leaner, with some scientists losing high-paying research jobs as the industry adjusts to a new and,

Venuti said Pfizer had the three U.S. biotechs bid against offshore providers in India, China and Eastern Europe.

“Price was the driver,” Venuti said. “To my chagrin, Discovery bid at zero margin the second time around just to try to keep the contract. One cent less and we’d have been doing charity work for Pfizer.”

Ultimately, Discovery sold a portion of its business and this year folded the rest into Cambridge, Mass.-based Infinity Pharmaceuticals. Tripos has announced it will sell its discovery informatics and research divisions as part of the liquidation of the company, while ArQule also said it will exit its chemistry research services business.

“Five years ago, life-science companies would have been incredibly reluctant to entrust a key part of their research program to scientists 12 time zones away,” Venuti said. “But not today.”

Today, the biotech scene is more frugal, leaner and, for some scientists losing high-paying research jobs or looking for them, meaner.

Unlike 2000, when biotechs blossomed on the initial-public-offering market and venture capitalists poured money into startups with big ideas but few products, cash is tight for most drug developers that don't have a product in late-stage testing or close to market.

Ivor Royston, arguably the father of San Diego's biotech cluster with two of its biggest success stories, Hybritech and Idec Pharmaceuticals, said the local biotech community has shifted painfully from true drug discovery.

“Today there are more virtual companies, more outsourcing, not a lot of big labs, and fewer lab scientists being hired as we focus on developing clinical products,” said Royston, a partner in the venture-capital firm Forward Ventures. “There is also a growing gap between innovation and product development, between a great idea and being able to develop something for the clinic. And that hurts.”

The pain began in earnest a few years ago when investors, burned by biotech hype and failed experimental drugs, began to shun biotech IPOs. In an effort to revive Wall Street interest, venture capitalists shifted to creating companies that develop late-stage products or existing drugs that can be revamped to treat other diseases.

some would say, more balanced global market.

The future: While San Diego's veteran biotechs continue to be a robust force in the life-science job market, the advent of “virtual” firms – where a skeleton crew focuses on the clinical development of existing drugs – raises concerns about whether job creation can keep up with job losses in the region.

Such companies don't require the big staffs or laboratories lavished on San Diego's pioneer biotechs, which often took a decade or more and spent hundreds of millions of dollars to get a novel drug to market. Instead, drug companies are stretching dollars by farming out tasks to U.S. contract research organizations or cheaper offshore companies.



Accurate statistics about offshoring are hard to find, but recent drug industry studies and corporate news releases attest to its growing popularity.

A survey of 186 top global companies with a combined research and development budget of \$76 billion found that three-quarters of R&D sites planned through 2007 will go to India and China.

The study also found that China and India will account for 31 percent of global R&D staff, up from 19 percent in 2004. Meanwhile, the number of R&D sites and staff in Western Europe and the United States are expected to remain static.

Charley Beever, a vice president with Booz Allen Hamilton, the consulting firm that conducted the study, said pharmaceutical and biotech companies are beginning to contract out more complex research, animal studies and human clinical trials, and doing “toe in the water” drug discovery collaborations.

“I don't think the whole world is going to end up in China and India, but 10 years from now it won't be as it is today, with most of the biotech work in the U.S.,” Beever said. “It will be more balanced.

The United States' position at the “high end of the teeter-totter” is unsustainable, Beever said.

A canvass of San Diego life-science companies turns up several that have set up offshore units or are contracting work that would have been performed by local scientists a few years ago.

This year, San Diego-based Accelrys, a company that develops drug discovery software, cut 50 employees and closed a portion of a facility in Cambridge, England. That was on top of another 50 employees who lost their jobs in 2004, as Accelrys shifted more of its work to a facility it opened in Bangalore, India, where it employs 74.

Associated Press

San Diego-based Abgent, which has a unit in Shanghai, is among the local biotechs that have turned to China.

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Last year, Carlsbad's Invitrogen Corp. opened a small research unit in Bangalore, and the company has shifted its Asia-Pacific executive team from New Zealand to Shanghai. Those divisions in India and China collectively employ about 245 people, and additional staffing is planned.

Invitrogen, which employs 1,100 in San Diego County, said the India unit supplements rather than supplants the science done here.

“For many companies that are looking at China and India, it's really not about cheap labor,” said Ben Bulkley, senior vice president of Invitrogen's Asia-Pacific region. “In some instances that is a factor, but more often there is a research collaborator you want to work with because they bring a unique skill or perspective.”

Contract research companies with small staffs in San Diego and bigger units abroad abound. ChemDiv employs 50 people at its local headquarters, but most services performed for clients go to a Russian subsidiary that employs 450.

There is BioDuro, a contract research organization with operations in Beijing, and Sundia, a company with offices in San Diego and Boston that operates a Shanghai drug discovery and development service.

