

REGIONAL ECONOMIC SURVEY – JUNE 2002

# San Diego, California

## SAN DIEGO: OVERVIEW OF TECH ECONOMY

Population<sup>1</sup>

2,813,833

Venture capital invested, 2000<sup>2</sup>

\$2,020,193,300

Venture capital invested, 2001<sup>2</sup>

\$1,401,734,800

Change in VC invested, 2001 vs. 2000<sup>2</sup>

-30.6%

Technology jobs, 1992<sup>3</sup>

121,836

Technology jobs, 2001<sup>3</sup>

148,470

Key technology sectors<sup>3</sup>

Aerospace/defense,  
biotech, telecom

Technology companies<sup>4</sup>

19,761

Average technology salary<sup>5</sup>

\$56,300

Average non-technology salary<sup>5</sup>

\$28,854

Unemployment rate, January 2002<sup>6</sup>

3.9%

Median home price<sup>7</sup>

\$266,000

<sup>1</sup>SOURCE: U.S. Census, 2000

<sup>2</sup>SOURCE: National Venture Capital Association MoneyTree Survey, PricewaterhouseCoopers, Thomson Financial/Venture Economics

<sup>3</sup>SOURCE: San Diego Regional Chamber of Commerce, Alexander Publishing

<sup>4</sup>SOURCE: San Diego Agency of Governments

<sup>5</sup>SOURCE: California Employment Development Department, SANDAG

<sup>6</sup>SOURCE: U.S. Bureau of Labor Statistics

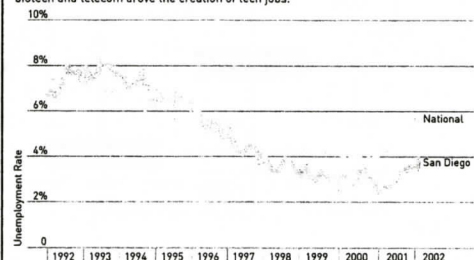
<sup>7</sup>SOURCE: California Department of Finance

DESPITE THE TROUBLE THAT MOST TECHNOLOGY REGIONS ARE FACING NATIONWIDE, SAN DIEGO BOASTS ONE OF THE HEALTHIEST ECONOMIES IN THE UNITED STATES. UNLIKE SILICON VALLEY'S CURRENT DISMAL RATE OF 7.5 PERCENT, UNEMPLOYMENT IN THIS OFTEN OVERLOOKED TECH TOWN IS A LOW 3.9 PERCENT. TECHNOLOGY JOBS ARE DIVERSIFIED EVENLY AMONG DEFENSE, TELECOMMUNICATIONS, AND BIOTECH SECTORS, WITH EACH CLAIMING ABOUT 18 PERCENT OF THE TECH JOB COUNT, ACCORDING TO THE SAN DIEGO CHAMBER OF COMMERCE. AND INVESTMENT REMAINS STRONG. THOUGH VENTURE CAPITAL IS DOWN FROM THE BINGE INVESTING OF THE LATE '90S, \$1.4 BILLION FLOWED INTO THIS REGION DURING 2001. ♦ A DECADE AGO, SAN DIEGO'S FORTUNES WEREN'T SO ROSY. UNEMPLOYMENT HAD RISEN TO 8.4 PERCENT BY JULY 1993, WHILE THE NATIONAL AVERAGE HAD DECLINED TO 6.9 PERCENT, ON THE ROAD TO RECOVERY FROM NEARLY 8 PERCENT A YEAR EARLIER. ♦ WHAT LEAD TO SAN DIEGO'S TOUGH TIMES IN THE EARLY '90S AND ITS RESILIENCE IN TODAY'S INNOVATION ECONOMY? THE ROOTS LIE IN THE REGION'S RELIANCE ON DEFENSE WORK FOR MUCH OF THE 20TH CENTURY. SAN DIEGO'S EXPERIENCE, HOWEVER, TEACHES THAT DIVERSIFICATION AND PLANNING PAY OFF. ♦ THE ROLE THAT DEFENSE CONTRACTS AND RESEARCH INSTITUTIONS HAVE PLAYED IN THE REGION'S LONG-TERM DEVELOPMENT CANNOT BE UNDERESTIMATED. THE PACIFIC FLEET MOVED HERE BEFORE WORLD WAR I, WHEN CONGRESSMAN WILLIAM KETTNER PERSUADED THE WILSON ADMINISTRATION TO BACK DEVELOPMENT OF SAN DIEGO BAY. AFTER WORLD WAR II, FEDERAL DOLLARS FROM DEFENSE CONTRACTS SUPPORTED THE LOCAL GIANT GENERAL ATOMICS, FOUNDED IN 1955 TO EXPLORE PEACEFUL USES FOR ATOMIC ENERGY, AND GRANTS

