



ACCESS

Applied Computational Science and
Engineering Student Support

March 27, 2009
Duane Roth



Founded in 1985 at UCSD

- Research Institutes
- Private Sector
- Government

Commercialization of Research

Entrepreneurialism Education

Advocacy on behalf of Innovation

~ 1,500 companies > \$10 billion in funding



The mission and purpose of CONNECT is to assist in the creation of new science and technology commerce in San Diego



Programs & Affiliates Overview

PERSONALIZED ASSISTANCE	Springboard Core Program	Three to five months mentoring by Entrepreneurs-in-Residence and appearance before a panel of industry veterans, investors and top tier service providers.
	Venture Roundtable	Connecting venture capitalists to early stage venture opportunities in technology, life sciences and clean technology.
	Tech Coast Angels	Network of private investors in early-stage companies.
	Deal Network	Springboard and Venture Roundtable “grads” pitch to private gatherings of individual high net worth investors.
RESEARCH SUPPORT	Technology Transfer Roundtable	Research institutes explore methods to improve technology transfer and business development efficiencies.
	CONNECT-assist	Support of research institutes to recruit key faculty including mobilizing member CEOs and Entrepreneurs-in-Residence and assistance in grant writing where translational capacities are key components.
	Springboard Early Business Assessment	Concept stage inventors in research institutions have their innovations evaluated for commercialization potential by Entrepreneurs-in-Residence.
	The La Jolla Research & Innovation Summit	Leading San Diego scientists provide vision of future to out-of-region venture capital



THE LEARNING CURVE	FrameWorks Workshops	Half-day workshop series of business basics and timely topics.
	CEO Strategy Forum	Mini-YPO for growth CEOs.
	Frontiers in Science & Technology	Lecture series showcasing ground-breaking research efforts.
	MIT[®] Enterprise Forum	MBA-style case studies and high-level networking.
NETWORKING, AWARDS & RECOGNITION	Most Innovative New Product Awards	“Oscars” for local technology product innovation.
	Entrepreneur Hall of Fame Awards	Honoring San Diego’s innovation pioneers.
	Leadership Dinners	Private dinner discussions with thought leaders.
	Connect with CONNECT	San Diego’s leading technology networking event.
CLUSTER INITIATIVES	CONNECT Innovation Report	Regional indicator tracks California innovation economy quarterly.
	Cluster Acceleration	Special initiatives to accelerate emerging San Diego clusters - Stem Cell on the Mesa Meeting, CleanTECH San Diego, Wireless-Life Science Alliance, CONNECT Sport Innovators, Advanced Autonomous Robotics and Cyber Innovation Summit.
PUBLIC POLICY	Public Policy & Advocacy	Initiatives include: intellectual property, state and federal R&D funding, capital formation, workforce development, regulation and trade, recruiting researchers.



CONNECT 2008

- 1,200 volunteers helped more than 1,000 companies
- 300 events attracted 10,000 registrations
- Springboard graduates raised nearly \$100M
- 26 programs delivered coaching, financing, education, recognition, networking, cluster acceleration and advocacy
- Launched CleanTECH San Diego trade organization

BARNEY & BARNEY

IRVING HUGHES
Life is a lease. Negotiate well.

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SHEPPARD MULLIN RICHTER & HAMPTON LLP
ATTORNEYS AT LAW

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GODWARD KRONISH LLP

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SCRIPPS
RESEARCH
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Johnson & Johnson

SAIC
From Science to Solutions™

Pfizer

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DOMAIN
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UNION
BANK OF
CALIFORNIA

AVALON
CAPITAL GROUP

KP
CB
Kleiner
Perkins
Caufield
& Byers

EP
VC
ENTERPRISE
PARTNERS
Venture Capital

FERRING
PHARMACEUTICALS

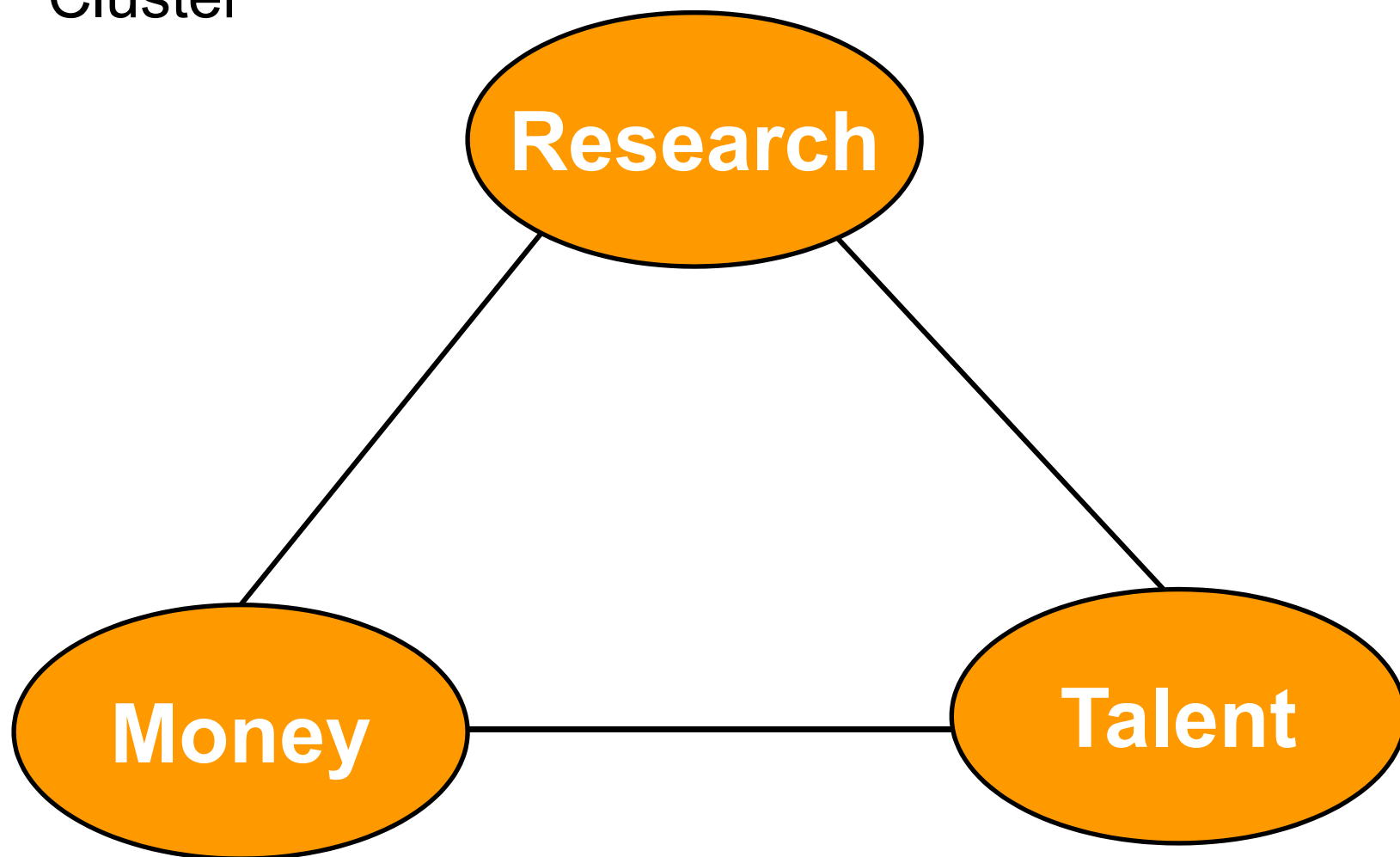
ROTH CAPITAL PARTNERS

AVALON VENTURES



Why San Diego?

