

MAY 2019



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EEK, A Mouse!

COMPUTER HACKING SPURS OPPORTUNITIES IN PROTECTING ONLINE INFORMATION FROM PERPETRATORS.

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WORDS BY Joe Wallace, CEO

Risks associated with sensitive, personal information in computer databases and the publicity surrounding compromised systems compel businesses and governments to mobilize resources to mitigate the impacts of security breaches.

There is one upside to the rampant cases of cat and mouse: opportunities for cybersecurity entrepreneurs.

The United States Bureau of Labor Statistics has predicted a growth of 28 percent in information security analyst jobs, compared to a growth rate of 13 percent for computer occupations in general and 7 percent for all occupations. Sweetening the pot for those inclined to jump on the bandwagon, the bureau reported the 2017 annual median wage for information security analysts at \$95,510 and the annual median wage for all occupations at \$37,690.

The dangers inherent in today's recordkeeping methods suggest a lucrative field for inquisitive people with technical talent and a penchant for challenges arising on a daily basis. According to the research firm Cybersecurity Ventures, the position of chief information security officer

ANALYSTS IN DEMAND TO PROTECT DATA Cyber attacks have grown in frequency, and analysts will be needed to come up with innovative solutions to prevent hackers from stealing critical information or creating problems for computer networks. Banks and financial institutions, as well as other types of corporations, will need to increase their information security capabilities in the face of growing cybersecu-

use of electronic medi cal records, ensuring patients' privacy and protecting personal data are becoming more important. More information security analysts are likely to be needed to create the safeguards that will satisfy patients' concerns

> urce: United States Bureau Labor Statistics

PEERING INTO THE CRYSTAL BALL

Cybersecurity Ventures predicts that 100 percent of large companies globally will have a chief information security officer position by 2021 and a total of 3.5 million cybersecurity job openings. The research firm further predicts that, within that time frame, cybercrime will cost the world \$6 trillion

the world \$6 trillion annually — twice what it cost in 2015. "Cybersecurity is a national concern," Coulson says. "This program will help improve the pipeline of critically needed cyber skills coming from the Coachella Valley. CSUSB is helping provide national leadership in

> these initiatives." Coupling cybersecurity with entrepreneurship in the digital iHub surely will diversify our communities' economy with high-wage, year-round jobs. ■

commands a six-figure salary. The Coachella Valley

stands poised to capitalize on this trending need of

Partnership's Palm Desert Digital iHub will host a

to hospitality and agriculture.

cybersecurity program offered by the Palm Desert

solutions. Opening this fall, Coachella Valley Economic

campus of California State University, San Bernardino.

That program could result in high-tech jobs that pay

thriving wages in a region known for lower wages tied

"The addition of a state-of-the-art cybersecurity

program will greatly enhance our Palm Desert campus

and give our students much-needed experience and

opportunities that will help them after graduation

as they start their careers," CSUSB president Tomás

Morales says. "We believe the cybersecurity program

CSUSB won \$749,000 in the National Science

Community College Cyber Pilot Program to recruit

colleges to ultimately work in federal agencies and

information and decision sciences and director of

the CSUSB Cybersecurity Center. Under the grant,

needs of cybersecurity and government service.

the center will mentor students, with an emphasis on

veterans and adults who need "retooling" to meet the

Foundation's \$4.3 billion, three-year grant for a

and mentor 30 students from five community

departments, says Tony Coulson, a professor of

will serve as an economic boost to the Coachella Valley."

PARTICULAR MATTER

GEOGRAPHIC INFORMATION SYSTEM DATA PROVIDES BUSINESSES FAR GREATER DETAIL THAN THAT AVAILABLE FROM COUNTIES AND STATISTICAL AREAS.

WORDS BY David Robinson, GIS coordinator

The Coachella Valley's entrepreneurial spirit, resort vibe, spectacular setting, and lower cost of living compared to other desirable places in Southern California have attracted you to set up business here. If you haven't done so already, you should gather local economic and demographic information to understand your potential desert-based market.