FROM THE NATIONAL INSTITUTES OF HEALTH WENT TO THE SCRIPPS CLINIC AND RESEARCH CENTER, WHICH WAS ESTABLISHED IN 1956. IN 1960, THE UNIVERSITY OF CALIFORNIA, SAN DIEGO (UCSD) OPENED WITH A FOCUS ON POST-GRADUATE SCIENCES TO SUPPORT THE NEW RESEARCH ECONOMY. THE LAST PIECE WAS IN PLACE WHEN THE SALK INSTITUTE ARRIVED IN 1963, BRINGING A WORLD-CLASS MEDICAL RESEARCH FACILITY TO THE TORREY PINES MESA.

## UNEMPLOYMENT RATES, 1992-2002

The region saw joblessness well over the national average from 1992 until 1996, when biotech and telecom drove the creation of tech jobs.



SOURCE: U.S. Bureau of Labor Statistics

For the next 20 years, San Diego had an abundance of intellectual capital, but little entrepreneurial drive. This changed in 1968, when UCSD professor of computer science and engineering Irwin Jacobs founded Linkabit, a company that developed signal-processing equipment for the military and begat many of the homegrown IT firms, including Qualcomm, Leap Wireless, and Viasat, as well as the now-bankrupt wireless carrier Nextwave. The private-sector roots of biotech in San Diego came a decade later, when Ivor Royston and Howard Birndorf founded Hybritech in 1978. Hybritech was the first to commercialize the use of monoclonal antibody diagnostics and spawned numerous biotech groups, including Idec, Amylin, and the Kimmel Cancer Institute.

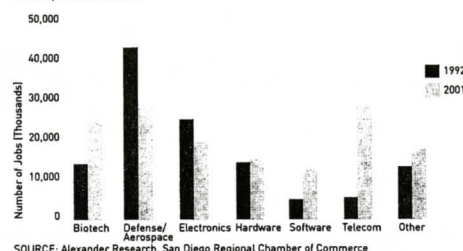
Still, technology was emerging slowly in San Diego. Few of the scientists were driven to start their own firms, and business services were mismatched, focused on defense rather than innovation. San Diego lacked the intellectual-property attorneys, experienced management, and sources of capital necessary for a burgeoning economy. Little changed until the mid-'80s, when UCSD formed UCSD Connect, under the leadership of Mary Walshok, dean of UCSD's Extended Studies and Public Programs. UCSD Connect acted on behalf of scientists and engineers to facilitate access to capital and create a more sophisticated business services community that would support new firms.

In the early '90s, defense cutbacks devastated San Diego. Between 1990 and 1993, the county lost 63,000 jobs in the defense sector, according to Keith Cunningham, research manager of the San Diego Regional Chamber of Commerce. Some of these jobs were absorbed by other industries, he says. However, many of the 43,000 new service and government positions were inappropriate for the highly educated, trained, and motivated scientists.

It was at this time in the early '90s, with unemployment around 8 percent, that UCSD Connect began to see results. Infrastructure and intellectual capital had also begun to assemble, as cracks in the monolithic defense industry forced innovation.