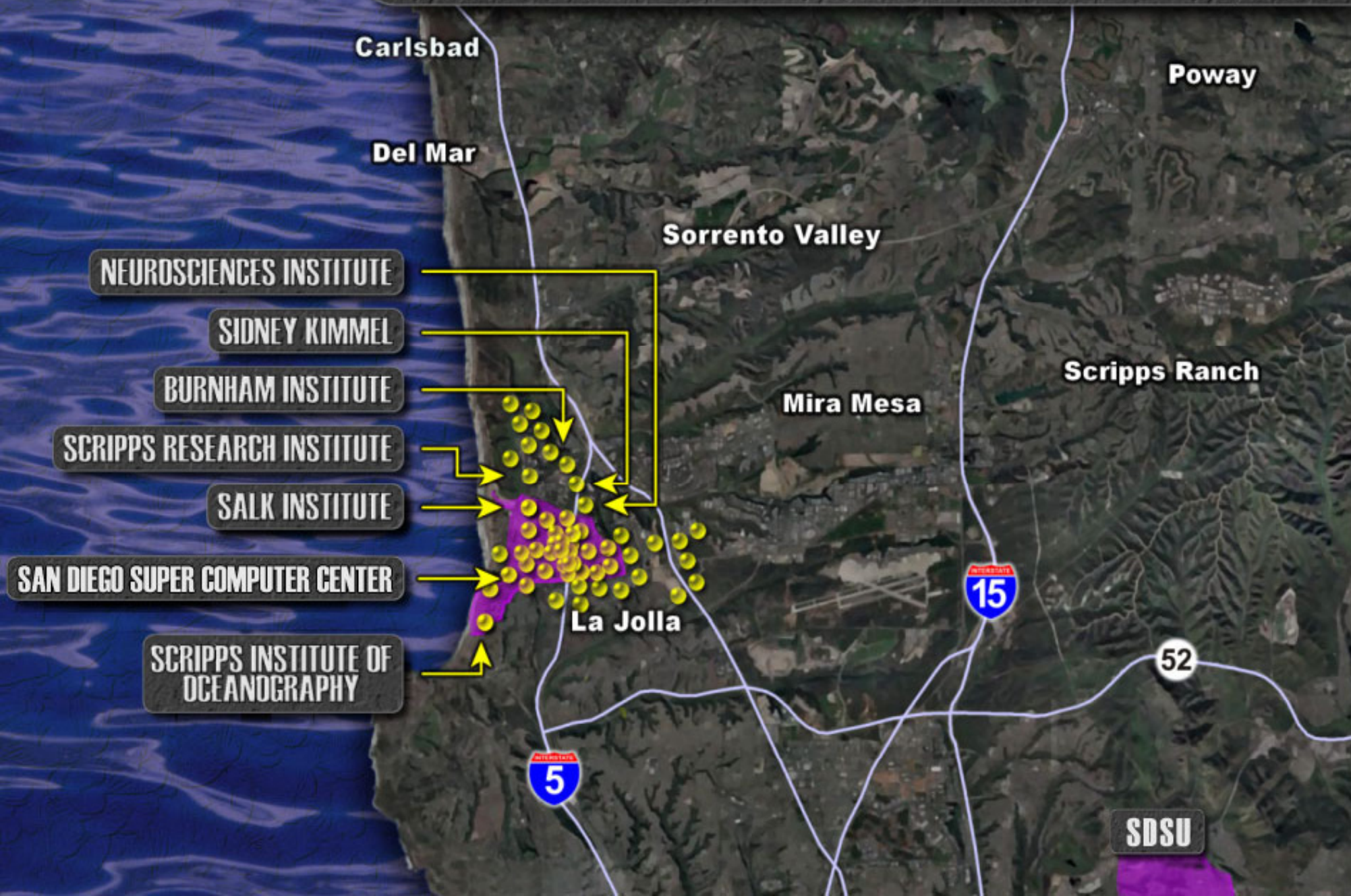
Key Conditions for developing a Technology Cluster



