Greater Phoenix

GREATER TOGETHER

COVER STORY

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Tech Talent Base Fuels Innovation in the Region

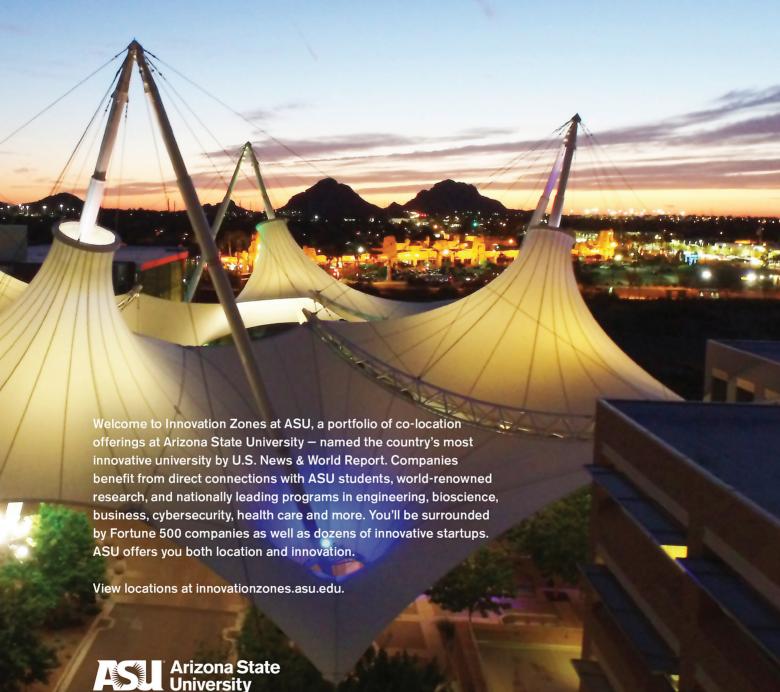
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Where Startups
Gain Traction Fast

#Greater**PHX**together







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Photo courtesy of Visit Phoenix

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Named Best City for Business in Arizona, Gilbert is committed to creating an environment that helps businesses achieve success now and into the future. That's why top companies like Deloitte, GoDaddy, Northrop Grumman, and Silent-Aire have chosen to make significant capital investments in Gilbert.

With an educated workforce, quality infrastructure, strong market access, and available land and buildings, Gilbert is ready for you. Join Gilbert as it creates the City of the Future!



DELOITTE U.S. DELIVERY CENTER

Deloitte, one of the nation's leading professional services firms, chose Gilbert for their U.S. Delivery Center focused on emerging technology solutions for a range of private and public sector clients. Deloitte and Gilbert negotiated a jobs grant for the creation of at least 1,500 new STEM jobs.



GODADDY

To retain nearly 1,400 tech jobs from the world's largest domain name
• registrar and web hosting provider, Gilbert committed to provide a job retention grant to support the training needs of the existing workforce and expand the operation.



SILENT-AIRE U.S.

Gilbert secured the U.S. headquarters and expansion of this international
 manufacturing company by investing in necessary public infrastructure, reimbursing development costs, and developing a custom planning and permitting schedule.

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Photo courtesy of Visit Phoenix

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A region that elevates, innovates, and celebrates, together.

Operational Cost Comparison

Labor Market Data Site Selection Assistance



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hen Voya Financial announced last year that it would open a new office in Greater

Phoenix and bring more than 1,000 new jobs, the project served as but the latest evidence that the region was firing on all cylinders.

From new investments by Hopebridge and CarMax to major expansions by Verdigris Holdings and Choice Hotels, Greater Phoenix capped off yet another 12 months of unprecedented success in 2019.

From 2013 to 2017, the number of employed residents in Greater Phoenix grew by 2.89% annually. Among the management, business and financial sectors, the number of workers increased by an average growth of 4.6% from 2015 to 2019, each year.

With the relocation of so many employers and workers comes an influx of cash. According to the IRS, Arizona saw the second largest migration of personal income in 2018, registering a net gain of \$3.5 billion in wealth, trailing only Florida. Arizona also ranked No. 2 in 2017.

Why is this economic boom happening in Arizona? Jim Rounds, president of Rounds Consulting Group, Inc. in Tempe, offers an explanation. "Coming out of the Great Recession of 2009 and 2010, we had to be more aggressive in public policy," he says. "We worked on regulations and then on higher education. It takes about 10 years of aggressive efforts before you see the results. Today, we are a top five state in growth."

Public policy has consequences, the economist notes, and for a decade the leaders of Arizona and Greater Phoenix have been investing in the right kind of policies. "If you want to have one of the best expansions in state history, you have to implement the right policy changes," says Rounds. "If you do

the right things in economics, a lot of these things take care of themselves. Cities can grow robustly, and that's what's happening now."

Arizona registered the fourth highest proportion of inbound moves in 2019, according to the Tax Foundation. At 63.2%, Arizona only trailed Vermont (74.3%), Idaho (67.4%) and Oregon (65.7%). Arizona also ranked No. 5 for startups, according to Comparisun. a company that provides advice on point-of-sale software and payment processing platforms. With an overall score of 64.02, Arizona ranked just below Colorado, which had a score of 64.06, and ahead of Utah's 63.89.

Rounds says it's imperative that Arizona continues to enact policy changes that promote entrepreneurism, business formation and technology innovation. "A lot of this has to do with planning and economic fundamentals," he notes. "That's what we did over the past decade. We have to make sure we're hitting the right target. A quality workforce is the most cited economic input for high-tech businesses. They want not just an affordable workforce, but an effective one. That makes a big difference. Universities and community colleges make a big impact."

Rounds credits Arizona Gov. Doug Ducey and other local organizations for putting the state on track to record economic growth. "From the Arizona Board of Regents and the ACA (Arizona Commerce Authority), to the Greater Phoenix Economic Council and the Arizona Chamber of Commerce, the state has been focusing on the right fundamentals and we've been making the right investments into things like teacher pay and higher education."

Ducey has also freed up businesses to engage in innovation, says Rounds. In January, Ducey

issued a moratorium on all new regulatory rulemaking in Arizona for a fifth consecutive year.

"You can't just incentivize businesses to come to your location. That weakens your government and your economy in the long run," says Rounds. "Governments are coordinating with each other and with private groups in these growing areas. We're advancing our healthcare tech industries which are among the highest paying in the state. We're more focused now."

We'll go into the 2020s with one of the strongest economic expansions in the country.

- Jim Rounds, president, Rounds Consulting Group, Inc.

It helped to have a blank slate 10 years ago. "We were 49th in job growth following the Great Recession," he says. "You can't change policy overnight. The most basic concept in economics is productivity. Today, we're better at deploying capital and we're increasing worker wages. A lot of that goes back to our universities. Those communities that can shift are growing in terms of volume and quality. Remember, this is the community that got hit the hardest during the downturn. Sometimes you have to hit rock bottom to get a wake-up call."

Rounds predicts that Greater Phoenix and Arizona will rank in the top five in job, population, income and GDP growth in 2020. "We'll go into the 2020s with one of the strongest economic expansions in the country," he adds. "Public policy matters. It makes a difference. In 2030, when they do a study and look back at a decade of growth, they'll recognize that this community did the right things to make it happen." ។



GREATER TOGETHER:

How Greater Phoenix gets things done



s collaboration a location selling point? It is when that collaboration gets things done.

When the Greater Phoenix Economic Council searched for a way to convey the organization's central value proposition to corporate executives, site selectors and other stakeholders, GPEC found that two words summed it up best: "Greater Together."

"Greater Together is an identifier for Greater Phoenix to separate us from other regions," says Chris Camacho, president and CEO of GPEC. "We found it was a constant theme that people felt there is a focus on collaboration in this region. We are moving this market together. We are passionate about equity and prosperity for all."

An upgraded logo is part of the brand refresh as well. "Our look and feel is much more modern," says Camacho. "Our color scheme is all about the public and private sector advancing as one and advancing the next economy. Together, we are creating a new Greater Phoenix that is moving in the right direction."