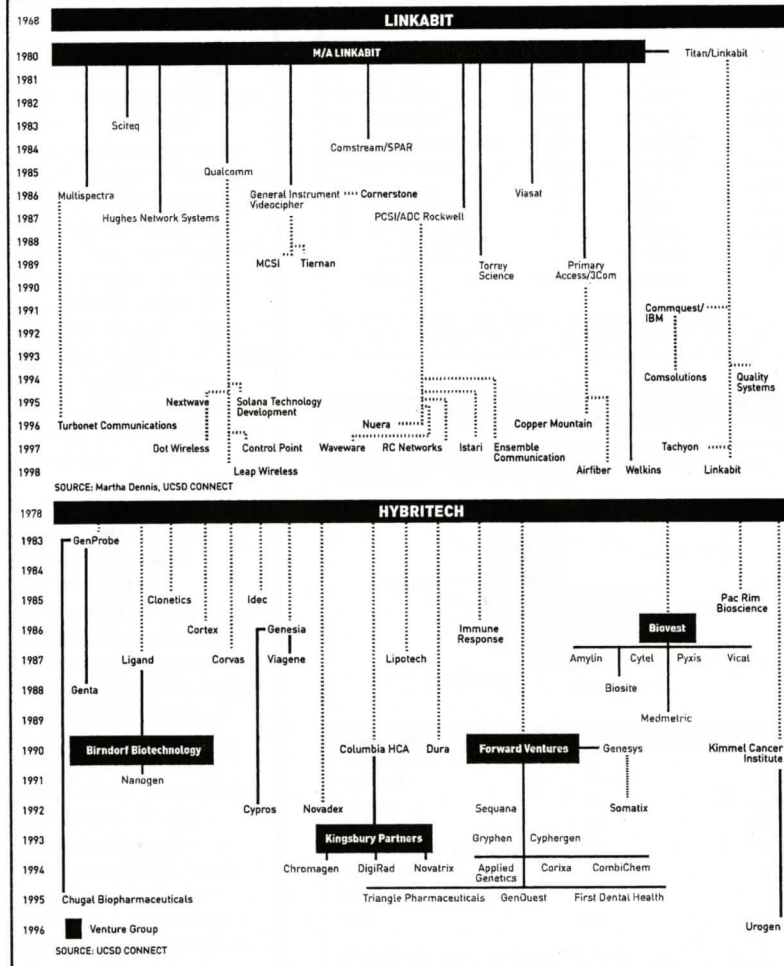
#### 10-YEAR CHANGES IN TECH EMPLOYMENT, BY SECTOR

Significant increases in most job categories have compensated for the decline in aerospace and defense.



SOURCE: Alexander Research, San Diego Regional Chamber of Commerce

#### SAN DIEGO'S TELECOM AND BIOTECH ROOTS: PROGENY OF LINKABIT AND HYBRITECH



Concurrently, according to Dr. Walshok, universities started giving commercial ventures easier access to research initiatives. This and other public policy measures, such as banking deregulation, added fuel to San Diego's burgeoning innovation economy.

The transformation was well underway by 1995, when VC firms placed \$227 million in San Diego. By the late '90s, many of the hometown firms were globally-recognized leaders. Qualcomm's CDMA technology provided service in 35 nations by 1999 and today reaches 100 million users worldwide. In 1997, Agouron Pharmaceutical introduced Viracept, the first HIV protease inhibitor. In the same year, Idec Pharmaceuticals introduced Rituxan, the first anticancer monoclonal antibody, to battle non-Hodgkin's lymphoma.

Today, San Diego's innovative vitality attracts big business and big money. A cluster has formed around Qualcomm's CDMA and wCDMA development, leading Ericsson, Motorola, Nokia, and Siemens to build facilities and benefit from local research in third-generation wireless technologies. Even the relatively small digital entertainment sector was legitimized, when Vivendi Universal purchased MP3.com in August 2001. And "big pharma" has arrived: colossal drug firms, like Elan, Johnson & Johnson, Merck, Novartis, and Pfizer all have major local facilities working with, recruiting from, and hiring San Diego's leading scientists.

— Tony Nash

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**IVOR ROYSTON**

Cofounder and managing member of  
Forward Ventures • Founder of Hybritech,  
Idec, Sidney Kimmel Cancer Institute

BY TONY NASH

### What drew you to venture capital from the Kimmel Cancer Institute?

I really enjoy starting and building things. After founding Idec and Hybritech, I realized I enjoyed working with other scientists and supporting them in their quest to find a cure for cancer quickly. As a venture capitalist, I can fulfill those ambitions.

### How has the arrival of "big pharma" affected your investment strategy?

It hasn't affected our investment strategy, but it has affected us in two important ways. We have more highly qualified people to recruit from when building startup companies. There are always a number of excellent people working for "big pharma" who would like to be involved in a startup. Also, there are more startups to be considered for investment.