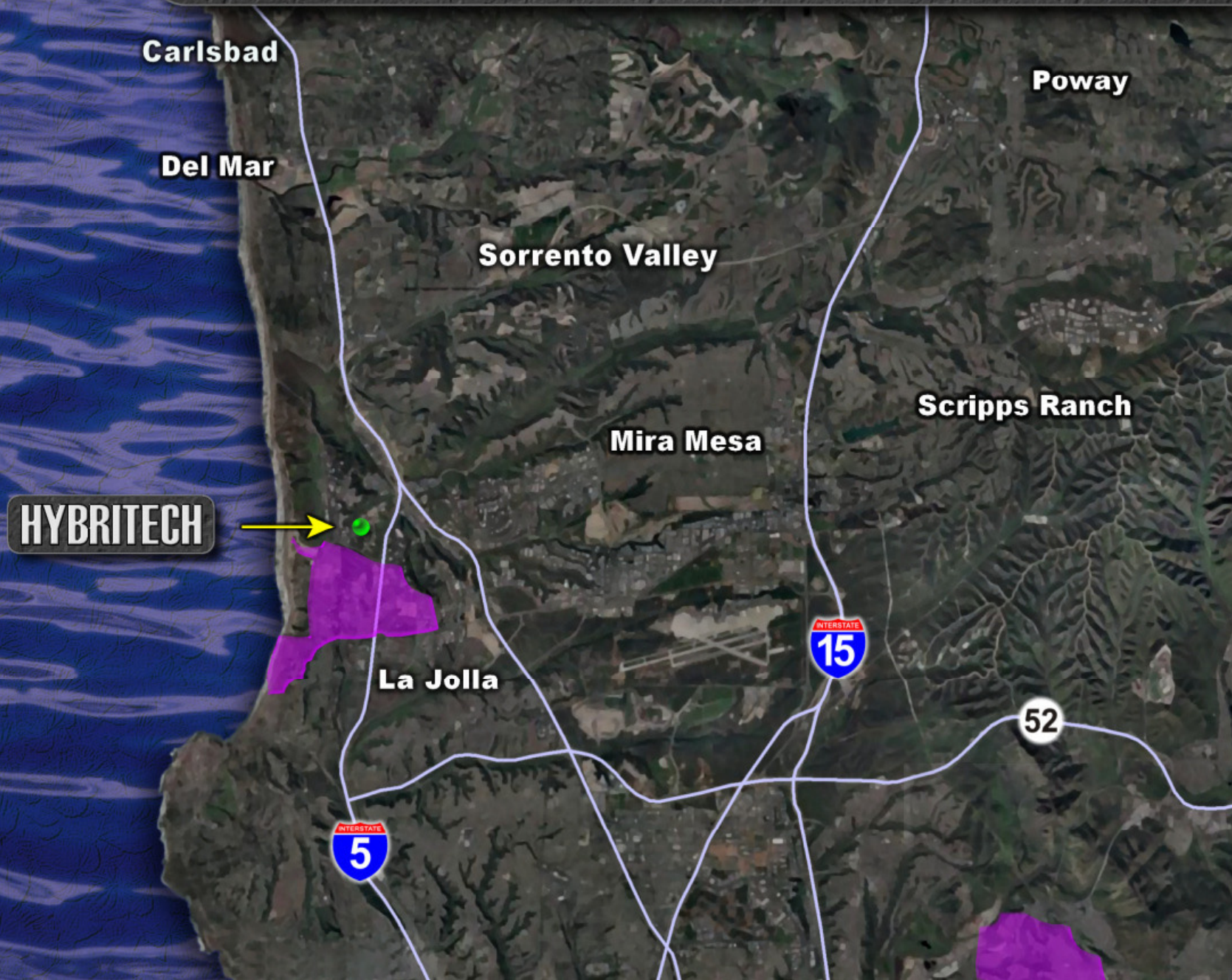
TORREY MESA RESEARCH INSTITUTES



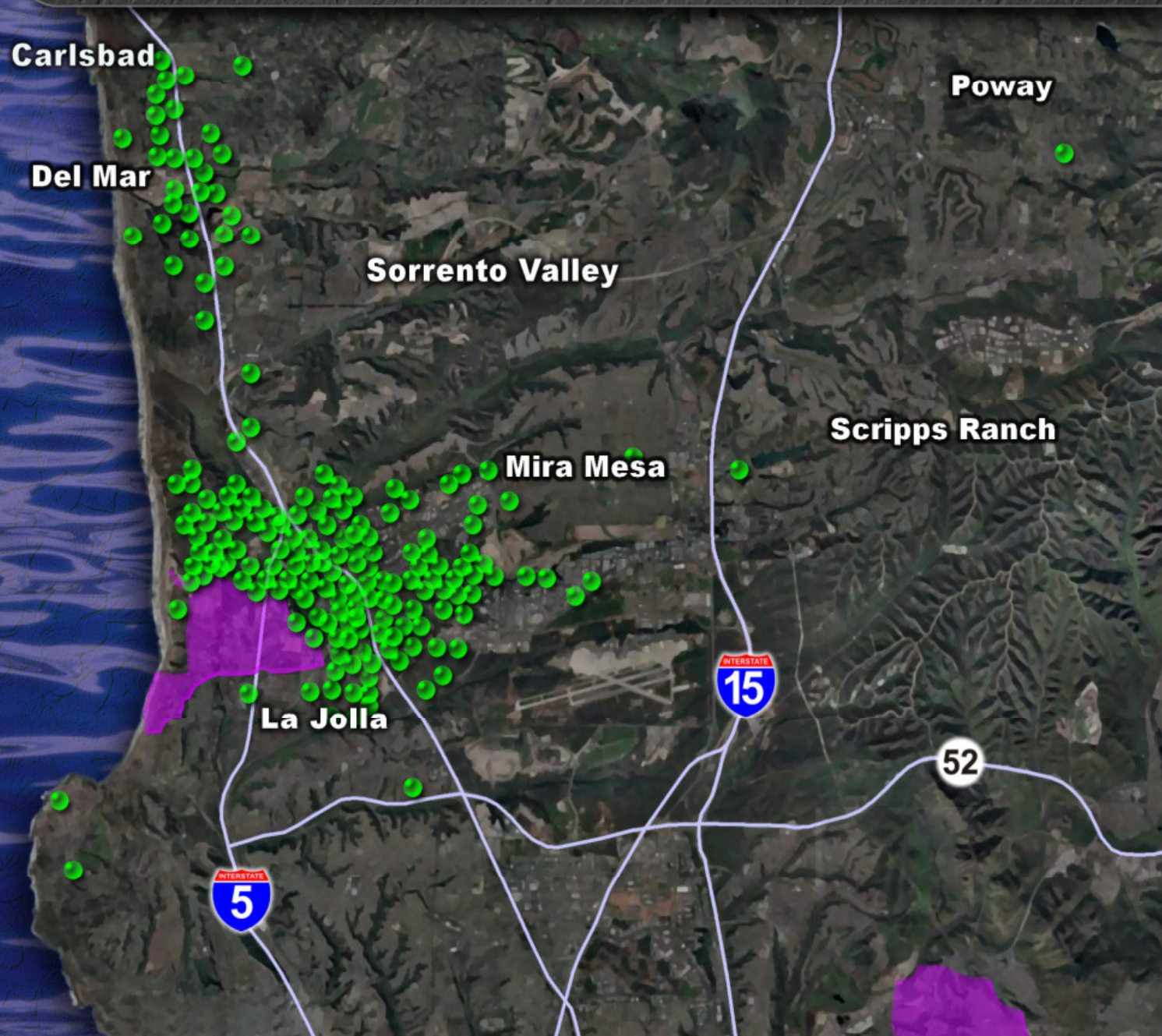
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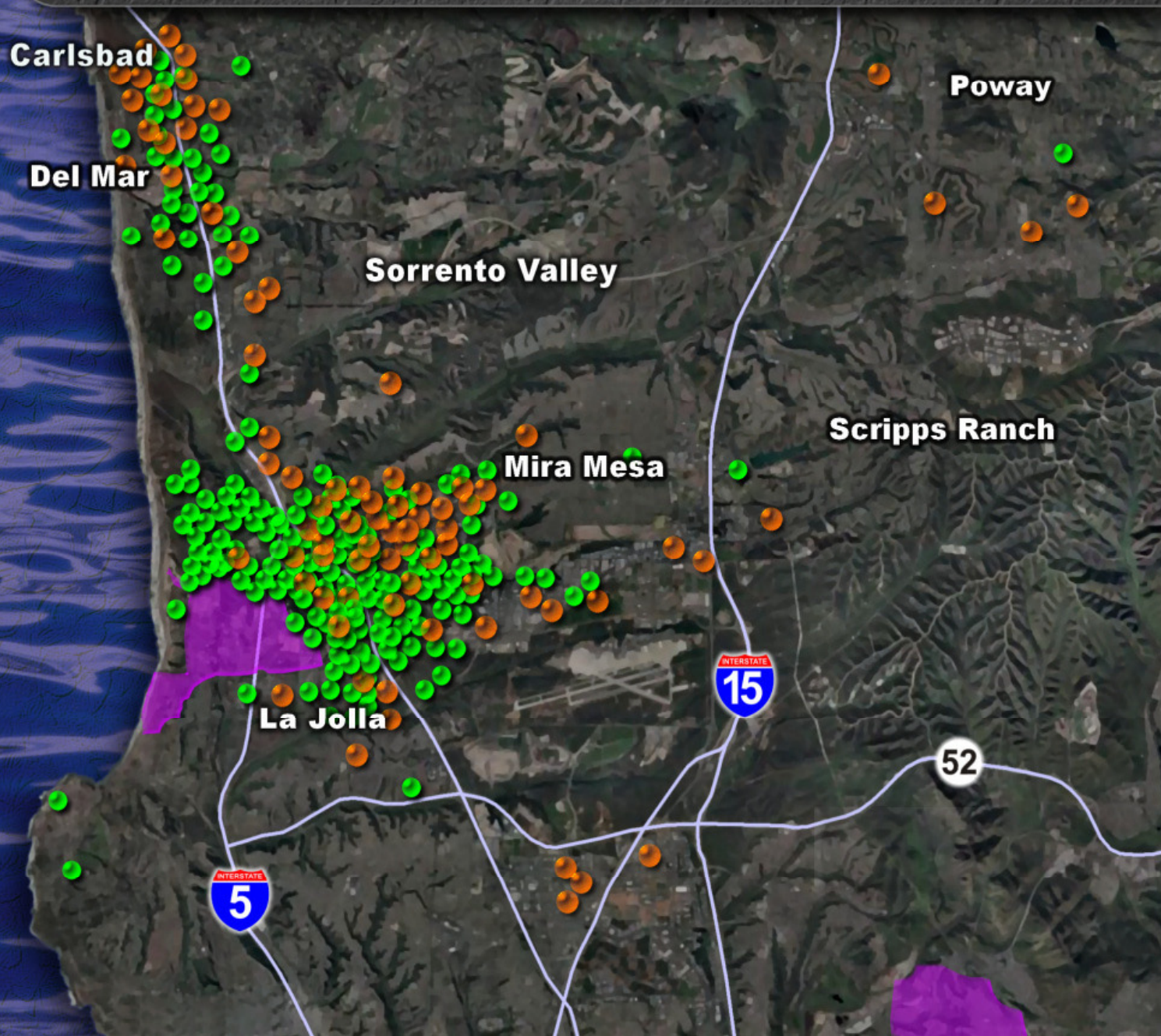
FIRST BIOTECH COMPANY