Colleen Schwab, senior vice president of marketing and communications for GPEC, says the brand refresh is "an effort to build on the momentum of the region. You will see this in our messaging this year. We are known as one of the fastestgrowing places in the United States. It goes well beyond the sunshine here. We are ensuring that our economic strategy is focused on everyone and on advancing the community as a whole - in all 22 cities and towns, and Maricopa County."

The updated brand is also about emphasizing the region's unique attributes, says Schwab. "We are a young market, we do more with less, and we do things through collaboration," she notes. "Our new tagline embodies that collaboration. The strength of our market is our approach to regionalism. We are all in it to build our regional economy. Clients don't see city boundaries when they look at Greater Phoenix. They see the region as a whole."

GPEC cites several key wins of 2019 as evidence: Verdigris Holdings announcing it will build its new corporate headquarters in Greater Phoenix, investing \$19 million and creating 210 high-wage jobs; Compass Datacenters building a new eight-center, 1.8-million-sq.-ft. campus on 225 acres in Goodyear;

and Acronis opening a new cybersecurity operation in Tempe to focus on AI, machine learning and blockchain technologies, investing \$50 million and creating 150 jobs.

"Tech companies are evaluating locations where they can cost-optimize, access labor pools and scale," says Camacho. "Today, business expansion is about more than cost optimization. It's about community building and quality of life. The companies we work with come to the table with sweeping questions about the market. They're asking about our regional ethos and how they can partner with initiatives that matter to residents."

GPEC facilitates project deals by "coordinating a regional response," says Camacho. GPEC will work with each individual client to make sure it finds the best location in the region to meet the company's needs. "Representing 22 cities and towns, and Maricopa County, GPEC is a one-stop model for companies looking to relocate or do business in Greater Phoenix," he adds. "The GPEC team understands economics and partners with the cities to learn the unique strengths of each community in our region." ។

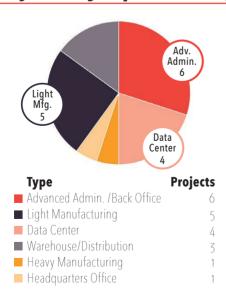


Greater Phoenix By the Numbers

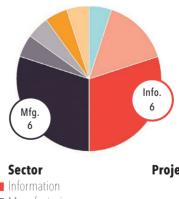
GPEC's Top 20 Recent Projects

Companies	City	Sector	Type Ca	pital Invest. susm	Jobs
Nacero	Casa Grande	Mining, Quarrying, Oil & Gas Extraction	Heavy Manufacturing	\$1,973.00	265
Microsoft	Goodyear	Information	Data Center	\$350.00	58
Vantage Data Centers	Goodyear	Information	Data Center	\$350.00	40
Compass Data Centers	Goodyear	Information	Data Center	\$350.00	45
Microsoft	El Mirage	Information	Data Center	\$300.00	50
Nike	Goodyear	Manufacturing	Light Manufacturing	\$184.50	505
Vital Pharmaceuticals Inc. (Dist.)	Phoenix	Manufacturing	Light Manufacturing	\$164.74	390
Ferrero USA	Goodyear	Wholesale Trade	Warehouse/Distribution	\$50.00	200
Quetico LLC	Goodyear	Retail Trade	Warehouse/Distribution	\$45.00	300
Farmers Insurance Co. of Arizona	Phoenix	Finance & Insurance	Advanced Admin./Back Off	ice \$28.50	943
Silicon Valley Bank – HQ	Tempe	Finance & Insurance	Advanced Admin./Back Off	ice \$26.20	199
Opendoor	Tempe	Real Estate and Rental & Leasing	Advanced Admin./Back Off	ice \$21.00	458
Infosys	Tempe	Information	Advanced Admin./Back Off	ice \$18.00	1,000
Choice Hotels International	Scottsdale	Accommodation & Food Services	Headquarters Office	\$14.00	106
Vital Pharmaceuticals Inc. (Mfg.)	Phoenix	Manufacturing	Warehouse/Distribution	\$8.90	43
CAVU Aerospace	Mesa	Manufacturing	Light Manufacturing	\$7.50	50
Hawaiian Airlines	Tempe	Information	Advanced Admin./Back Off	ice \$7.00	151
Coilmaster Corporation	Phoenix	Manufacturing	Light Manufacturing	\$6.70	25
Curry Supply Co.	Gilbert	Manufacturing	Light Manufacturing	\$6.50	20
ShellPoint Mortgage	Tempe	Finance & Insurance	Advanced Admin./Back Off	ice \$6.00	1,350

Projects by Operation Type



Projects by Sector



Sector	Projects
Information	6
■ Manufacturing	6
Finance & Insurance	3
■ Mining, Quarrying and	
Oil & Gas Extraction	1
■ Real Estate and Rental & Leasing	g 1
■ Retail Trade	1
■ Wholesale Trade	1
Accommodation & Food Service	S 1

Fast Facts



14,598 Area (sq. mi.)



37 Median age



1,100 Elevation (ft.)



Most playful city (Phoenix-Mesa-Scottsdale)



Population **-**



Largest city (Phoenix)

U.S. Census Bureau

Cost of Living











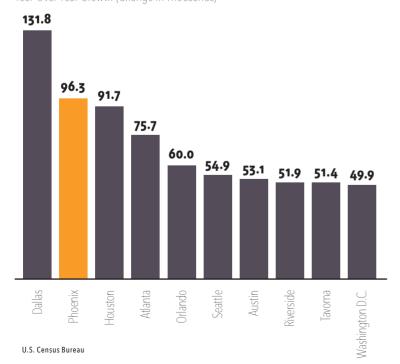


San Francisco

C2ER Cost of Living Calculator, Q3 2019

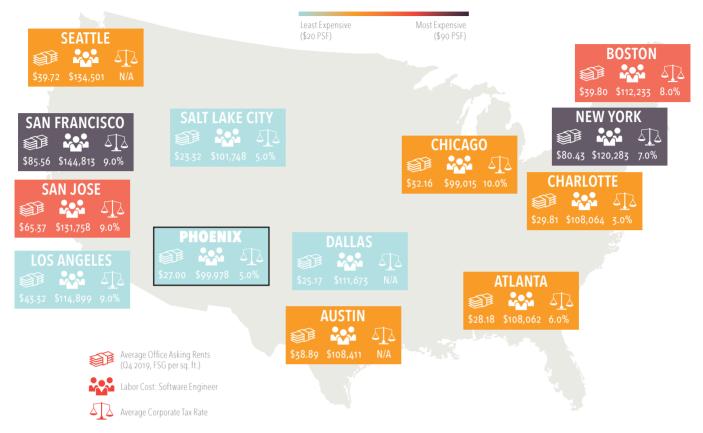
Fastest Growing Metros

Year-Over-Year Growth (Change in Thousands)



Fastest Growing (Maricopa County) U.S. Census Bureau

Comparison of Major Tech Hubs



CBRE Research, Q4 2019: Bureau of Labor Statistics; Tax Foundation, 2019

Trade & Foreign Direct Investment







Mexico and Canada are the region's top export markets and represent robust opportunities for export growth

Greater Phoenix has benefited from the North American Free Trade Agreement (NAFTA) and from its close relationship to Mexico and Canada.

Greater Phoenix Export Plan

Quality of Life





ARIZONA

- More parks and national monuments than any other state
- More mountains than Switzerland
- More golf courses than Scotland

National Parks Traveler



Most innovative school — Arizona State University ahead of Stanford University & MIT, for 3 years

US News & World Reports, 2018





#4 U.S. city with highest paying jobs & lowest cost of living

CNBC Money, 2018





Places to live
U.S. News & World
Reports, 2018



Lakes within a 75-minute drive of downtown Phoenix





Best state for well-being Gallup-Healthways,2017 #9



Most tax-friendly state in the U.S.

Kiplinger,2019

More than **1,500**

miles of connected walking, running & biking trails





Phoenix Photo courtesy of Visit Phoenix

Chris Camacho, **GPEC** president and CEO, lays out the case

f you want to know what a hot market looks like, look no further than Greater Phoenix.

By virtually every metric that matters, 2019 was a record-setting year for this region of 4.8 million people. Whether it's measured in jobs, capital investment, facility projects or people moving to the region, economic progress in Greater Phoenix reached new milestones.