### In which areas of biotechnology do you see breakthrough opportunities?

First, with therapeutic vaccines that prevent the recurrence of cancer. Also targeted therapy, which is the development of cancer treatments that act on specific cellular targets, without harming normal cells, as do antibiotics for infections. Finally, personalized medicine, or pharmacogenomics, which uses a patient's genotype to determine which drugs they will respond to, instead of using trial and error.

# Venture metrics

BY TONY NASH

Although San Diego ranks in the middle of the pack of U.S. regions that received venture capital funds last year, investments placed in this area have grown more than six times over since 1995, and the average deal has tripled in size. Biotech dominates overwhelmingly in California's southern tip: in 2001, the industry received nearly half of all San Diego's venture funding. The hardware, software, and telecom sectors lagged well behind, with each attracting about 10 percent of the total funds. VC firms Enterprise Partners, Ampersand, and Forward Ventures have been the largest San Diego-based investors, placing \$238 million on 77 deals from 1999 through 2001.

## INVESTMENTS IN 2001, BY REGION

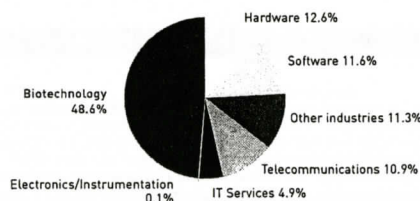
San Diego ranks in the lower half of U.S. venture capital regions, for both funds placed and number of investments.

RANK	REGION	NUMBER OF DEALS	AMOUNT INVESTED (MILLIONS)	PERCENT OF TOTAL
1	Silicon Valley	1,000	\$12,108.1	33.3%
2	New England	526	\$4,683.7	12.9%
3	New York Metro	359	\$3,270.7	9.0%
4	Texas	282	\$2,882.0	7.9%
5	Southeast	352	\$2,280.8	6.3%
6	Wash D.C. Metro	231	\$1,878.7	5.2%
7	Midwest	226	\$1,818.8	5.0%
8	LA/Orange County	205	\$1,631.5	4.5%
9	Colorado	111	\$1,426.2	3.9%
10	San Diego	121	\$1,401.7	3.9%
11	Northwest	162	\$1,127.6	3.1%
12	Philadelphia Metro	110	\$678.3	1.9%
13	North Central	102	\$554.0	1.5%
14	Southwest	68	\$342.6	0.9%
15	Sac/Northern CA	20	\$218.1	0.6%
16	South Central	21	\$70.4	0.2%
17	AL/HI/Puerto Rico	4	\$34.8	0.1%
	<b>Total</b>	<b>3,900</b>	<b>36,408.2</b>	

SOURCE: National Venture Capital Association MoneyTree Survey, PricewaterhouseCoopers, Thomson Financial/Venture Economics

## AMOUNT INVESTED IN 2001, BY INDUSTRY

Biotech is the most funded category attracting nearly half of the funding, while investment in the locally robust telecom sector ranks fifth with just 11% of funds.



INDUSTRY	NUMBER OF DEALS	AMOUNT INVESTED (MILLIONS)
Biotechnology	50	680.5
Hardware	11	177.2
Software	12	162.3
Other	25	158.9
Telecommunications	14	152.3
IT services	8	69.2
Electronics	1	1.3
<b>Total</b>	<b>121</b>	<b>1,401.7</b>

SOURCE: National Venture Capital Association MoneyTree Survey, PricewaterhouseCoopers, Thomson Financial/Venture Economics

## DEALS AND TOTAL INVESTMENTS, 1999-2001

Transactions were down in 2001 by nearly 40 percent, and amount invested was down by 30 percent.

	NUMBER OF DEALS	TOTAL INVESTED (MILLIONS)	AVE. DEAL SIZE (MILLIONS)
1995	61	\$226.7	\$3.7
1996	85	\$731.7	\$8.6
1997	93	\$447.7	\$4.8
1998	115	\$501.5	\$4.4
1999	152	\$1306.0	\$8.6
2000	196	\$2020.2	\$10.3
2001	121	\$1401.7	\$11.6

SOURCE: National Venture Capital Association MoneyTree Survey, PricewaterhouseCoopers, Thomson Financial/Venture Economics

## TOP U.S. VENTURE INVESTORS, 1999-2001

Hometown firms contributed \$376 million on 113 deals, or 18.1% of total dollars placed in San Diego.