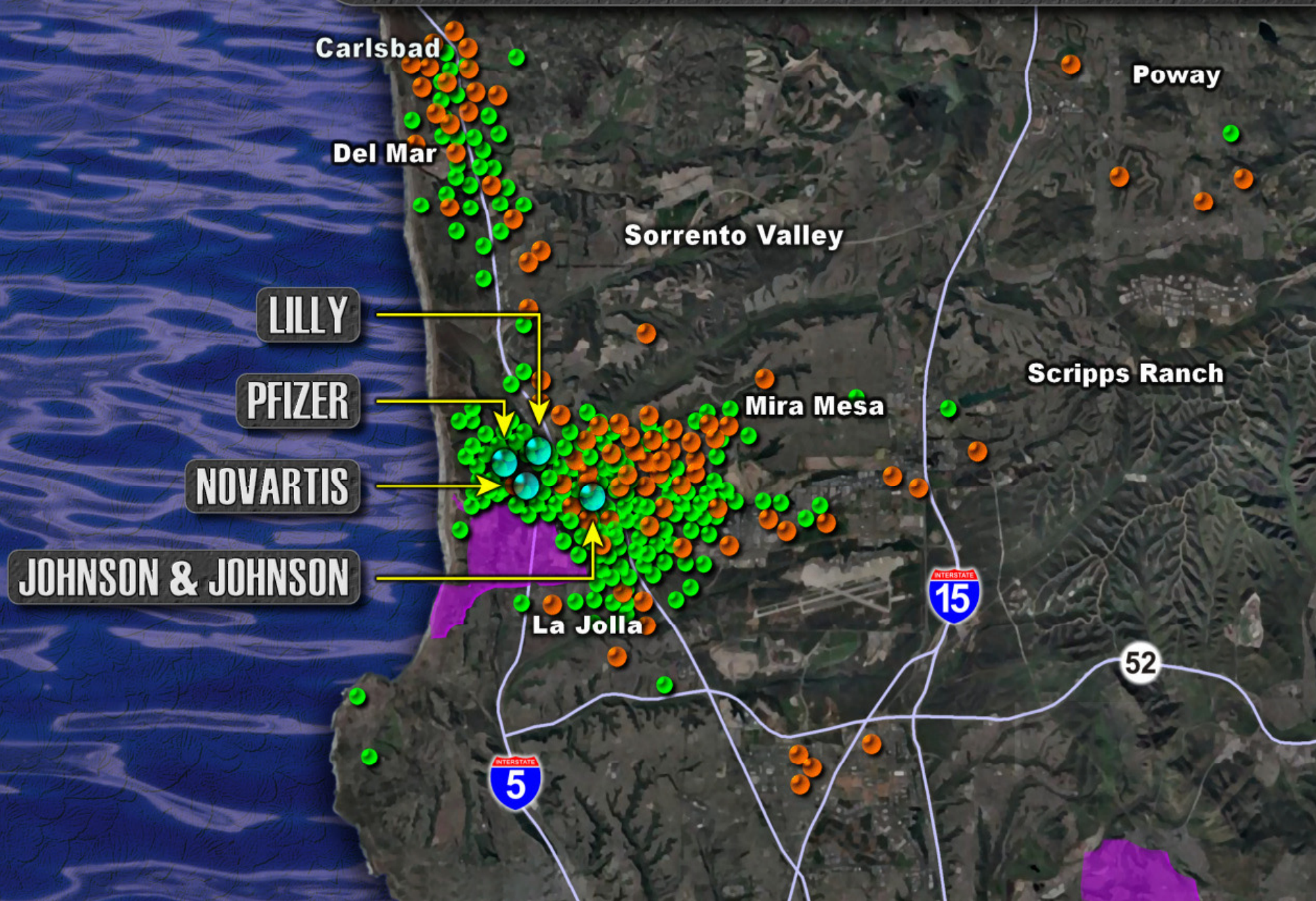
BIOTECH COMPANIES



BIOMED COMPANIES



PHARMA COMPANIES



FIRST WIRELESS COMPANY

Carlsbad

Sorrento Valley

LINKABIT

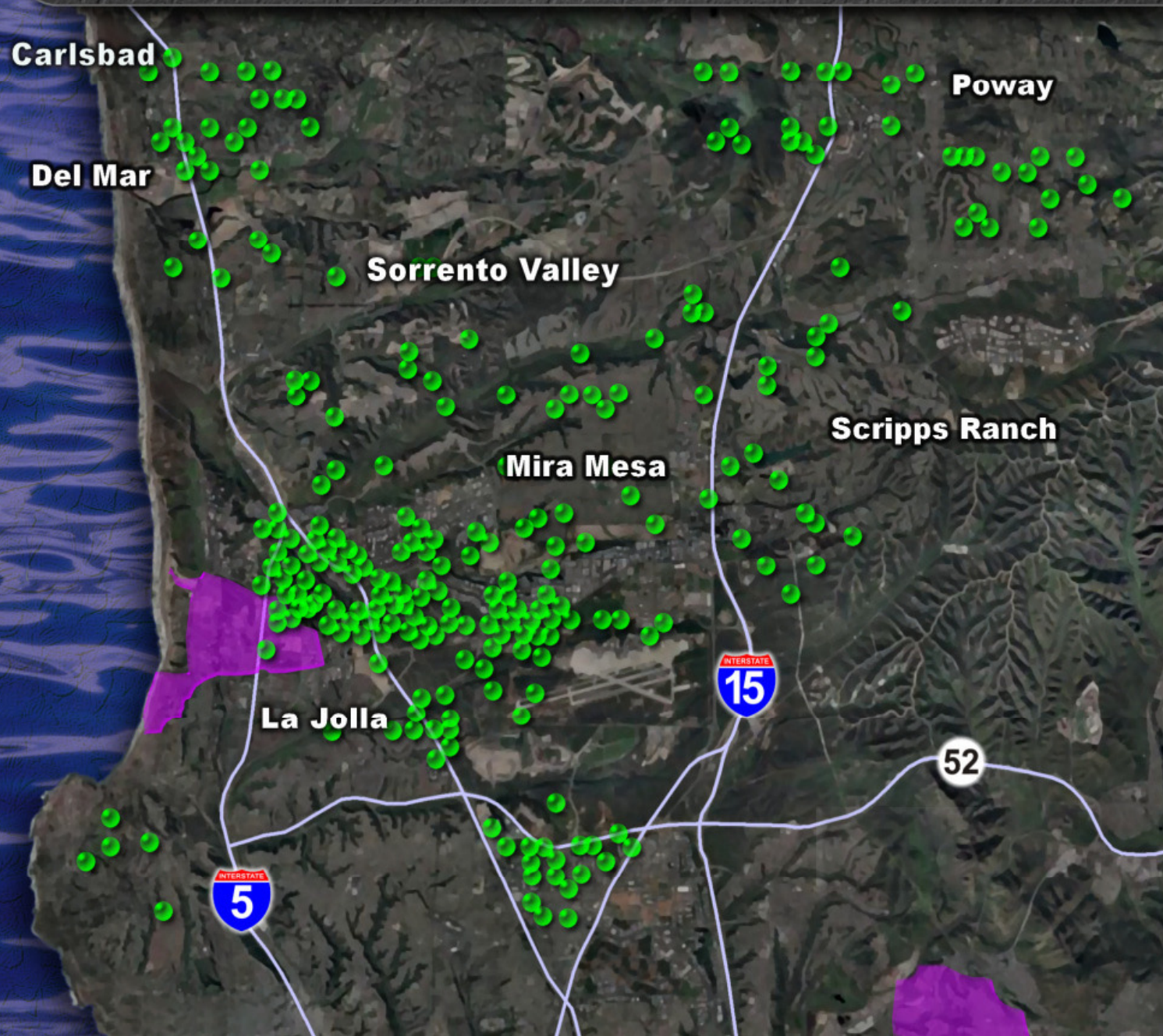
La Jolla

INTERSTATE
5

INTERSTATE
15

52

WIRELESS & COMPUTER SERVICES COMPANIES





Why San Diego?

“The Otterson Culture”

- Help each other – compete in the marketplace
- Region above company
- Political issues matter
 - FDA Reform
 - UC Engineering slots
 - Security litigation reform
 - Animal activists
 - Etc...
- It's ok to try and fail (as long as you try again)