In July 2019, the Greater Phoenix Economic Council closed out its fiscal year 2019 with record-breaking success. Some

50 companies moved into the region and brought \$1.18 billion of capital investment with them. If you go back 30 years to GPEC's founding, that brings the total to over 800 companies that have relocated or expanded

to Greater Phoenix. by RON STARNER In pursuit of those goodpaying jobs are people — lots of them. According to Commercial Café, the Phoenix metropolitan statistical area led the nation with an average net population gain per year of 42,869 people from 2013 through 2017. That easily outpaced second-place Inland Empire of Southern California, which gained 35,022 people per year, and third-place Houston, which netted 32,821.

Last year also saw the launch of The Connective, a Greater Phoenix Smart Region Consortium. In November, GPEC, the Arizona Institute for Digital Progress, Arizona State University and the Maricopa Association of Governments came together to launch this unique collaboration to make Greater Phoenix the nation's largest and most connected smart region, developing and deploying technology scalable solutions in the areas of connectivity, mobility, equity and sustainability.

At the helm of much of this progress is Chris Camacho, the president and CEO of the Greater Phoenix Economic Council. In the following interview, Camacho shares his thoughts on these breakthroughs and where GPEC goes from here.

What is GPEC doing to encourage innovation, entrepreneurship and startups?

CHRIS CAMACHO: One of our core pillars is telling the story of the great innovation coming out of this market. We place these stories in the market and nationally. There is an ability to grow to scale here. We work with Partnership for Economic Innovation here. The Wearable Technology Center was founded here recently. That is a privately-led innovation lab. Gov. Doug Ducey signed a bill supporting the new Blockchain Institute here. We help provide capital matching for them.

What were your biggest project wins of 2019?

CAMACHO: We had quite a few — 50 new companies in total. Nike is building its Nike Air Innovation Facility, investing \$185 million and bringing 500 jobs after a multi-state site search. We capped a six-year process for Microsoft building three new data centers across the region. They are making major infrastructure bets on this market. They are confident in the latency, redundancy and competitiveness of our power base. Digital empires provide backbone to tech firms here. Front is a Sequoia Capital-backed company, and they are doing a new expansion project here for new technology.





We're welcoming newcomers at an unparalleled rate. This is a great place to be new. Outsiders become business insiders overnight.

- Chris Camacho, president & CEO, Greater Phoenix Economic Council

What are your top priorities for the remainder of 2020?

CAMACHO: We are entering a really interesting phase. Corporate headquarters, major tech companies and major financial services companies are still coming here. There is a nexus of strong labor supply and strong infrastructure with a cool tech vibe in this market. We are creating a communications platform to help celebrate who we are and where we are going as a region. We will modernize our toolkit to be competitive for research and development and tech, etc., and we have more than 250 projects in the queue that we are competing for right now.

What are some emerging industries in your region?

CAMACHO: Right now, there is some pretty disruptive work being done in PropTech, or real estate technology. This includes measurement with IoT devices. Big data movement is entering the real estate sector, energy conservation, blockchain and cybersecurity. Additional global leaders in those areas will locate here. Another area is autonomous vehicles and electrification of automobiles. Software and engineering companies in the AV sector are wanting to grow

here. Waymo, Lucid Motors and others are investing big here now. The consumer and residential markets are yearning to see this technology evolve.

What is Greater Phoenix's best kept secret?

CAMACHO: We welcome newcomers at an unparalleled rate. This is a great place to be new. Outsiders become business insiders overnight. Companies bring their talent here. It is a great place to meet new people. We celebrate being new and welcoming new people. The average age here is 37. That makes us one of the 10 youngest markets in the U.S.

How has the brand identity of Greater Phoenix changed over the years?

CAMACHO: From a legacy standpoint, we are known largely for aerospace and defense, electronics, and growth. We began shifting to financial services and call centers in the 1990s. Technology-enabled firms are the new wave. Deloitte and Microsoft and the leading banks are all doing security projects here. The pivot for the region is increasingly toward more sophisticated work and talent. As a result, we are significantly growing our tech jobs.

What are you doing to encourage more foreign direct investment in your region?

CAMACHO: We have been staunch advocates for USMCA. We are doing roughly \$16 billion in trade per year with Mexico and \$5 billion a year with Canada. We're also working heavily with the Western European market. We have a great pipeline of access out of the UK and have a team on the ground there. French and Netherlands markets continue to be strong software markets for us in the healthcare sector. We've opened an office in Israel. We see Tel Aviv emerging as a market for cybersecurity and software. The Global Growth Accelerator, in partnership with ASU, hosts international firms to help them establish a beachhead here.

You've had considerable success in attracting California companies. Why do so many west coast firms find Greater Phoenix so attractive?

CAMACHO: There are a lot of reasons. One is the living environment. Businesses are tired of the tax burden and regulatory burden in California and the congestion. Now we are seeing the technical workforce and the whitecollar workforce saying enough is enough. There is a 30% cost advantage for most operational units when they move here from California. There is great air access from California to Arizona. There is political predictability here. Proposition 30 in California moved the income tax to roughly

three times our income tax rate. A lot of Californians decided to move to here for our great amenity base, affordability and quality of life. And on the policy front, our decisions have helped.

Are you getting into the whole esports game? If so, what progress are you making?

CAMACHO: This whole esports movement is unlike anything I have ever seen. The social media and the physical following have created an entirely new sector in the last seven years. Some of our cities are working to establish esports stadiums. We're still early in that game, but we're seeing a lot of interest out of California and Boston.

How is the Smart **Region Consortium** initiative impacting your community and state?

CAMACHO: We devised the Smart Region plan a little over a year ago, now know as The Connective. It involves smart tech adoption, smart campuses and smart tech by our utilities. It will reduce overarching demand for electricity. We are calling for innovation based on citizens' needs at scale — on transportation, parking, communications platforms for cities and more. We can support data collection to improve quality of life and there are lasting implications. 4

SINCE GPEC **WAS FOUNDED** 30 YEARS AGO, **MORE THAN COMPANIES HAVE EXPANDED RELOCATED GREATER**

PHOENIX.