Abgent, which develops antibodies used as research tools, employs 15 in its San Diego headquarters, most of them marketing and customer support staff. The biotech's China research and production facility employs 50.

“Using the labor market in China, you can multiply by 10 the number of products you can put on the market,” said Herve Le Calvez, director of business development for Abgent.

Traditional San Diego biotechs that pursue their own drug and technology research are also looking abroad. Arena Pharmaceuticals and Kalypsys have hired Chinese companies to do select chemistry work, while Ambit Biosciences uses companies in both China and India.

Ascenta, a San Diego biotech founded in 2003, has offices in San Diego and a preclinical research facility in Shanghai. TargeGen, another local biotech, contracts much of its medicinal chemistry work to Shanghai's WuXi Pharmatech. And last month, San Diego's Immusol began offshoring some of its chemistry work to two companies in Shanghai and Beijing.

Earlier this year, Immusol laid off about a dozen of its 50 employees – most of them scientists working in drug discovery. Zhu Shen, senior director of business development at Immusol, said offshoring provides greater flexibility as research projects are taken up or discarded.

Shen said some of her scientist friends who have lost their jobs in San Diego are going back to academia or taking courses to get into another aspect of the drug business – such as guiding a drug through the regulatory process.

“It's not a good environment now for certain types of scientists hoping to land a good opportunity in San Diego,” Shen said. “It is very much on people's minds these days, because there are only so many research jobs, given these changing trends.”

One such trend is the rise of “virtual” companies. Many startups are managed with fewer dollars and a skeleton crew, at least compared with the companies that launched San Diego's biotech boom more than 25 years ago.

The now-defunct Agouron Pharmaceuticals, one of San Diego's earliest biotech companies, spent \$450 million and 13 years getting its first drug, Viracept, from discovery to regulatory approval. By 1995, when Viracept was in mid-stage Phase 2 clinical trials, Agouron employed more than 250 people.

In contrast, the region's focus on clinical development of existing drugs requires fewer resources. Cabrellis Pharmaceuticals, founded in May and sold in November to a Colorado company, advanced its chemotherapy drug into Phase 2 studies with only an eight-person staff and about \$10 million.

La Jolla drug developer Anaborex, formed last year to develop drugs for treatment of the cancer-related wasting syndrome, employs one person and farms out most of its work to contractors. Tracon Pharmaceuticals, also formed last year, employs four people to manage development of a pipeline of three early-stage cancer drugs.

While San Diego's veteran biotechs continue to be a robust force in the life-science job market, the advent of the “virtual” model raises concerns about whether job creation can keep up with job loss.

Among old-guard companies, Invitrogen plans to add 400 to 600 new employees at its Carlsbad headquarters, while diabetes drug developer Amylin Pharmaceuticals plans to add 350 employees to its San Diego work force in the coming year.

But layoffs and downsizings, usually spurred by a failed drug or loss of a collaboration, have taken their toll. For every Invitrogen there is a Pfizer, which laid off 250 San Diego employees this year, or an Elan Pharmaceuticals, which cut 107 San Diego jobs.

Neurocrine Biosciences cut about 100 local employees this year after it failed to win approval for its experimental sleeping pill; Diversa cut 85 jobs; and Carlsbad's CancerVax, which merged this year with a German company after its cancer vaccine failed in human studies, cost the Southern California region about 180 jobs.

While no one knows whether virtual companies and offshoring will hurt San Diego's future job base, at least one sector – commercial real estate – is feeling the impact.

Jerry Keeney, a real state broker with CB Richard Ellis who specializes in the biotech market, said that almost 7 percent of San Diego's laboratory space – or 861,291 square feet – was vacant or available for sublease at the end of September.

“It's been stagnant for a while; there isn't a lot of organic growth in the market,” Keeney said.

During the height of the biotech boom in 2000, about 1.7 million square feet of laboratory space was leased, the biggest year ever for San Diego. In the first nine months of this year, 375,000 square feet of lab space was leased.

Keeney anticipates that a total of 450,000 to 500,000 square feet of lab space will be leased by the end of year, roughly on par with the 521,000 square feet leased in 2005.

“Typically, you see a biotech startup raise a certain amount of money, and the next event would be that they lease some laboratory space,” Keeney said. “But this is not now the case.”

In the short term, the trends reshaping the biotech sector may result in job losses, some biotech observers say. But a stronger and more stable industry also could emerge.

Kevin Kinsella, a partner with the San Diego venture-capital firm Avalon Ventures, said offshoring and virtual companies allow venture capitalists to “make more bets with fewer dollars.”

And successful bets will pay off in the form of stable companies that will grow and expand here, he said.

“The days when discovery-stage companies spring fully formed from the head of Zeus are gone,” Kinsella said. “But once you can get a startup over the first hurdles, you almost have to create a bigger company that will require more space and more people.”