SAN DIEGO STATE
UNIVERSITY



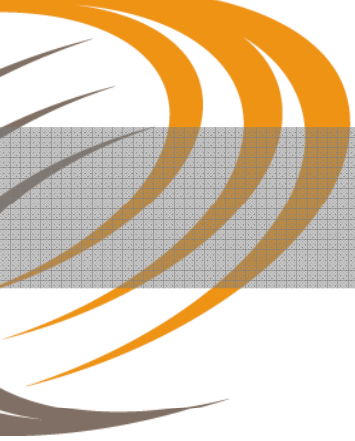
SPAWAR
Systems Center
San Diego





Financing Innovation in America

Duane J. Roth
CEO, CONNECT



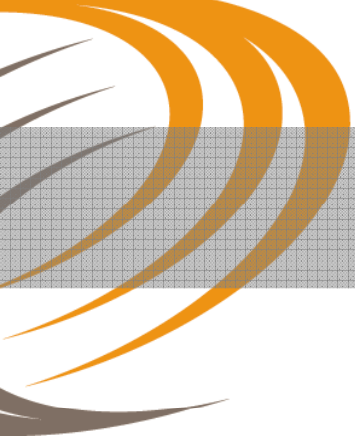
1970s

Fully Integrated

DISCOVERY

DEVELOPMENT

DELIVERY



1980s

Co-Partnering

Co-Develop
Co-Market
Co-Promote

DISCOVERY

Bayh-Dole

DEVELOPMENT

DELIVERY

Grant Funding

Angel Funding

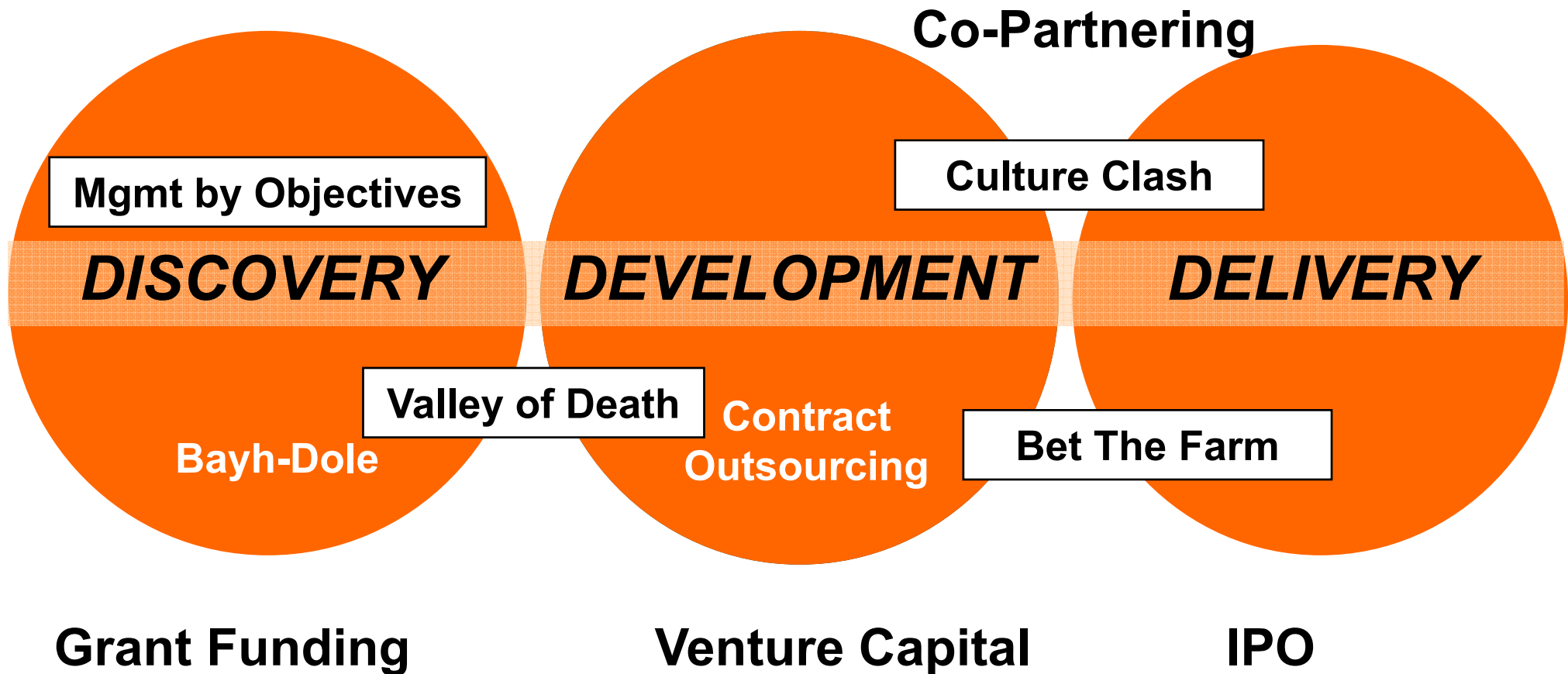
Venture Capital

IPO

Co-Partnering

2000

The Innovation Challenges





Where do Innovations Come From?