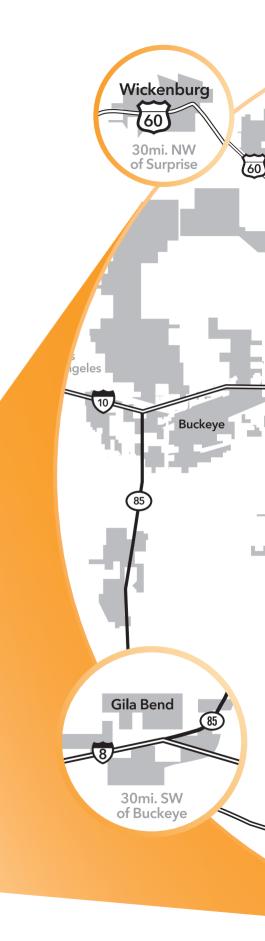
The Connected Place

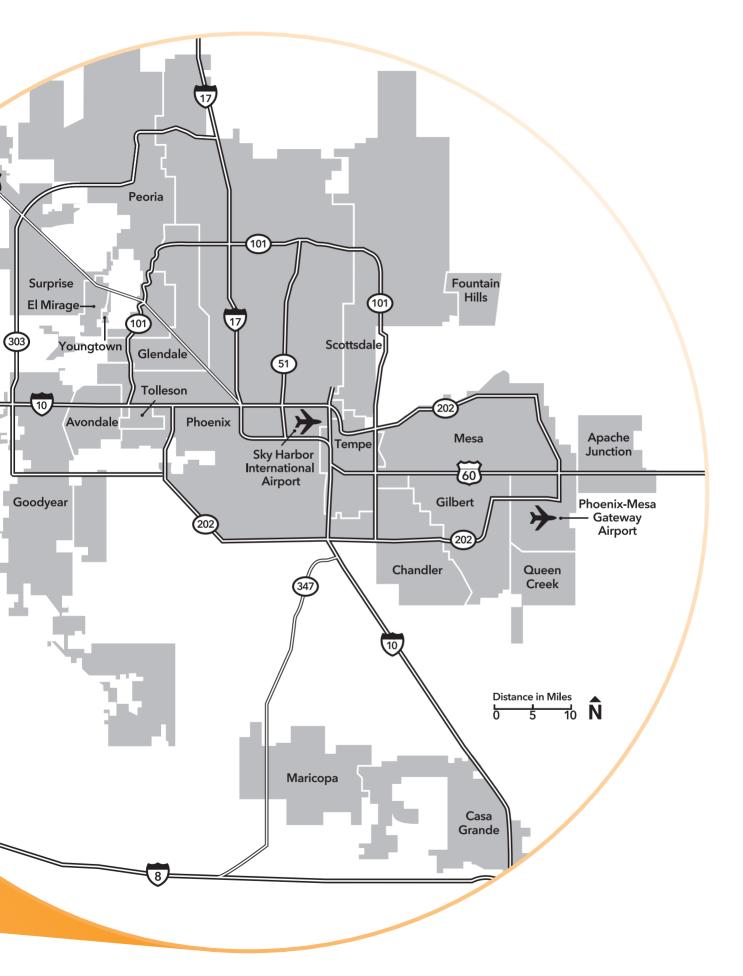
by SAVANNAH KING

rom Avondale to Gilbert and Glendale to Phoenix, Greater Phoenix's 22 unique and dynamic communities offer unparalleled access to people, technology and global markets.

Already one of the fastest growing metro regions in the country with a population of 4.8 million, the region is expected to continue to grow, reaching 6.03 million by 2040. The region is located within a single day's drive of more than 35 million consumers, six hours to Los Angeles and San Diego, and only three to the U.S.-Mexico border. With one of the lowest labor costs and the third largest labor pool in the Western U.S., its easy enough to understand why more than 1,000 global companies choose to do business in this region. Ψ







Avondale

Off to the races

by SAVANNAH KING

vondale is a unique city in the valley that's growing and fostering business activity. Home to 84,500 people, Avondale is a well-known destination for sports and outdoor enthusiasts. In addition to the area's ample family-friendly amenities, it offers employers a healthy business environment with room to grow.

We spoke with Ken Chapa, economic development director for the City of Avondale. In this following interview, Ken discusses why companies should consider Avondale for their next expansion.

Why should companies expand or locate to your city?

KEN CHAPA: Avondale is advantageously located with proximity to strategic transportation corridors. Within a five-hour drive, businesses have access to multiple major West Coast markets and over 22 million people. In addition, Avondale boasts some of the fastest review and permitting times in the valley. Avondale punches well above its size as the home to a flourishing hub for healthcare, technology and manufacturing businesses.

What are your target industries and why?

CHAPA: Avondale's key sectors include healthcare, technology and manufacturing. The Health-Tech Corridor is exploding with growth and is the current home of Phoenix Children's Hospital, Copper Springs Hospital, Integrated Medical Services and the Akos Medical Campus, and we hope to have a few exciting announcements soon. This healthcare growth has generated



From a manufacturing and logistics perspective, we are home to 2.7 million square feet of space and will have an additional 1.6 million square feet of space set to be online by 2021. With new interstate connectivity, we have several state-ofthe-art locations for companies seeking a location with prime freeway access.

How would you describe your community's quality of life?

CHAPA: Dining options in Avondale are among the best in the valley. Whether it's fast-casual dining, sit-down family restaurants, or unique culinary ventures (including the best burger in Arizona), Avondale provides choices for all tastes.

In addition, our community is home to a spectrum of housing choices at very competitive prices. Young families buying their first home up to senior-level professionals looking for high-quality living options will be enamored with the selection of quality homes and masterplanned communities accessible within a 30-minute drive.

Avondale's sports and entertainment scene is incredibly dynamic, and Phoenix Raceway hosts major NASCAR events including the March FanShield race and



the American Sports Centers, the largest indoor multi-sports facility in the state and a national magnet for travelling sports teams and athletic competitions. Our community is also home to 10 city parks and the Coldwater Golf Club.

What are your top economic development priorities for the next year?

CHAPA: Avondale has quickly earned a reputation for our fast-paced development and review services and a city staff that is committed to seeing your project completed efficiently, on time, and with as few barriers as possible. One of my main priorities over the next year is to elevate our reputation of excellence to extend beyond the Valley and permeate business markets throughout the country. We will accomplish this by intensifying our marketing and outbound sales opportunities, and interacting more closely with site selectors and corporate decision-makers.

How would you describe your local workforce?

CHAPA: Over 95% of the West Valley's skilled workforce is accessible within a 30-minute drive. What many people don't know is that most of those professionals commute an hour or more each way to go to jobs in other parts of the Valley. The

talent is here, and savvy investors and developers are taking notice. We have also worked tirelessly to develop collaborative partnerships with higher education institutions and workforce development organizations to provide employers access to a stable labor pipeline and customized training solutions.

What is your biggest economic development win over the last year and how did your city ultimately land the deal?

CHAPA: We are very proud that Avondale is the new home of the Akos Medical Campus and are thrilled at the hundreds of highwage jobs this project is bringing to the city. Located in the Health-Tech Corridor, the first phase of this project will feature 68,000 square feet of Class A medical office building and the second phase will include another 68.000-square-foot Class A medical office building. Not only does this project bring over 400 quality jobs to the city, but it also continues to spike up Avondale's daytime population. These employees will have convenient access to the wide array of retail, dining and entertainment amenities found in the Health-Tech Corridor.

This project made history in Avondale as it concurrently ran through the development process in record-breaking time with site plan and construction document approval to issuing permits. We always look for innovative ways to land deals and projects while understanding the need for speed to market, and this was an example that Avondale's aggressive and entrepreneurial approach made a difference.

What is the most important thing for site selectors to understand about your community?

CHAPA: There are many factors to take into consideration when surveying potential sites. Incentives, infrastructure, workforce, quality education and tax environment are just a few. Local government should never be an obstacle. Avondale is committed to be your partner throughout the entire site selection process. 4

Grandstand at Phoenix Raceway

Photo courtesy of City of Avondale

Gilbert

Town full of talent

by SAVANNAH KING

on't make the mistake of calling Gilbert a "city." This community is a town.

"We like what a town denotes, which is that there's a connected way here," said Gilbert Mayor Jenn Daniels. Daniels moved to Arizona in 2002 and to Gilbert in 2005. By 2009, she was serving as a member of the town council and was elected mayor in 2016. "I've only been in Gilbert for 15 years. So, that tells you about our welcoming attitude toward the newcomer or someone who wants to launch a business," says Daniels. "In Gilbert, you'll be embraced if you want to come in and work hard and contribute."

Gilbert is a vibrant and thriving community located in the southeast Phoenix metropolitan area. In addition to its high quality of life with more than 300 days of sunshine a year, a nationally A-rated K-12 school system, and a 30-minute average commute — this town is brimming with opportunity.

Indeed, several major companies have selected Gilbert for locations including Deloitte, Northrop Grumman and GoDaddy.

We spoke with Dan Henderson, director of economic development for the Town of Gilbert, about the benefits they offer to companies and residents.

Why should companies consider Gilbert for their next expansion or relocation?

DAN HENDERSON: Here in Gilbert, we are focused on attracting new investment from businesses in aerospace



industries: education services: health care; manufacturing; and real estate. As we look around us, the regional assets, industryleading firms, and quality of workforce have created strategic advantages in these key sectors in the state of Arizona, the Phoenix metropolitan area, and Gilbert. So, we build on these community strengths, quality infrastructure and that talented workforce, the realized as well as the projected growth in industry trends, and Gilbert is growing and realizing benefits in those industry spaces.

From a business climate perspective, we have a very low total payroll cost, no sales tax on manufacturing equipment, no inventory tax, and we are a rightto-work state. Almost 41% of the residents within the community have a bachelor's degree or higher. We have the availability of a skilled workforce connected to about a million people.

What are some of your top economic development priorities?

HENDERSON: We want to ensure that the community is well



fluctuations and that we can go into diverse industries. Our business attraction, our business expansion, and our retention and redevelopment efforts are proactively focused on businesses looking to locate or expand in the Phoenix metropolitan area, the Phoenix east valley and in Gilbert. To achieve this, we work with our regional partners such as the Greater Phoenix Economic Council and the Arizona Commerce Authority, as well as a robust entrepreneurship ecosystem.