COMPANY	# OF DEALS	TOTAL INVESTED (MILLIONS)	AVE. DEAL SIZE (MILLIONS)
<b>Undisclosed venture capital firms</b>			
	177	628.4	3.6
Undisclosed investors	54	174.8	3.2
Individuals	68	170.0	2.5
Enterprise Partners (so)	46	129.7	2.8
<b>Undisclosed corporate investors</b>			
	35	119.2	3.4
<b>Undisclosed non-venture capital firms</b>			
	24	108.0	4.5
Domain Associates	28	88.3	3.2
MPM Capital	13	85.4	6.6
Ampersand Ventures (so)	8	56.3	7.0
Apax Partners	8	53.7	6.7
Forward Ventures (so)	23	52.3	2.3
J.P. Morgan Partners	15	49.8	3.3
Sevin Rosen Funds (so)	10	48.4	4.8
Qualcomm Ventures (so)	9	47.5	5.3
ComVentures	4	45.8	11.5
Cox Communications	1	45.0	45.0
Morgenthaler Ventures	6	44.1	7.4
<b>Kleiner Perkins Caufield &amp; Byers</b>			
	13	42.2	3.2
Mission Ventures (so)	17	41.8	2.5
CMEA Ventures	10	41.3	4.1

(SO)=SAN DIEGO

SOURCE: National Venture Capital Association MoneyTree Survey, PricewaterhouseCoopers, Thomson Financial/Venture Economics

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**PAUL JACOBS**

President, Qualcomm Wireless  
and Internet Group

BY MATT WELLS

Your father [Dr. Irwin Jacobs, Qualcomm founder, chairman and CEO] came here originally to be a professor at UC San Diego. Yes. My father was asked to come out and help start the engineering department there. But as he tells the story, after deciding not to move to California, he was riding the subway back in Boston during a rainy day and he was overwhelmed with the smell of wet wool, so he changed his mind about coming out to UCSD right then and there. The other part of the story is that it has been fairly easy to attract talent, because the lifestyle out here is so nice. In the early days of Qualcomm Irwin would take recruits down to the beach for lunch, and that would pretty much close the deal.

Qualcomm now generates 65 percent of his sales outside of the United States. Is San Diego still the right location for your headquarters? The wireless standard we are pushing, CDMA, is more Pacific Rim focused, so it made perfect sense to target this region (San Diego) as an early strategy. China is a key growth market for us. Today, Korea and Japan are driving wireless Internet usage, and China represents a huge market, so I think being closer to Asia has really been beneficial.

#### What is Qualcomm's biggest challenge?

Getting China up-and-running on CDMA by making services that are attractive to Chinese consumers and distinguished from what the GSM networks have to offer is critical.

# Wireless world

*A selection of mobile technology firms based in San Diego.*

BY MATT WELLS

San Diego has earned the reputation of being a venerable wireless hotbed. Qualcomm's arrival in 1985 remains the more notable of the San Diego based companies. Today, this region is home to numerous providers of wireless technologies from CDMA and telematics to Bluetooth; several of these companies are Qualcomm spin-offs. Below is a brief cross section of wireless companies based in San Diego.

