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Allies in Innovation

It may be only a matter of time — and a few strategic maneuvers — before the southern half of California becomes a tech entrepreneurial powerhouse to rival and complement Northern California's Silicon Valley. The economic conditions are right, and the intellectual capital is reaching critical mass. Virtually all that needs to happen is the focusing of the considerable potential that already exists and Southern California could be the next source of transformational technology.

"I mean transformational technology that has impacted the entire planet," said Joe Incandela, UC Santa Barbara professor of physics and Vice Chancellor of Research, referring to the impact Silicon Valley's computing and internet innovations have had on the rest of the world. Incandela is a board member of the nonprofit Alliance for Southern California Innovation, which was founded by entrepreneur and former California insurance commissioner Steve Poizner, and includes several Southern California Universities and a consortium of world-renowned research institutes.

The Alliance recently commissioned a study titled "How Southern California Could Be the Next Great Tech Ecosystem," in which the Boston Consulting Group evaluated how the region stacks up against others in terms of the qualities that could result in the type of flourishing technological and entrepreneurial environment found in Northern California.

The Bay Area outranked all other leading sites overall, with top scores in areas including human capital, financial capital, strong university system, strong corporate environment, adequate infrastructure and a culture conducive to innovation.

However, according to the study, “SoCal arguably ranks second overall,” with high marks in human and financial capital, as well as a strong university system that includes UCSB, four other UC campuses, the California Institute of Technology, the University of Southern California, the University of San Diego, The Claremont Colleges (Harvey Mudd College) and the Sanford Consortium for Regenerative Medicine.

“UC Santa Barbara and these other top institutions have great students and produce really fantastically well-trained people for the modern labor force,” Incandela said. The report bears this out, indicating that the Southern California region produces more tech Ph.D.s per year than any other region in the country. Additionally, he added, the students who graduate in the region are increasingly more likely to stay in the area.

Ahead of the Curve

At UCSB, the seeds of the next major tech ecosystem are already sprouting. Its cutting-edge technological innovations in areas such as bioengineering, solid-state lighting and materials coupled with its strong emphasis on tech entrepreneurship have resulted in more than 100 startups by both faculty and students. The vast majority — such as Inogen, Apeel Sciences, Eucalyptus Systems, Soraa, Inc. — continue to operate today

“UCSB has a long and proud history of spinning out high impact startup companies, dating all the way back to the late 1980s with the formation of Digital Instruments,” said Sherylle Mills Englander, director of UCSB’s Office of Technology & Industry Alliances. “Our region is known nationally for the high quality of our startup companies. The local ecosystem supporting our efforts is getting stronger every year thanks to a supportive community and rich talent pool of business talent, investors and mentors within our community.”

Elsewhere on the UCSB campus, the next generation of tech entrepreneurs are cutting their teeth through the College of Engineering’s Technology Management Program (TMP), where students with a great idea and the drive to see it through are trained to navigate the fast-paced, tech-driven world of technology entrepreneurship. What started out as a business plan competition in the late 1990s has grown to a full-fledged program offering doctorate degrees in technology management, with graduates from diverse disciplines, and startups that have grown

into successful tech businesses. The campus's California NanoSystems Institute, meanwhile, provides the Central Coast's only wet-lab incubator for startups focused on chemical and biochemical technologies.

Big Ideas

"Southern California has a compelling opportunity for leading technology firms that are looking beyond Silicon Valley to access top talent and a greater diversity of ideas and perspectives," said Eric Schmidt, former chairman of Google, who serves on the Alliance's Advisory Council.

And it's not only the talent that's staying. According to the report, so are the startups."Over the past several years we have observed a significant decrease in startups leaving SoCal," said Greg Becker, CEO of Silicon Valley Bank. "We've also seen a substantial inflow of venture capital from all over the world." Add to that high-profile relocations by Silicon Valley heavy hitters Meg Whitman (eBay, Hewlett-Packard) and Peter Thiel (PayPal, Founders Fund, Thiel Capital) to Southern California, as well as tech companies such as Google, Facebook, Snapchat and SpaceX that are staking out locations in the area.

As a next step, the Alliance will hold two technology innovation showcase events, sponsored by Goldman Sachs, Google, and Silicon Valley Bank. The first event will take place on Thursday, May 24 in Silicon Valley at the Computer History Museum, and the second on Wednesday, June 20 at the Luskin Center at UCLA in Los Angeles. Both events will feature Southern California's most prominent thought-leaders and best technology and life sciences innovators working to commercialize their latest discoveries in an effort to connect them with over 200 top investors and serial entrepreneurs from around the state and country.

Finding a Niche

"One of the main reasons Silicon Valley really took off is that they were first at a kind of transformational technology," Incandela said. "They were there from the

start. That’s their niche and they still own it to some extent.” For Southern California to be as successful, it would also need to develop its own transformational technology and build it up big enough to transform humanity, he said.

Fortunately, the world offers up many such quests on a regular basis. As the Alliance ponders over the many worthy challenges that can be met with technology, Incandela is leaning toward fixing environmental degradation, which carries with it effects such as drought, ocean acidification, sea level rise, loss of biodiversity and, in this time of exploding populations, global food insecurity.

“Right now — or up until the recent past, at least — every time you talk about doing something for the environment it usually costs something. You don’t make money doing that,” Incandela said. “But eventually, we’re going to have to do it, to respond to the effects of the increase in population, to loss of biodiversity and so forth. And it’s going to be a global thing, so whoever gets out in front on that technologically with solutions and industries, I think is going to have as big a niche as computing.”

Regreening the Earth — one of the main strategies to combat rising greenhouse gas levels and maximize food production — is no small task, given the shrinking space and the growing population. But, with strategic planning and the power of technology — such as smart agri- and acquaculture, vertical farms powered by LEDs, innovative food waste reduction — combined with existing green technology efforts to minimize waste, move away from fossil fuels and toward more sustainable, energy-efficient materials, human beings may have a shot at a better quality of life for all. And, it’s an endeavor to which everyone can contribute

“There’s a recognition of the importance of diversity and an acceptance here in Southern California that I think has potential for great strengths,” Incandela said. “You always gain when you do that.” UC Santa Barbara’s status as one of two Hispanic Serving Institutions in the prestigious Association of American Universities

aligns with the Alliance’s emphasis on diversity as a source of innovation.

“That’s where I think UCSB is very crucial — because of our strengths, our interdisciplinary atmosphere and our diversity,” Incandela said. “It just comes together in unexpected ways, and you see that in some of the startups that are going out.”

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.