Much valuable documentation is recorded at the county or metropolitan statistical area level. Geographic information system capabilities allow Coachella Valley Economic Partnership to aggregate important data within much more confined boundaries, sometimes down to an area of several blocks.

> Corchella Valay Area = 1,640 so. mi Pupulation = 240,450 Population = 2,424,790

The level of detail available for determining the viability of a business model and making informed decisions could be crucial: the greater the granularity of the data, the deeper the level of detail.

The U.S. Census Bureau conducts an annual survey that collects facts about business location and size, industry concentration, wages, etc. While the census reports some data down to the city level, it can be very difficult to access and utilize. Rural and unincorporated areas may be overlooked altogether.

The U.S. Department of Commerce Bureau of Economic Analysis uses census statistics to determine widely used business metrics like gross domestic product and regional price parity. But such numbers are reported for counties or metro regions, not microcosms.

The United States contains 3,142 counties. With so many recognized regions within the states, one can see that they can be useful for comparing economies. But Eastern states have a disproportionate number of counties compared to the West, where sparse populations resulted in creating counties with very large landmasses. Virginia has 14 counties with areas smaller than 10 square miles. In stark contrast, Riverside County covers 7,300 square miles. Economic factors reported by county in Virginia hardly compare to similar data reported in California.

The U.S. Office of Management and Budget and the Census Bureau use metropolitan statistical areas for economic analysis. These areas center on a core large city (or a combination of cities, such as Dallas-Fort Worth) with influence on and close economic ties to surrounding towns and regions. With the rapid urbanization of the United States, MSAs characterize the growing economic loci of urban areas. But, as with counties, using MSAs as comparative references can prove very tricky.

The Coachella Valley lies within the Riverside– San Bernardino–Ontario MSA. Encompassing 27,408 square miles, it marks the nation's largest MSA by size. By population, it ranks 13th, with an estimated 4,597,980 residents. To put that into perspective, the Coachella Valley comprises only 6 percent of the land area of its MSA and 10 percent of its population. If a prospective business analyzes MSA data, it will find that information unrepresentative of the unique economy of our desert communities.

Prospective and existing companies can harness the powerful modeling and statistical tools of CVEP's GIS Services to make wellinformed and fact-driven business decisions to help them thrive in one of the world's best places to live.

At 7,303 square miles, Riverside County ranks 26th in size in the United States. The Coachella Valley covers roughly 1,660 square miles and has 460,450 residents, representing about 19 percent of the county's population of 2,424,790.



A GOOD WORD FOR DISRUPTION SETTING A "NEW NORMAL" OPENS MARKETS AND THE DOOR FOR FURTHER INNOVATION.

Juan Guzman, founder and chief visionary officer WORDS BY Laura James, director of economic development



When bulky mainframes ruled the computing world, who would have conceived of a device that fits in your back pocket, acting as phone, camera, mobile workstation, music player, and more? Steve Jobs and the company he formed, Apple, helped to fundamentally change the way we obtain and share information.

Twenty years ago, would you have imagined quick, free delivery with the click of a mouse? Jeff Bezos' Amazon has changed the way we shop.

Celebrity-entrepreneur culture might lead us to believe that "disruptive" technologies hatch only in Seattle or Silicon Valley. One of the exciting challenges of operating a business incubator in Greater Palm Springs is trying to identify the locally created technologies that someday may alter entire industries.

Juan Guzman, founder and chief visionary officer of Palm Springs iHub portfolio company Nautica I/O, set out focusing his software development business on people, quality, and continuous improvement. It wasn't until his small company was presented with the opportunity to develop a consumer-facing health and wellness platform that he recognized his role as a potential disruptor.

CLUES AND CUES How can you tell

that an industry is ripe for disruption? Look for the biggest most seemingly problems that people face. They're often the have seen multiple insufficient attempts at resolution. Current industries that beg for disruptive solutions include healthcare, higher education, housing, waste managemen and recycling, and transportation. You'll notice that high costs industries and that, feel there must be a better way to operate.