## PRIVATE COMPANIES

		FOUNDED	EMPLOYEES
<b>WINGCAST</b>	<a href="http://www.wingcast.com">www.wingcast.com</a>	2000	200
Created as a joint venture between Qualcomm and Ford Motor, Wingcast is developing a service that will connect vehicles through wireless technologies. Employing telematics, the company plans to provide voice, entertainment, Internet, and safety services in automobiles beginning in model year 2003 (August 2002).			
<b>FUNDING/KEY INVESTOR(S)</b> Ford and Qualcomm have contributed more than \$125 million to the venture to as of April 2002. Qualcomm holds a 15 percent stake in Wingcast; Ford holds 80 percent.			
<b>PARTNERS</b> Verizon, Oracle, Sun Microsystems			
<b>CUSTOMERS</b> Ford, Nissan Motor, Directed Electronics			
<b>WIDCOM</b>	<a href="http://www.widcom.com">www.widcom.com</a>	1998	120
Develops software and architecture that facilitate short-range wireless communications, including Bluetooth, 802.11a, and 802.11b. Software is intended for use in personal digital assistants, laptops, PCs, cell phones, printers, projectors, cameras, and other devices for residential, automotive, and enterprise use. Products include wireless connectivity software integrated chips for Bluetooth, 802.11a, and 802.11b; designs for headsets, phone adapters, printer adapters, access points, PDAs, Microsoft Windows, and PC peripherals; and interoperable bundles that combine Bluetooth, 802.11a, and 802.11b for connectivity in homes, offices, and cars.			
<b>FUNDING/KEY INVESTOR(S)</b> Has raised more than \$47 million as of April 2002, with a \$12-million first round and a \$35-million second round which together included Enterprise Partners, Alcatel, Conexant, Psion, Philips, Sienna Holdings, and Texas Instruments.			
<b>PARTNERS</b> Alcatel, CSR, OSK, Philips, W-Link			
<b>CUSTOMERS</b> Acer/Wistron, Compaq, Philips, Plantronics, TDK, Texas Instruments			
<b>PACKETVIDEO</b>	<a href="http://www.pv.com">www.pv.com</a>	1998	200
Develops and provides MPEG-4 (Motion Pictures Expert Group 4) compliant software for the purpose of encoding, delivering, and displaying video and audio content to handheld devices over wireless networks. Products include PVAutor, which encodes video and audio content into MPEG-4 format for live and on-demand delivery over wireless networks; PVServer, a server-based application which delivers the video and audio over wireless networks, and PVPlayer, a mobile device-based software application which decodes and plays video and audio for viewing on wireless devices. The company markets its software to wireless operators, wireless device and silicon manufacturers, and content providers to ultimately enable mobile consumers to access applications such as news and financial stories, music videos, weather and traffic reports, and home or work security cameras, from a variety of locations.			
<b>FUNDING/KEY INVESTOR(S)</b> Has raised approximately \$140 million as of April 2002, with a \$1-million first round, a \$4-million second round, a \$21-million third round, a \$16.5 fourth round, and a \$100-million fifth round. Investors included Siemens Mustang Ventures, Intel, Royal Philips Electronics, Qualcomm, Motorola, and Softbank Technology.			
<b>PARTNERS</b> Qualcomm, Sprint, ABCNews.com, SignalSoft, Warner Bros			
<b>CUSTOMERS</b> Wireless service providers			

## PUBLIC COMPANIES

PUBLIC COMPANIES		NASDAQ	MARKET CAP*	FOUNDED	EMPLOYEES
QUALCOMM	<a href="http://www.qualcomm.com">www.qualcomm.com</a>	QCOM	\$29.05 billion	1985	6,500
Develops hardware, software, and chip sets for wireless communications. Perhaps best known for being among the first to fully develop code division multiple access (CDMA) technology. Qualcomm also develops digital entertainment technologies, including image compression and encryption for the delivery and display of digitized motion pictures. Develops and provides the Eudora email application as well. Other products and services include the BREW wireless applications platform, Fleet management solutions, Globalstar satellite phones, and OmniTracs wireless data networks, which provide satellite communication, position location and logistics management for commercial trucking fleets.					
FINANCE Pro forma revenue for first quarter 2002 (ended December 2001) was \$693 million, up 6 percent from the same quarter of the previous year. Income before taxes for first quarter 2002 was \$218 million, compared with a loss before taxes of \$747 million during the same quarter 2001.					
PARTNERS Ford, NEC, Technicolor					
CUSTOMERS USWest, Sony, Verizon					
LEAP WIRELESS	<a href="http://www.leapwireless.com">www.leapwireless.com</a>	LWIN	\$368 million	1998	1,750
Provides CDMA networks, which can carry more data and can deploy wireless services more efficiently. Marketed under the Cricket Service name, Leap Wireless's service allows customers to make and receive virtually unlimited calls within a local calling area for a relatively low flat monthly rate, compared with traditional wireless services. The company currently offers Cricket Comfortable Wireless service in 40 markets throughout 20 states. Leap is also a shareholder in Pegaso, Mexico's first PCS carrier, of which Leap currently owns approximately 20 percent.					
FINANCE Revenue for fourth quarter 2001 was \$103.8 million, up 626 percent from fourth quarter 2000. Net loss for fourth quarter 2001 was \$79.6 million, compared with a net loss of \$103.5 million during fourth quarter 2000.					
PARTNERS Citicorp, Pegaso, the Latin American Infrastructure Fund, Nissho Iwai, Sprint PCS, Westwood One					
CUSTOMERS Mostly consumers					