We engage national site selectors and work with regional and local brokers as well as centers of excellence and developers to generate prospects and leads. We really use our business acumen and our communities and strengths to refine those leads and opportunities into projects. Those projects then find a very convenient and very efficient sort of developmentserviced process through entitlements. We're constantly benchmarking that speed to market. What our companies have come to realize is that through these benchmarking efforts, they are able to get those certificates of occupancy faster than in any other community in the valley.

Barnone Photo courtesy of Town of Gilbert

How would you describe the workforce in Gilbert?

HENDERSON: The average age of residents in Gilbert is in the low to mid-30s. Our workforce is well educated; 44% of the adults over the age of 25 have a bachelor's degree or higher. We have a very hard-working labor force participation rate of over 70% within a 30-minute commute to Gilbert.

We are the No. 1 Phoenix suburb for millennials. We are the best suburb in the Phoenix metropolitan area, according to Thrillist. We're the No. 2 safest community in the U.S., and we are the third best city to find a job in the U.S.

What should site selectors understand about Gilbert?

HENDERSON: We're able to create solutions with our partners and ultimately help our clients succeed in those initial stages of evaluating the community, but their needs continue to evolve and grow. We can work with our clients to help them succeed, not only in finding a location but also in growing and expanding. I think each project has unique needs. It's a combination of a lot of things that make a company successful, and we work on those unique needs. Our team does an excellent job of working with our regional partners and our local leadership and stakeholders, and we rely on our internal departments within Gilbert to anticipate, create and help. 4



Glendale

Where businesses touch down

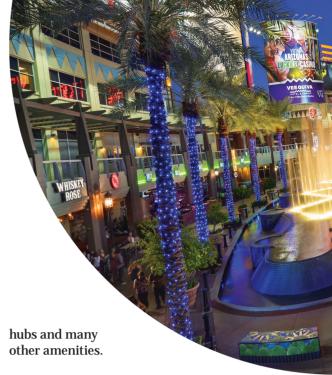
by SAVANNAH KING

he country's newest sports mecca is in the City of Glendale. Glendale is home to a plethora of professional sports organizations and events including football, hockey, Major League Baseball Spring Training, auto racing, NCAA Regionals, the annual PlayStation Fiesta Bowl, and the 2008, 2015 and 2023 Super Bowls.

Beyond the city's stadiums, sports complexes, golf courses and arenas, Glendale's business climate scores major points. We spoke with Glendale Mayor Jerry Weiers about his plans for the city's future and its winning business attraction playbook.

Why should companies expand or locate in your city?

MAYOR JERRY WEIERS: Glendale is the gateway to the West Valley where the workforce and population growth continues to boom. The city is affordable, accessible, and prime for companies looking to locate and expand. Glendale offers educational opportunities across industries with the state's only veterinary school and one of the largest pharmacy schools, Midwestern University. Other educational institutions in Glendale are Arizona State University, Arizona Christian University, Embry-Riddle Aeronautical University and Glendale Community College. In our city, businesses experience personalized customer service as our teams ensure a streamlined development process and a business support network once your doors are open. The value and quality of life opportunities in Glendale are like no other. Residents and employees alike can enjoy top eateries, concerts and sporting events while having access to transportation



What are your target industries and why?

WEIERS: Glendale has five strategically identified target industries: healthcare and bioscience; aerospace, aviation and defense; advanced business services: technology and innovation; and manufacturing. These industries build upon our strong workforce and diverse economy, creating an environment that can withstand any challenges our city may face. For example, Arizona is top ranked in aerospace and aviation employment, as well as defense contracting, with many industry leaders planting their roots in the state. Glendale is home to several of those major aerospace giants like Honeywell, Lockheed Martin and Magellan Aerospace, to name a few. Glendale is a prime location for new and expanding aerospace, aviation and defense companies. Luke Air Force Base, home to the 56th Fighter Wing, the largest fighter wing in the world and the only active-duty Air Force F-16 training wing that also operates as the sole pilot training center for the F-35A Lightning II, is located in Glendale. The partnership with the air base, along with an abundance of opportunity that surrounds the base and the adjacent municipal airport, makes Glendale a premier location for additional aerospace, aviation, and defense companies to locate and grow.

A similar concept applies to the remaining targeted industries. Glendale is home to more than 100 manufacturers employing thousands in the industry. The average wage for manufacturing jobs in Glendale continues



state-of-the-art manufacturing operations including most recently Red **Bull's North American production facility** and the West Coast manufacturing facility for Mark Anthony Brewing, the makers of White Claw and Mike's Hard Lemonade. Glendale is uniquely positioned with available land opportunities and a proven workforce to continue growing our advanced manufacturing industry.

Arizona is poised for continued growth and a strong economic performance in high tech industries. The technology and innovation industry is diverse in that it can serve as a cross over into other industries including aerospace, avionics, healthcare and manufacturing. Glendale is already home to some major advanced manufacturers and has recently attracted real estate investment from technology and innovation industry leaders. Within the West Valley, Glendale's existing assets, strategic partners, and available development opportunities make it the most viable leader for an emerging technology and innovation industry in the region.

The City of Glendale provides residents and visitors with vast choices when it comes to healthcare. Arizona's four major hospital systems all have operations in Glendale including Abrazo; Dignity Health; Honor Health and Banner Health, the state's largest private employer. Glendale continues to offer significant opportunity for growth in the healthcare sector with an additional focus on attracting bioscience research and development to take advantage of this growing asset to the community.

How would you describe your community's quality of life?

WEIERS: It is unique. The city is rich in sports, entertainment, outdoor recreation, quality housing, educational options, health and fitness, arts and culture, and more. Yearround amenities provide residents and visitors with opportunities to enjoy major sporting events as the home of the Arizona Cardinals, Arizona Coyotes and the spring training home of the Los Angeles Dodgers and Chicago White Sox.

Our nationally accredited parks and recreation programs provide a great opportunity to unplug and enjoy the outdoors. Residents and visitors can consider a hike at Thunderbird Conservation Park: take in the picturesque rose garden at historic Sahuaro Ranch Park; or spend the day at Heroes Regional Park featuring X-Court skatepark, Archery Range, and NCAA branded basketball courts. Gila River Arena brings internationally recognized superstars like Elton John, Cher and Pink. There is something for every fan to enjoy like the Professional **Bull Riders Glendale Invitational, Sesame** Street Live!, Friday Night Smack Down, among others. And Glendale's light will shine worldwide once again as State Farm Stadium hosts its third Super Bowl in 2023.

How would you describe your local workforce?

WEIERS: Nearly 65% of West Valley residents are working age. The West Valley is providing Greater Phoenix with over 35% of its workforce. Glendale residents are well educated and hard working. In our city, 54% of residents have a college degree or higher. Glendale has access to a workforce of 1.7 million within a 30-minute commute. Of those, nearly 200,000 are residents. Each year, 450 professionals separate from military service and many remain in the region, adding to the strong workforce. Collectively, 69% of the West Valley's workforce is commuting to other areas of the county. This means a significant portion of Glendale's diverse and skilled workforce is traveling too far, which is why our city is committed to attracting quality jobs that allow our workforce to live and work in their community. 4

Westgate Entertainment District

Photo courtesy of City of Glendale

Phoenix

Where newcomers connect and thrive

by SAVANNAH KING

or a city almost half the size of the state of Rhode Island, Phoenix is surprisingly close knit and accessible. The city of Phoenix itself is 517 square miles and attracts 200 new residents every day. Though the city is growing by leaps and bounds. Phoenix has maintained its small town feel.

"The easiest way to describe Phoenix is we're a big city, but we feel like a small town," says Christine MacKay, community and economic development director with the City of Phoenix. "Everybody knows everybody. We're incredibly diverse and incredibly welcoming."

MacKay has been leading the city's economic development efforts since 2014 and shared her perspective with Greater Phoenix: Greater Together.

Why should companies choose Phoenix for their next expansion or location?