ROOTS

"Disruptive innovation" was coined by the Kim B. Clark professor of business dministration at Harvard Business School and author of **Disruptive Class: How** Disruptive Innovation Will Change the Way the World Learns. The terminology refers to "a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually competitors." (from Foundation's The Encyclopedia of Human-Computer *Interaction*, 2nd Ed.)

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Though Guzman prefers the term "visionary" to "disruptor," he nevertheless appreciates the freedom to work on the unknown, and the vast scope of the project does not deter him.

"The biggest appeal for a potential disruptorvisionary is solving problems in new and creative ways — the feeling of being able to create without limitations," Guzman says.

Nima Pauline, founder of Palm Springs iHub companies Eco Culture Manufacturing and EcoSustineri, has spent a lifetime caring about the environmental damage created by manufacturing, particularly in the fast-fashion industry. To address unsustainable manufacturing processes, she introduced a proprietary software platform that enables companies to quantify their carbon footprints.

Giving manufacturers a financial incentive to be attentive to carbon outputs would establish a new norm — one in which those outputs are routinely measured, traced, and offset. Pauline believes that, under this scenario, the guiding rule of business success will be "survival of the most sustainable." Finally, companies will care about sustainability initiatives as much as Pauline has all along, and she'll be ready to provide them with the quantification technology that they need.

Portfolio companies within the Palm Springs iHub are working toward goals and profits in numerous fields, and not all set out with the intent of disrupting an industry. But when a new idea has the power to make life better, safer, or easier for people, it grows. Change happens incrementally, sometimes imperceptibly. Then, before you know it, there's a new normal.



LOGISTICAL DREAM **COACHELLA VALLEY'S REGIONAL AIRPORT OFFERS POTENTIAL AS AN INTEGRATED CENTER** FOR TRADE.



WORDS BY Agustin Aragon, economic development associate

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At Coachella Valley Economic Partnership's Greater Palm Springs Economic Summit last November, KHA Architects of Palm Desert presented a video that reinforces CVEP's advocacy for tapping local resources to fortify our communities' business base.

Titled Back From the Future, the CGI animation envisioned the region in 2050 and the achievements that took place starting in 2018. Among the highlights was Jacqueline Cochran Regional Airport at the Coachella Valley's southeast end.

The video's narrator refers to the airport in 2050 as an "automated, intermodal center of trade" that "has become the model for integrated logistics" and a "logistics management center for the Southwest, where upgrades in secure communications are assisted with technology developed through the cybersecurity program in Palm Desert" (see page 4).

Owned by Riverside County since 1948, the regional airport (originally called Thermal Airport) was developed in 1942 for military use during World War II. Now managed by Riverside County Economic Development Agency, the airport - renamed in 2004 to honor

In its video *Back* From the Future, KHA Architects of Palm what could happen in another 30 years, depicting Jacqueline Cochran Regional Airport as an integrated hub of business

pioneering aviatrix Jacqueline Cochran caters to business-class, private aviation aircraft and seasonal charter airline service by JetSuite X.

The main runway measures 8,500 feet in length and 150 feet in width, giving it capability to support C-III aircraft, which includes Boeing Business Jet 2 and the Gulfstream G-V. This regional airport is ideal to support air carriers and air-cargo operations such as FedEx, DHL, and UPS.

"Airports are economic engines for our communities, and it is a key strategy of ours to capitalize on the opportunities around them to promote further investment, jobs, and economic development for Riverside County and our communities," says Riverside County Fourth District Supervisor V. Manuel Perez.

Regional airports similar in size and layout that have successfully transformed into logistics hubs include Mobile Downtown

Airport in Alabama and Sacramento Mather Airport in California.