\*AS OF APRIL 1, 2002



**KOBI SETHNA**

*Cofounder, president and CEO of  
Nereus Pharmaceuticals*

BY MATT WELLS

### Why did you start a business in San Diego?

Our founding scientists happened to be in San Diego. One is a professor at UCSD and a director of the Scripps Institution of Oceanography. Also, the seed money was provided by a prominent San Diego venture firm, Forward Ventures.

### Why are you staying in San Diego rather than moving your business elsewhere?

Our basic license for microbial discovery comes from the University of California, San Diego. We are now well established here and well recognized by the community with access to services and other facilities, which we do not think we could obtain on a comparable basis in any of the other biotech areas in the country.

### How has the arrival of "big pharma" affected the search for capital, staff, management and any other components necessary to running a viable business?

The arrival of "big pharma" has lent credibility to the pharmaceutical business sector in San Diego. While they will take up some local talent, small companies like ours will also benefit... we have recruited top-class scientists from some of the big pharma companies locally that have moved in.

### REGIONAL ECONOMIC SURVEY — JUNE 2002

RESEARCH DIRECTOR Tony Nash  
RESEARCH ANALYST Matt Wells  
COPY EDITOR Holly Haynes  
DESIGN DIRECTOR Jillian Imani

# Biotechnically enhanced

*A selection of life science firms based in San Diego.*

BY MATT WELLS

The arrival of UCSD and the Salk Institute in the early 60's established a foundation upon which an important biotech center would later be built. San Diego has earned its right as a biotechnology hub, from the small laboratories borne out of UCSD, leading up to the arrival of "big pharma." Following is a cross section of privately held and publicly traded biotech companies based in San Diego.

## PRIVATE COMPANIES

**GENOPTIX** [www.genoptix.com](http://www.genoptix.com) **2000** **35**  
Is developing laser-based technology that will enable the movement, separation, and analysis of cells, without the use of any markers, such as labels or dyes. The company's proprietary Optophoresis technology simultaneously analyzes and isolates specific cells based on their differences at the atomic level. The technology will enable cells that have been treated differently to be separated using high frequency optics. Technology applications include screening for drugs and looking for infected or changed cells. The company hopes the product will be used in the pharmaceutical setting by year-end 2002.

**FUNDING/KEY INVESTOR(S)** Has raised \$22 million as of April 2002, with a \$5-million first round and a \$17-million second round, which together included Alliance Technology Ventures, Enterprise Partners, Lotus Bioscience Investment Holdings, Mitsubishi, Tullis-Dickerson, and U.S. Trust's Excelsior Venture Partners III.

**PARTNERS** Expected to include large pharmaceutical companies, drug-discovery companies, and makers of screening devices, clinical diagnostics devices, and clinical devices

**CUSTOMERS** Companies in pharmaceutical research and drug discovery, cancer testing, high-throughput screening, cell separation, and flow cytometry, as well as prenatal testing, tissue engineering, cell selection, infertility, and stem cell isolation

## IDUN PHARMACEUTICALS

[www.idun.com](http://www.idun.com)

**1993**

**80**

Develops human therapeutics focused primarily on controlling apoptosis, or programmed cell death, with the idea that control of the cell-death process will help in treating cancers, neurodegenerative diseases, ischemic disorders, and cardiovascular disease. Initiated its drug-discovery operations in July 1994, when it merged with Apoptech.

**FUNDING/KEY INVESTOR(S)** Has raised more than \$75 million. Investors include Accel Partners, Arch Development, Avalon Ventures, Delphi BioVentures, Institutional Venture Partners, and Venrock Associates. Additionally, Idun has raised \$35 million in research and development funding through collaborations with various pharmaceutical companies.