Transformations in the U.S. National Innovation System, 1976-2006 Fred Block and Matthew R. Keller

...innovations recognized by *R&D Magazine* as being among the top 100 innovations of the year over the last four decades.

...in the 1970s almost all winners came from corporations acting on their own, more recently over two-thirds of the winners have come from partnerships involving business and government, including federal labs and federally-funded university research.



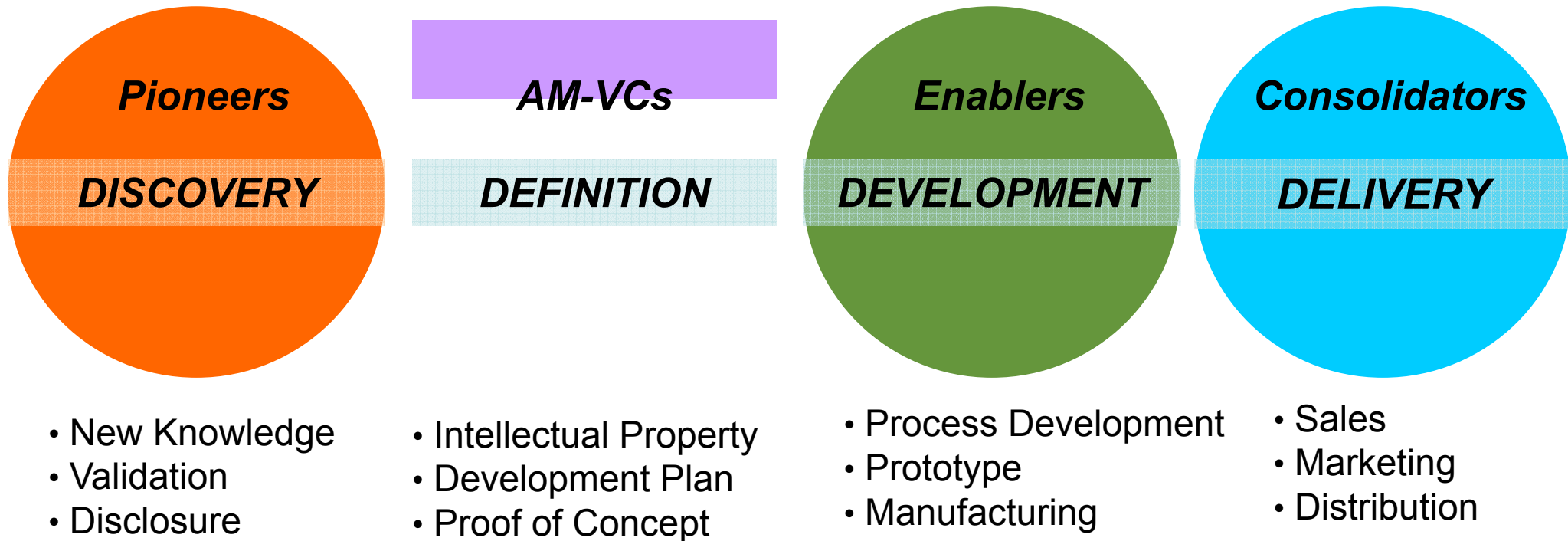
Where do Innovations Come From?

...in 2006 77 of the 88 U.S. entities that produced award-winning innovations were beneficiaries of federal funding.

...approximately two-thirds of the award-winning U.S. innovations involve some kind of inter-organizational collaboration - a situation that reflects the more collaborative nature of the innovation process and the greater role in private sector innovation by government agencies, federal laboratories, and research universities.

2010

Distributed Partnering





CONNECT Innovation Report

A quarterly evaluation of our innovation economy

New Start-ups • Angel/VC Investment • New Patents • Research Grants • Research Employment • Business Survival

- CONNECT-*track*
- New patent applications
- Research grant awards
- Research employment
- Angel and venture capital investment
- Technology business closings



NATIONAL UNIVERSITY SYSTEM
INSTITUTE FOR POLICY RESEARCH

SAN DIEGO BUSINESS JOURNAL

UC San Diego | Extension



ROTH Financing Innovation



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California Newly Formed Innovation Companies

- Software
- Communications
- Bio/Pharma/Med
- Computer & Electronics
- Environmental Technology
- Defense and Transportation
- Recreational Goods

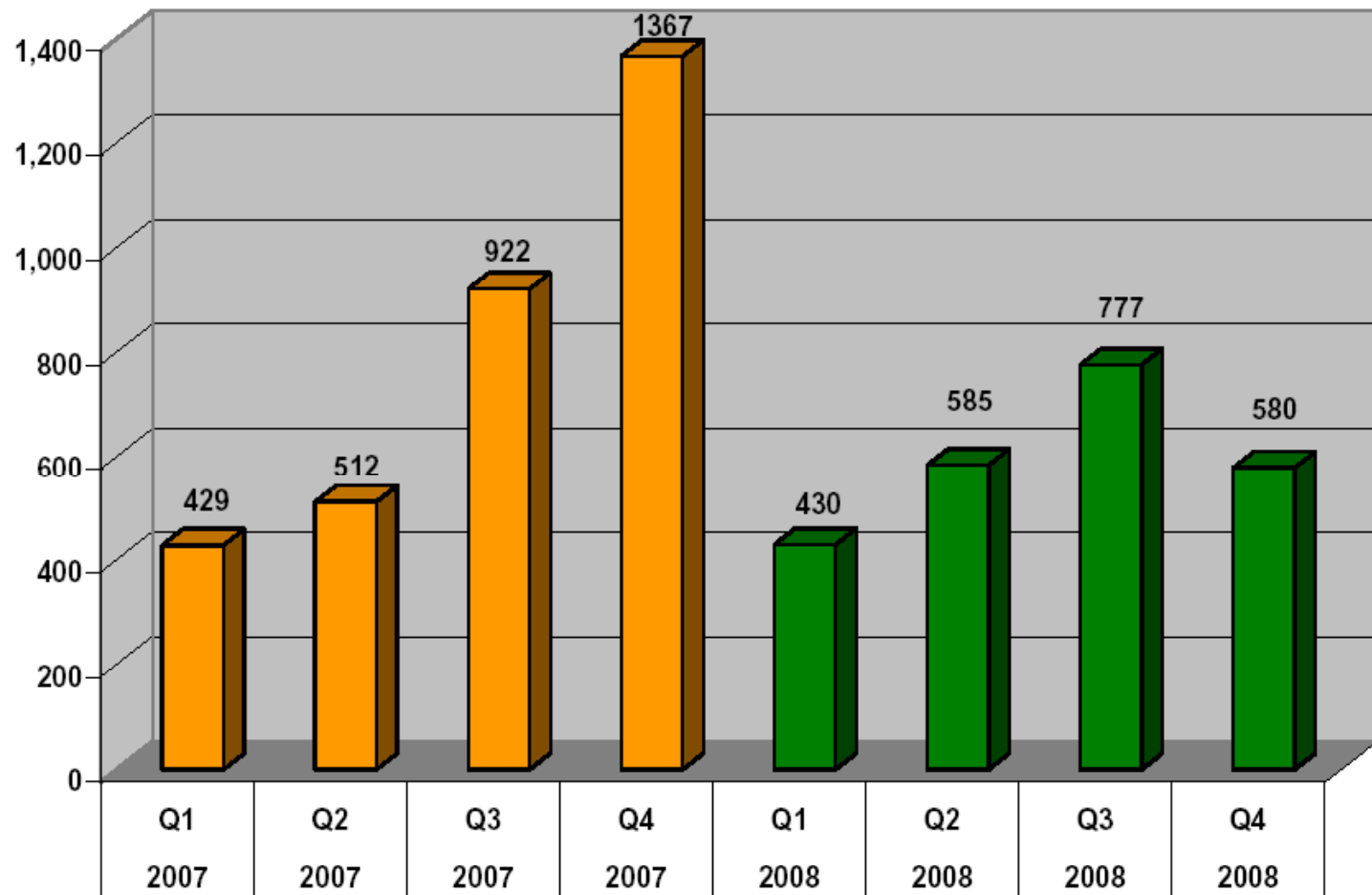
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Growth Dynamics for California Start-ups 2007 - 2008