Centrally located in Southern California, Jacqueline Cochran Regional Airport falls within a four-hour drive of major metropolitan markets such as Los Angeles, Phoenix, and Las Vegas. It offers easy access to highway and rail systems and the possibility of same-day access to Mexican trade gateways and West Coast ports. Furthermore, the southern region of the Coachella Valley is designated as an Opportunity Zone. Such zones function as an investment tool derived from the Tax Cuts and Jobs Act passed in December 2017. The designated zones are intended to trigger economic development by providing tax benefits to investors. Visit opzones.ca.gov for more information. From its inception, Coachella Valley Economic Partnership has worked with government and community leaders to bolster economic vitality and encourage business attraction to the region. The vision to transform Jacqueline Cochran Regional Airport into a logistics hub is a perfect example of job diversification and creating a year-round sustainable economy.





REMARKABLE RESULTS UNEXPECTED TECHNOLOGY HUBS ARISE FROM CONCERTED EFFORTS AND INVESTMENT.



WORDS BY Joe Wallace, chief executive officer In 2011, in response to job losses during the Great Recession, California established the framework for six innovation hubs to serve local economies. Palm Springs, with the cities of Desert Hot Springs and Cathedral City as partners, opened one of those hubs. After seven years, the Palm Springs iHub has helped more than 70 startups in the technology industry and met or exceeded every goal set at the hub's founding.

Palm Springs could be considered a surprising place to innovate, but so are other areas of the country that have transitioned to tech-based economies offering thriving careers.

Austin, Texas

At the end of World War II, Texas' state capital had a population of 100,000 and little more, economically speaking, than the University of Texas to its credit.

Today, Austin serves as the center of a metro area of more than 2 million people and is known worldwide as a magnet for tech companies.

The 1982 establishment of Microelectronic and Computer Technology Corporation served as a catalyst to attract branch offices from Silicon Valley companies. By the early 1990s, MCTC was the largest computer industry research and development center in the country and began generating spinoffs. Apple, 3M, Cirrus Logic, Amazon, Applied Materials, and Nvidia opened offices in Austin. Tellingly, a cluster of high-tech companies in the city is known as Silicon Hills.

Deliberate efforts of local leaders transformed Austin into a bustling metropolis, with media distinctions such as "the most wired city in Texas" and "the greenest city in America." By leveraging investment dollars, the resources of a worldclass research university, and businessfriendly legislation, Austin has become a prototype "city of the future," where work and life can be lived to the fullest.

Research Triangle Park, North Carolina

With a decline in North Carolina's established markets of agriculture, textiles, and furniture in the 1950s, a trio of the state's educational institutions - Duke University, North Carolina State University, and the University of North Carolina — centralized their efforts to keep graduates from leaving the state for job opportunities. Today, Research Triangle Park is the largest research and development park in the country, with 7,000 acres and 22.5 million square feet of developed property. It is home to 250-plus companies - including GlaxoSmithKline, the National Institute of Health, and Cisco Systems – that, combined, employ more than 60,000 people and account for more than 3,000 patents.

Regional collaboration and staying the course during the park's early days

2019 GREATER PALM SPRINGS

allowed Raleigh-Durham to reap the benefits of a world dependent on advanced technologies.

Huntsville, Alabama

RANKINGS The Innovation Cities Program by 2thinknow analyzes cultural assets, human infrastructure, and networked markets

to measure "pre-

conditions for an

innovation economy

in cities worldwide.

In the 2018 index for

the Americas, Austin

ranked 16 (29 globally)

Cities at the top of the

list are more expected

indicate position in

Americas/the globe):

San Francisco–San

Jose (1/3), New York

City (2/4), Los Angeles

Toronto (5/8), Chicago

(3/5), Boston (4/7),

(6/11), Dallas–Fort

Worth (7/13), Seattle

(8/15), Houston (9/17)

and Atlanta (10/20).

For 2018, Tokyo took

over the top slot,

In naming the 10 best cities to pursue a STEM career, livability.com placed Huntsville, Alabama, on the top of its list last year. This accolade speaks to a new era for the town's reputation as "Watercress Capital of the World."