**PARTNERS** Elan Corporation, Abbott Laboratories. Idun has established an R&D collaboration with Abbott, wherein Idun is discovering and developing small-molecule cancer therapeutics that target the core of the apoptosis pathway

**CUSTOMERS** Expected to include pharmaceutical companies, as well as patients with liver disease, heart disease, and a history of cardiac arrest

## MITOKOR

[www.mitokor.com](http://www.mitokor.com)

**1991**

**130**

Develops therapeutic solutions for diseases, based on mitochondrial research. MitoKor and its wholly-owned subsidiaries, Mimotopes and Apollo BioPharmaceutics, have established core competencies in biotechnology, combinatorial drug discovery, target discovery, assay, and diagnostic development, as well as mitochondrial and nuclear proteomics and genomics, disease modeling, and pharmacogenomics. Focuses on drug discovery and development for the treatment of major diseases and conditions associated with mitochondrial dysfunction, including neurological disorders, metabolic diseases, and other degenerative conditions and diseases.

**FUNDING/KEY INVESTOR(S)** Has raised more than \$50 million since 1996 from Alta Partners, The China Development Industrial Bank, Domain Associates, DRW Venture Partners, Emerging Growth Management Funds, Federated Kaufmann Fund, First Bio Venture Capital, Forward Ventures, Orbitex Health and Biotechnology Funds, the Palladin Group, RBC Capital Markets, and others. In March 2002, MitoKor filed for an IPO to raise up to \$60 million.

**PARTNERS** Pfizer, Chiron, Wyeth, several academic centers

**CUSTOMERS** Pharmaceutical companies

## PUBLIC COMPANIES

NASDAQ

MARKET CAP\*

FOUNDED

EMPLOYEES

## IDEC PHARMACEUTICALS

[www.idecpharm.com](http://www.idecpharm.com)

**IDPH**

**\$10 billion**

**1986**

**800**

Discovers, researches, and develops targeted immunotherapies for cancer and autoimmune diseases. Idec Pharmaceuticals' two approved drugs, Rituxan and Zevalin, are antibodies that treat non-Hodgkin's lymphoma. The drugs act chiefly through immune system mechanisms; they bind to specific targeted immune cells in a patient's blood or lymphatic system. Rituxan, which was codeveloped with Genentech and approved in November 1997, targets infected molecules on the surface of white blood cells, then attaches itself to the molecules, and kills them. Zevalin, which began shipping in March 2002, is intended for patients who no longer respond to Rituxan. Also has several products in Phase III human clinical trials.

**FINANCE** Revenue for fourth quarter 2001 was \$81.7 million, up 78 percent from fourth quarter 2000. Net income for fourth quarter 2001 was \$28.7 million, up 41 percent from fourth quarter 2000.

**PARTNERS** Genentech, Schering, Mitsubishi Pharma, Seikagaku

**CUSTOMERS** Pharmaceutical companies, lymphatic cancer patients

## NEUROCRINE BIOSCIENCES

[www.neurocrine.com](http://www.neurocrine.com)

**NBIX**

**\$1.3 billion**

**1992**

**200**

Discovers and develops therapeutics to treat diseases and disorders of the immune and central nervous systems. Currently has seven drug compounds in various stages of development, from Stage I to Stage III clinical testing, including products that address malignant glioma, solid tumors, type I diabetes, and multiple sclerosis, as well as anxiety, depression, and insomnia. Though Neurocrine Biosciences has not yet released a drug on the market, its NBI-34060, which targets insomnia, is in Phase III clinical trials and is the company's most highly developed drug.

**FINANCE** Revenue for fourth quarter 2001 was \$12.8 million, up 100 percent from fourth quarter 2000. Net loss for fourth quarter 2001 was \$14.6 million, compared with a net loss of \$6.5 million during fourth quarter 2000.

**PARTNERS** Eli Lilly, GlaxoSmithKline, Janssen Pharmaceutica, Taisho Pharmaceutical, Wyeth-Ayerst Laboratories

**CUSTOMERS** Patients with disorders and diseases of the immune and central nervous systems

\*AS OF APRIL 1, 2002

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