New Company Start-ups

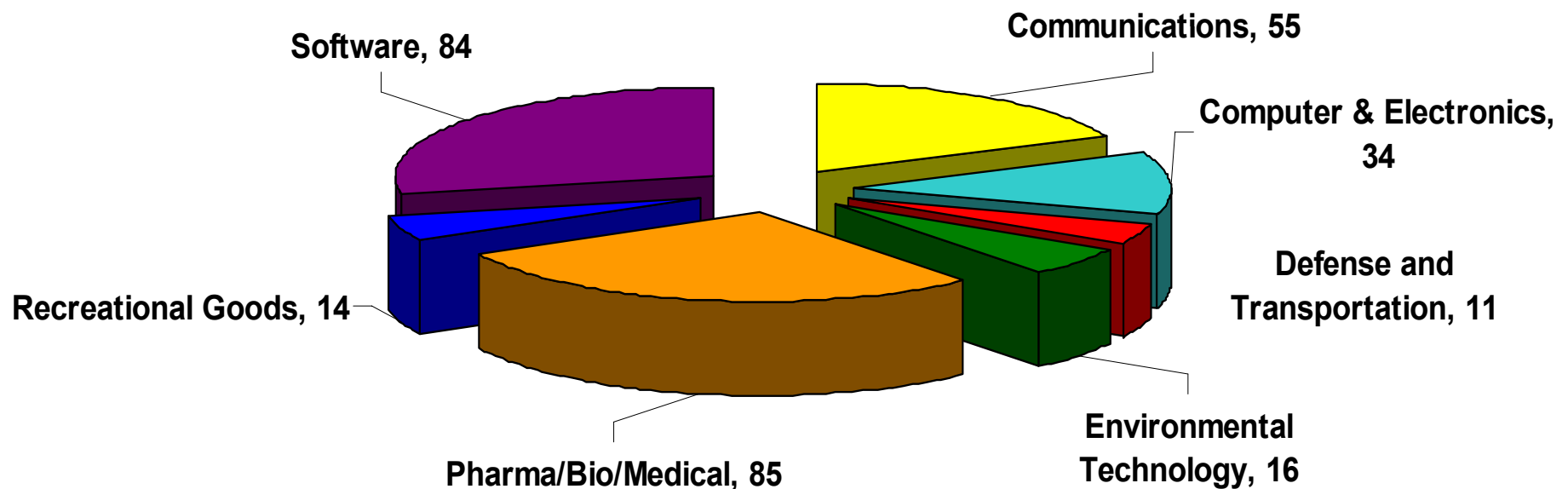


Source: CONNECT; National University System Institute for Policy Research

SAN DIEGO

2008 Sector Distribution

Total New Companies Established = 299



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**2372 New Companies Established in
California in 2008**

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Summary of National Venture Capital Investments

Region		2007	Q1 2008	Q2 2008	Q3 2008	Q4 2008	2008 Total
United States	Total (in billions)	\$30.9	\$7.9	\$7.7	\$7.3	\$5.4	\$28.3
	# of Deals	3,952	988	1,043	959	818	3,808
	Average (in millions)	\$7.8	\$8.0	\$7.4	\$7.7	\$6.6	\$7.4
California	Total (in billions)	\$14.7	\$4.0	\$4.1	\$3.7	\$2.5	\$14.3
	# of Deals	1,626	429	423	403	297	1,552
	Average (in millions)	\$9.0	\$9.6	\$9.6	\$9.1	\$8.4	\$9.2
Northern CA*	Total (in billions)	\$11.1	\$3.1	\$3.1	\$2.9	\$2.0	\$11.1
	# of Deals	1,255	328	319	319	223	1,189
	Average (in millions)	\$8.9	\$9.3	\$9.7	\$9.1	\$9.0	\$9.3
Southern CA**	Total (in billions)	\$3.6	\$0.97	\$0.97	\$0.8	\$0.5	\$3.2
	# of Deals	371	101	101	84	74	363
	Average (in millions)	\$9.7	\$9.6	\$9.6	\$9.3	\$6.6	\$8.8
San Diego	Total (in billions)	\$2.0	\$0.44	\$0.37	\$0.20	\$0.21	\$1.2
	# of Deals	163	40	38	24	24	126
	Average (in millions)	\$12.0	\$11.0	\$9.8	\$8.2	\$8.5	\$9.7