CHRISTINE MACKAY: I think No. 1 on the list would be the quality of workforce that we have in Phoenix. When I started in this a long time ago, there were a number of items that companies were looking for. 'Where are the transportation corridors? Where's an inexpensive site? What types of incentives do you have to get me to relocate to your community?' Today, it's 'workforce, workforce, workforce.' Companies have realized that access to a qualified workforce is what makes them successful and that qualified workforce is here in Phoenix. It's a really diverse workforce in many different disciplines.

But it's also a great place to do business. It's a really open, collaborative environment.



How would you describe the quality of life in Phoenix?

MACKAY: So often people put in a bucket what quality of life is, but your quality of life may not be quality of life. One of the things I love best about my city is just how diverse all the lifestyles are and that no one is judged for different lifestyles.

Phoenix itself is 517 square miles. We're about half the size of Rhode Island just by ourselves. Of the top five largest parks in the world, four of them are in Arizona and two are in the City of Phoenix. We've got awardwinning chefs. We've got unique retail. We've got all of the shopping experiences, art galleries and museums.

With all of Phoenix's recent developments, can you share one of your favorite projects with us?

MACKAY: The redevelopment of Park Central Mall over the last 24 months is one



Central Avenue Photo courtesy of Visit Phoenix

anchors, and an indoor and outdoor mall area. It was a thriving mall until 1996. It's on light rail on Central Avenue and it was reinvented by a number of people. They tried to put offices in it. They tried to put data centers in it. They tried healthcare and nothing was working. They'd be there for a few months or a year and they'd move on.

The city started the process (to redevelop the mall) in 2014-2015. It's a 40-acre property that sits right in the middle of our downtown or midtown on light rail. It was kind of a hole in the donut, and unless the hole of the donut was redeveloped, the rest of the area wouldn't be. So, we worked diligently with our community partners and thought leaders to reimagine what Park Central could be. A group came along and purchased the built environment in 2017. We were so incredibly fortunate that Plaza Companies and Holualoa Companies negotiated with the rest of the property owners and were able to put the 40 acres all back together again. By doing that, they have created an incredible development project.

What should site selectors know about your city?

MACKAY: We just had a new freeway open on Dec. 23, 2019. It's our extension

of Loop 202 but really, it's branded as the South Mountain Technology Corridor. Along that corridor, 35% of our land has never been built on. So, it's in an area where we're extremely focused on advanced manufacturing and technology jobs. That's one of our other areas that I think you'll see over the next five years - people on a national level will come to recognize the science and technology corridor.

What are some of your biggest priorities over the next couple of years?

MACKAY: We've been focusing diligently on diversifying the economy in Phoenix with high technology, aerospace and defense, cybersecurity software, IT and other emerging technologies. So, we're trying to move this very big city to work diligently with cutting-edge technologies. But probably at the forefront of that has been our focus on healthcare.

We have, right now, 4.4 million square feet and just over \$3 billion in new capital investment over this 24-month period that creates 7,000 jobs with average salaries over \$70,000 — and that's just within the City of Phoenix boundaries. We've got these amazing healthcare partners and we've been focusing with them on destination medicine. What I mean by that is bringing people in from outside the country and outside the region because we have such cuttingedge medical care with Mayo hospital and with our Barrow Neurological Institute and our cancer centers and our medical schools. We've got incredible facilities that exist in Phoenix and they're growing astronomically. 4





The alliance is comprised of the Partnership for Economic **Innovation**, Greater Phoenix Economic Council, Maricopa Association of Governments, Arizona State University and the **Institute for Digital Progress. Its** official name? The Connective, Greater Phoenix's Smart Region Consortium.

Founded with support from Cox Business, Dell Inc., Maricopa County, Salt River Project and Sprint. The Connective is aligning with 22 cities and towns, and other industry partners. Together, they plan to construct the nation's largest and most effective smart region by developing and deploying technology solutions grounded in connectivity, mobility, equity, and sustainability.

"Two years ago, we announced the intention and vision for a smart region consortium in Greater Phoenix," said Chris Camacho, president and CEO of GPEC. "Now a reality, this consortium will elevate the region's competitiveness and enhance the reputation of Greater Phoenix as a preeminent market where companies can test, develop and deploy technology at scale while providing our residents with a technologically advanced lifestyle opportunity.'

The overarching goal is to solve real-world problems that affect the nearly 5 million residents of the metropolitan area. They can be as simple as providing mobile parking meters in downtown Phoenix to let drivers pay with a credit card instead of coins, to as complex as ensuring ample water for everyone in the Valley for decades.

"Many smart city efforts around the world have been unsuccessful because they lacked community engagement," says Diana Bowman, associate dean for international engagement at the Sandra Day

O'Connor College of Law and a professor at the School for the Future of Innovation at ASU. "The Connective is designed to correct that model. We will begin by asking, what do the citizens of the region want? How do we address their needs? How do we improve their quality of life? And how do we work with the members of this public-private partnership to meet those challenges?"

What 85,000 students can accomplish

Creating the formal structure for The Connective was the first step, says Bowman. "That provided a foundation for us to go out and get commitments. The founding partners were announced in November. We now have money in the bank, and we have a critical mass of cities and Maricopa County."

One of the principal goals of 2020 will be to identify key projects. "We will leverage the faculty and students at ASU," she says. "That goes back to our charter. A key tenet of the university is to engage in research and development that serves the community. We have the privilege of drawing upon 3,500 faculty members and 85,000 students."

Annually ranked as the No. 1 university for innovation in the country, ASU has a proven track record of producing disruptive technologies that change the world.

So does Cox Business, one of the private industry partners in The Connective. Ed Aaronson, vice president of Cox Business, says, "The Greater Phoenix region has been gaining tremendous momentum in recent years in terms of being a very desirable location for businesses, specifically technology businesses and startups, to grow and flourish. The work of



The Connective is a true bottom-up initiative. This is about the agenda of the citizens of the region. It is about what they want and need.

- Diana Bowman, professor and associate dean, Arizona State University



the Smart Region Consortium will further demonstrate this region's commitment to be the leading region in the country for smart technology and smart region applications. This group will create more opportunity for technology businesses in our region and a greater demand, with the associated ecosystem, for a highly skilled workforce."

Cox Business has been laying the groundwork for a smart region for a long time. "Greater Phoenix's broadband network is one of the fastest in the nation," says Aaronson. "We are 99% completely gigabit ready to all our households and provide necessary coverage to our commercial customers. This bedrock is critical when working on projects like the Cox Connected **Environments Collaboratory at** ASU and their network."

Cox is already working on building Greater Phoenix's connected future, notes Aaronson. "Cox Business is focused on development which includes emerging network infrastructure, autonomous futures, urban redesign, augmented reality and workforce of the future, health and wellness, plus public safety and security," he adds. "These innovative smart applications present new ways of thinking to solve problems in our growing region."

Seeking smart, sustainable solutions

Bowman adds that sustainability is another tenet of The Connective. "We must do something that is smart and sustainable. We must test different solutions," she says. "If we can show proof of concept for greater energy efficiency and water efficiency in our region, these solutions can be applied around the country. Our goal is to create the best smart region in America here in Arizona, but also to share lessons, both good and bad, with others outside the region."

Bowman notes that Greater Phoenix intends to become a global leader in developing and deploying smart mobility systems that solve the most pressing transportation challenges in the world's most densely populated cities. "One of our biggest priorities has been transportation," she says. "We have an edge in autonomous vehicles. We are one of the leading test beds in the world. AVs will help us address many challenges we face as a region."

She stresses that "The Connective is a true bottom-up initiative. This is about the agenda of the citizens of the region. It is about what they want and need. We encourage everyone to actively engage with us. Community engagement and transparency are

two of our tenets. This is going to be a busy and fun year."