Huntsville's growth in the technological arena dates back to 1941, when the United States government established Redstone Arsenal there to conduct research and development on missiles. In 1950, about 1,000 employees transferred to Huntsville from Fort Bliss, Texas. From a population of 13,000 in the 1950s, the city has grown into a metro of almost 450,000 and is home to a University of Alabama campus offering engineering degrees through the doctorate level. Entrepreneurial activity has filled Cummins Research Park, the nation's second-largest research park. Last year, Computing Technology Industry Association named Huntsville among the country's top 10 tech towns.

Greater Palm Springs, California

In addition to establishing an innovation hub, the Coachella Valley has doubled down on the employment mainstays of hospitality, retail, and entertainment. By any measure, deliberate actions to expand the businesses associated with tourism have succeeded spectacularly.

With programs in entrepreneurship and cybersecurity coming this fall to the Palm Desert campus of California State University, San Bernardino (concurrent with the establishment of a second innovation hub), it is time for local leaders to make the kinds of investments and efforts that put the aforementioned cities on the technology map.

Could marketing budgets comparable to what is spent on local tourism grow and attract tech-based businesses? Would investments in technology infrastructure put the Coachella Valley on a path to being a national business leader? Would landing a research and development center that concentrates on the Internet of Things land us on a list of places to start technology businesses?

The answers to these questions rely on collaboration among local citizens, businesses, and governments. ■

THE WAYS AND MEANS TO GO FAR FARGO SHOWS WHAT THE FUTURE CAN HOLD FOR COMMUNITIES WITH INSTITUTIONS OF HIGHER EDUCATION. **R** FILSFLARED FL EDAFIETY FLALL Among North Dakota State University's college categories, the highest enrollment falls in engineering, followed by health professions and science/mathematics.

VORTH DAKOTA STATE UNIVERSITY

WORDS BY David Robinson, GIS coordinator



The year is 2034. The Coachella Valley celebrates its hard-earned, national recognition as an award-winning hub of technology and innovation. Even initial skeptics marvel at the diversification of the economy, the availability of high-paying jobs, and the influx of the young and highly educated sharing the rewards of this entrepreneurial renaissance.

Local leaders and organizations like Coachella Valley Economic Partnership have a winsome spirit. After all, they helped sow the seeds for this transformation. They stood steadfast, patiently confident that visionary actions set in place 15 years ago would stimulate business in the desert.

CVEP led the way in orchestrating steps crafted specifically for the valley's unique attributes. To the surprise of many, the community that CVEP most wanted to mirror was Fargo, North Dakota.

When the first speaker at CVEP's 2018 Greater Palm Springs Economic Summit was introduced, many in the audience looked confused. In his opening remarks, Dean Bresciani, president of North Dakota State University in Fargo, played on this puzzlement, proclaiming, "When you hear Fargo, your immediate reaction must be, 'Wow, a place just like here!'" But the audience quickly learned similarities between the two regions.

one of best places to live? Demographic data shows that it does. The city was the 17th-fastest-growing in the United States from 2010 to 2017, with a 15.3 percent increase The median age in Fargo is 34.2 years, compared to 41.1 in the Coachella Valley Fargo's 2018 mediar \$58.135 ranks a bit lower than the U.S. median of \$61,000, but the cost of living there is much lower than the national average. By comparison, the

DO THE MATH

all the hype and

Does reality lie behind

hyperbole about Fargo, North Dakota, being

is \$54,356. In 1980, 13.7 percent of Fargo residents held bachelor's degrees. Now more than 27 percent do. And the economy has greatly diversified since 2000, with large gains in white-collar and professional employment.

median income for

the Coachella Valley

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Fargo has transformed itself into a 21st century technological and entrepreneurial hub and is frequently cited as one of the hottest towns in the nation for young people. Multiple media outlets (livability.com, CNBC, cnnmoney.com, nerdwallet.com, *Forbes, Business Week*, and more) have ranked Fargo among the best U.S. cities to live, work, and start a company.