* includes Silicon Valley and Sacramento

** includes Los Angeles County, Orange County, and San Diego

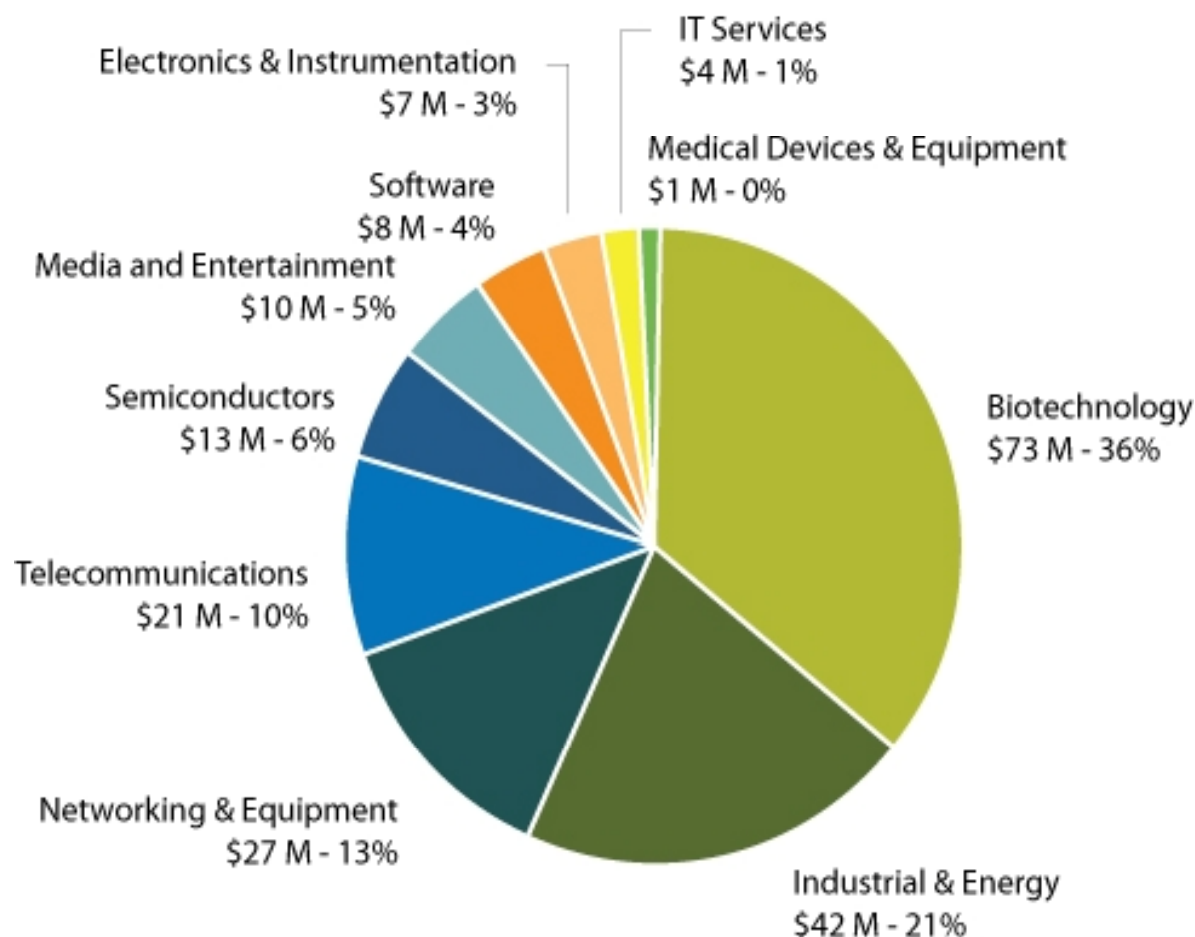
Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree Report; CONNECT

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VC Investments by Industry - San Diego Q4 2008



Source: CONNECT; National University System Institute for Policy Research

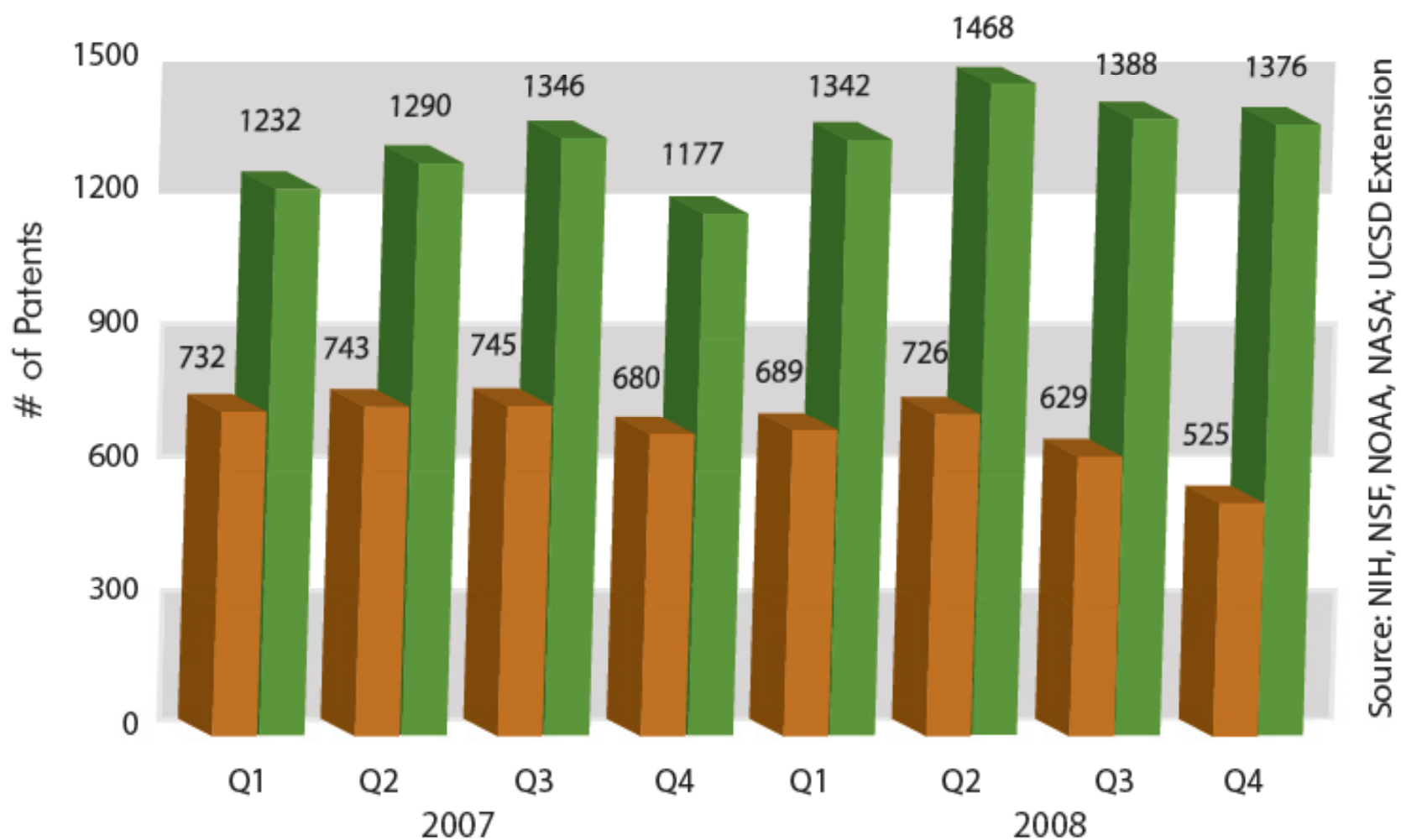
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San Diego Patents

San Diego Applications
San Diego Patents Granted







High-Tech Employment Clusters

<u>Cluster</u>	<u>'07 Jobs</u>	<u>Ave. Wage</u>
Biotechnology	39,985	\$ 84,679
Telecommunications	26,606	\$ 119,392
Defense Manufacturing	20,189	\$ 75,328
Software	14,653	\$ 86,784
Computers/Electronics	13,396	\$ 83,414
 Total High-Tech Clusters	 114,829	 N/A
Total Non-Farm Jobs	1,308,200	\$ 46,350

San Diego Innovation Economy The Critically Important Issues

Research Excellence

- Federal & State Funding
- Translational Funding
- Technology Transfer

Early Stage Funding

- SBIR etc.
- Angel
- Venture Capital

Policy

- Regulation/Reimbursement
- Trade
- Workforce Development
- Intellectual Property

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Growth Dynamics for San Diego Start Ups