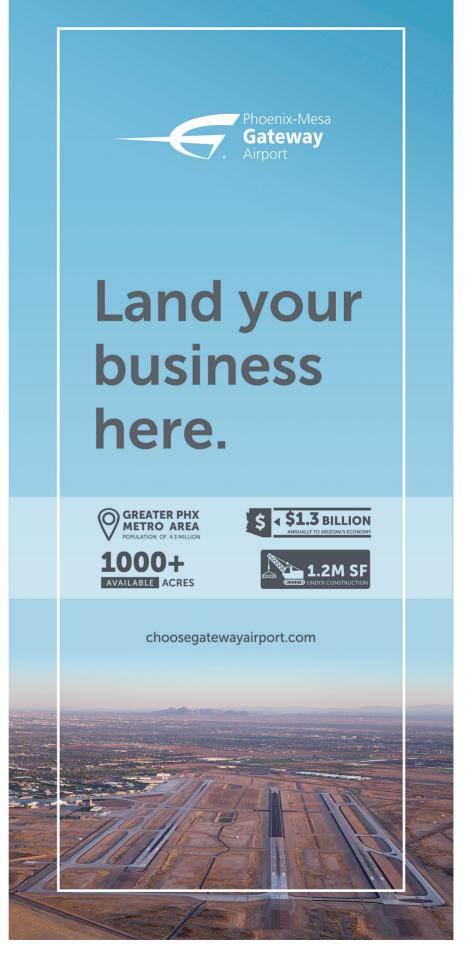
Scottsdale provides a model

Speaking of fun, the City of Scottsdale has been having plenty of it during its transition to Smart City status. A leader in implementing data-driven decision-making, Scottsdale was honored in 2019 with What Works Cities Silver Certification by Bloomberg Philanthropies. The prized certification rates how well cities are managed by measuring the extent to which city leaders incorporate data and evidence into their decision-making.

Scottsdale was recognized for adopting a business mindset to run a well-managed government, embracing transparency, embedding data in decision-making, and other reforms. Scottsdale was one of seven cities to achieve silver status in April 2019.

Specifically, Scottsdale is using predictive analytics to identify future water needs more accurately, says Brent Stockwell, assistant city manager for the City of Scottsdale. "We are also recognizing the effects of altering traffic signals after accidents to minimize accidents in the future," he says. "These are examples of datainformed decision-making. New technologies are giving us new information that we have never had before."

The goal is to implement such advanced information-gathering, as well as information-sharing, across the region as part of The Connective. 4





TO THE CLOU

Higher education in Greater Phoenix is looking toward blockchain and cybersecurity to fill in-demand tech jobs

by SAVANNAH KING



reater Phoenix has a wealth of resources at its institutions of higher education.

More than 40 higher education

institutions are located across the region including Arizona State University (ASU), University of Phoenix (UOPX), Maricopa

Community Colleges (MCCCD), **Grand Canyon University** (GCU), University of Arizona (UArizona) and more.

As one of the largest public universities in the U.S. with more than 119,000 students enrolled, ASU is one of the region's crown jewels of higher education.

ASU has been ranked the

No. 1 most innovative university in the country five years in a row by U.S. News & World Report. The university has also been ranked fifth by employers for iob recruiting by the Wall Street Journal. ASU is one of the largest research-heavy institutions in the country and annually earmarks more than \$359.7 million in research and development.

Prime advantage

In March 2019, ASU launched the ASU Smart City Cloud Innovation Center (CIC). The CIC. powered by Amazon Web Services (AWS), is at ASU's SkySong location in Scottsdale and is part of a long-term partnership between ASU and AWS to improve digital experiences for smart city designers, expand technology alternatives to minimize costs, spur economic and workforce development, and facilitate sharing public sector solutions within the region.

"What ASU has done here is not only build a process and a means of communicating, but they've also raised the bar, insisted on the highest standards, and said we will invent and simplify here," says Ann Merrihew, director of U.S. Education for AWS.

"The thing that I love about what ASU is doing is that it starts from inside. It starts with how ASU cares about its students. There's a lack of feeling that it's got to be exclusive — everyone matters," Merrihew said. "And then saying, it's not just us on campus. We live in a city, we live in a county, we are part of a global universe, and what we learn we're going to share.

"That's the point of the CIC," Merrihew continued. "This is what it is to be a global leader."

Full-time staff at the CIC will work alongside local planners to solve real-world problems the region faces as it grows.

"Real-world challenges from various parts of the public sector and from within the university will be submitted to the CIC," says Ben Butler, global lead of the AWS Cloud Innovation Centers -Worldwide Public Sector. "We'll combine public sector knowledge of the community and its challenges with the expertise of ASU's faculty, staff, and students and use AWS technologies to solve those challenges. We'll do it using open-source software. We'll share the solutions and prototypes we create with other communities facing the same challenges."

Maricopa County Community College District (MCCCD) also recently collaborated with AWS and its AWS Educate program to create a certified program that will enable students to pursue tech careers in the cloud computing industry. Over the next decade, local demand for cloud computing talent will increase across the region. Greater Phoenix is expecting to add over 25,000 IT jobs.

"Offering programs like cloud computing and blockchain technology reinforce key initiatives to align education programs around the skills needed in Arizona's economy," says Dr. Maria Harper-Marinick MCCCD chancellor. "Our collaboration with Amazon Web Services is an exciting step forward to closing the employability gap, and preparing the community for the workforce of today and tomorrow."

Every year, the system educates and provides training to more than 200,000 people. With 10

accredited college campuses across the region, students can conveniently access a diverse range of programs and learning environments.

The collaboration will give MCCCD students access to a 15-credit certificate program that focuses on in-demand cloud computing and blockchain skills.

Public and private connections

Grand Canyon University is a private, Christian university with over 200 academic programs and more than 79,000 students enrolled.

The campus has grown significantly over the last decade. In 2016, GCU finished building a 173,447-square-foot, state-ofthe-art engineering building for students in STEM majors.

In 2017, the university partnered with The Arizona Cyber Warfare Range (AZCWR) and the Arizona Cyber Threat Response Alliance (ACTRA) to open a cybersecurity range on the school's campus. The 4,500-square-foot facility is stocked with laptops, servers, and other equipment and is open to the public for free. GCU offers a Bachelor of Science degree in information technology with an emphasis in cybersecurity, as well as a master's degree.

"It's all part of our commitment to creating an exceptional experience in science, technology, engineering, and math (STEM) education and becoming a destination for cybersecurity training," says Brian Mueller, president of GCU. "Having a facility like this where students in our cybersecurity programs can apply their skills outside of the classroom is a tremendous opportunity." 4

Bringing the Brains

A steady stream of talented engineers propels an expanding tech sector

by GARY DAUGHTERS

mong schools of higher learning that have helped both to shape and propel their surrounding communities, perhaps no greater example exists than the Ira A. Fulton Schools of Engineering at ASU. The Fulton Schools, with more than 24,000 students, comprise the largest contingent of budding engineering talent in the country. They produce the equivalent of rocket fuel for the zooming technology sector of Greater Phoenix.

"There's a huge demand for these high performers who are coming out of ASU with engineering degrees," says James Murphy, CEO of Willmeng Construction, which recently completed construction of the Northrop Grumman Innovation Systems' Chandler headquarters.

"At groundbreaking, I said thank you to Arizona State University for a consistent pipeline of well-prepared, high-quality graduates that really have fueled this community," says Murphy. "It's very telling that there's a symbiotic relationship between aerospace and ASU."

And it's not just aerospace that craves the engineers. About 4,500 students graduate from the Ira A. Fulton Schools of Engineering at ASU a year. The Greater Phoenix technology cluster includes leaders in the fields of semiconductors (Intel, Amkor Technology, Infineon Technologies, Qualcomm); software (Acronis, Blackboard Transact, Citrix Systems, GoDaddy); cybersecurity (Amazon, Axon, Bechtel, Datasoft, GTT); financial services (American Express, JPMorgan Chase, General Motors Financial Company, Inc.); and autonomous vehicles (Waymo, Nikola Motor Company, Lucid Motors, Nissan, Toyota).

"The needs that are emerging are in things like artificial intelligence, machine learning and data analytics," says Kyle Squires, dean of the Ira A. Fulton Schools of Engineering. "The important thing for us is how those things will impact companies going forward and how we bring those skills into that workforce."