Like the Coachella Valley, Fargo's economy historically centered on agriculture. North Dakota State University was founded in 1890 as North Dakota Agricultural College. And, like the Coachella Valley, the arrival of the railroad put Fargo on the map.

At the same time, both communities struggle with the primary challenge of negative associations about their climates. Both enjoy great weather for eight months of the year. While eight months far exceeds favorable weather conditions in most of the country, outsiders seem to concentrate on the extremes (cold for Fargo and hot for the Coachella Valley).

In 2000, dedicated Fargo citizens set out to diversify and expand their city's economy. To accomplish this, they focused on two central actions: advancing higher education and enhancing internet connectivity. They made plans to transform NDSU from a small, regional university to a nationally ranked, top 100 research university with a \$156 million annual research expenditure. Enrollment climbed from 10,000 students in 2000 to 14,000 today.

Investing in technology and STEM research stimulated significant growth in business startups, intellectual property innovation, and patents. And investing in access to gigabyte internet service for the Fargo-Moorhead region underpinned the region's technological resurgence.

These actions soon attracted a younger, educated, and connected workforce and drew the attention of national media, with Fargo cited in numerous articles like *Business Insider*'s "Forget New York — millennials are flocking to these 11 U.S. cities in droves."

Just like Fargo visionaries in 2000, CVEP tirelessly advocates for advancing STEM education and enlarging our local universities. CVEP Palm Desert iHub, opening this fall in conjunction with CSUSB, will provide gigabyte internet service to iHub businesses. Additionally, CVEP champions expanded gigabyte service for the entirety of the Coachella Valley.

The economic renaissance in Fargo represents success in an unlikely place. CVEP has no doubt that the Coachella Valley can duplicate in California what Fargo citizens have done in North Dakota. Those who recognized early on that Fargo's transformative actions would succeed reaped long-term rewards. With CVEP spearheading actions to similarly renew our economy, now is the time for businesses to get in on the ground floor of future success by locating and investing in our region. ■



THE **FINISH** LINE

Mynameis... Fred Bell.

Mycurrent job is ... partner and chief operating officer of Nobell Energy Solutions. I also have a nonprofit focus, which is the Palm Springs Air Museum as vice chair of the board.

My first paying job was... carpenter's apprentice on a construction site when I was about 14 years old. I picked up a lot of nails!

Mybiggest non-job-related talent is ... restoring old Camaros.

My favorite food is ... imported pepperoni and provolone. That was my treat when I was sick as a kid.

My favorite nonfood indulgence is ... fishing and being on the water boating. When I was young, I had the opportunity to live on a boat, work as a deckhand/manage Sea World's hydrofoil operation, and repair tuna boats for spare cash in San Diego.

Myhome is... filled with my family. I have been very lucky to have a close relationship with my children as they have grown into adulthood. I enjoy being able to talk with them and be involved, in a limited way, in their journeys through life.

Myfriends call me... well, some close friends call me Pooch. It dates back to when I was young and my mom called me Poochie.

When I'malone, I... read — not books so much anymore, but the internet is a fantastic place to see what's going on. I am interested in historic aviation artifacts and enjoy reading about the little bits and bobs that turn up.

Istartmostdays... at my local Starbucks, where I know the staff. I like to know how they are, and it's nice to get that positive greeting in the morning with your coffee.

Igetinspired by... people who stick to their vision. It's not easy or sometimes popular to tell your truth. But in the end, folks should always know where you stand in a respectful way and in turn have confidence that you will stand by them and their convictions.

Iwish someone would invent ... a way to get rid of social media. Life is too short to spend a portion of it arguing about a topic that nobody is going to care about in a week.

Mybiggest secret is ... I am a closet computer geek. I started playing around with an Apple IIe, which is a museum piece now, and still love the newer stuff. My youngest son was a little surprised when I was able to upgrade the memory in his new computer.

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