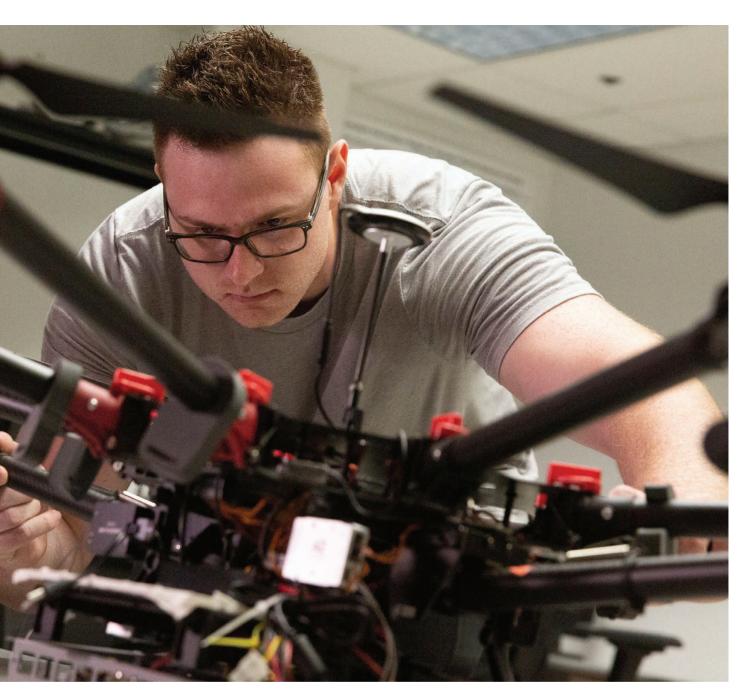
In addition to fulfilling the region's need for engineering talent, the Fulton Schools has



entered into partnerships that allow technology companies to tap into the university's faculty, research and students, the latter of which can serve as a rapid deployment force for urgent projects.

"What's new in all this is that we have companies constantly engaging with us," says Squires. "Technology is moving so quickly that projects pop up and they need help.'

That model of collaboration was instrumental in persuading Benchmark Technologies, based for 40 years south of Houston, to move its headquarters to Tempe in 2019.



It's no coincidence that the new Benchmark headquarters, which houses some 500 workers, is mere miles from the ASU campus.

"ASU is an outstanding source of technical expertise and engineers and programmers and technical skills that we need as we continue to grow the company," says Jan Janick, Benchmark's chief technology officer. "ASU reached out to us very early on in the process, and very much portrayed a willingness and experience with working with corporate America. We were very impressed."

Under a new initiative forged

in conjunction with the Greater Phoenix Economic Council (GPEC) and local community colleges, ASU is working to upskill engineers already in the workforce. In that, the school is not alone. Numerous career-based learning institutions that are helping to reinforce the region's growth curve include Woz U, General Assembly and Galvanize, which opened in Phoenix in 2017.

Galvanize is "a learning community for technology" focused on education and entrepreneurship, says Diana Vowels, vice president of community at Galvanize in

Arizona State's Fulton Schools of **Engineering emphasize partnerships** with technology companies across **Greater Phoenix.**

Photo courtesy of Arizona State University

Phoenix. Its 55,000 sq.-ft. facility in the up-and-coming Phoenix Warehouse District includes coworking spaces and classrooms for intensive training in software

The needs that are emerging are in things like artificial intelligence, machine learning and data analytics.

- Kyle Squires, dean, Ira A. Fulton Schools of Engineering

engineering and data science. Allstate, USAA and Amazon are among the established companies that have embedded teams of workers at Galvanize to update existing skill sets.

"Even though large companies say they want to innovate, it's difficult to do that in the dayto-day work environment, because there are forces there pressuring you to stay with the status quo," Vowels says. "We give their workers permission to act and think differently. The ideal situation is that they find success on this smaller scale, and then as companies are able to

bring those people back into the larger organization, innovation spreads from there. We serve our employer partners more than we serve anyone else, so if our employers need a new skill set, we are able to put it into our curriculum very quickly."

Those who enroll at Galvanize to launch new careers or seek new career trajectories, 85% find placement within six months, typically at salaries beginning at around \$80,000 a year, says Vowels. This way, engineering graduates come away not only with advanced technical skills but also with the coveted soft skills of critical thinking. collaboration and teamwork.

"Engineering is a team sport," Vowels says. "You have to be able to troubleshoot and work with others as much as you have to know the technical skills. That's embedded in our curriculum. We are bringing talent into the workforce that has the skillset to hit the ground running immediately that can jump onto a production engineering team and be a contributor right away." ។

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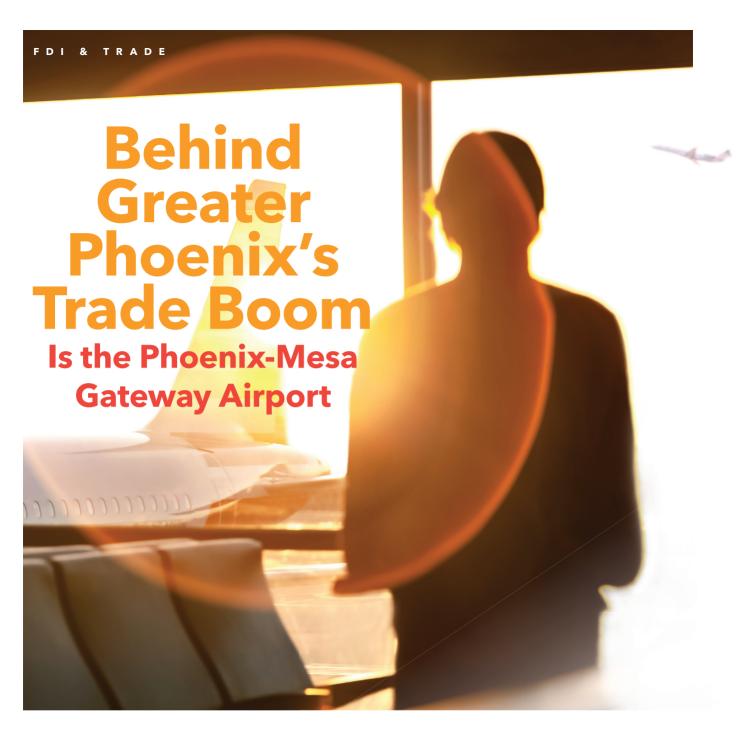


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An expedited Customs inspection complex in Mesa is coming to fruition and will change how cross-border trade is done

by MARK AREND

mployment at Arizona's more than 820 international companies is growing at more than twice the rate of the state's overall private-sector employment growth. More than 113,600 Arizonans work for international companies 21% of which work in manufacturing. Companies from Canada, the United Kingdom and France employ the most workers of the international companies.

The U.S. subsidiary of Belgiumbased Latexco, a leading

TOP TRADING PARTNER GAINS TWO FDI OFFICES

Arizona opened two trade and investment offices in January 2020, in Chihuahua and Guanajuato, Mexico. The offices are a part of the Arizona Commerce Authority, and create a platform for businesses in both countries to increase international trade and foreign direct investment opportunities.

"Arizona's relationship with Mexico has become recognized as a national model in cross-border collaboration," says Arizona Gov. Doug Ducey. "The opening of the new trade offices in Chihuahua and Guanajuato – along with the recent ratification of the USMCA – will further advance our relationship with our No. 1 trading partner."

Guanajuato, Mexico, is part of the economically dynamic Bajio region of Central Mexico. The Arizona Trade and Investment Office in Guanajuato will serve as a regional trade office, assisting the more than 1,200 Arizona aerospace and defense companies that sell to the supply chains in the Bajio region, including Queretaro. Automotive assembly plants also have a large presence in the region, which Arizona may leverage to complement its rapidly growing footprint in automotive manufacturing. Guanajuato's significant agricultural sector is also an opportunity target market for Arizona companies in the agriculture technology, water technology and aerial unmanned vehicle industries.

Chihuahua, Mexico is the center of the largest cluster of original equipment manufacturers in Mexico, including Bell Helicopter and Honeywell, and over 40 suppliers to the aerospace sector with parts, equipment and services. Manufacturing activities in Chihuahua provide considerable opportunities for Arizona companies. The Arizona Trade & Investment Office in Chihuahua will help Arizona companies to fill critical supply chain gaps in Mexico.

Mexico is Arizona's largest trading partner. In 2018, total trade between Arizona and Mexico reached \$16.69 billion, accounting for 37% of Arizona's international trade with all countries. Between 2013 and 2018, total trade between Arizona and Mexico increased by 18.3%.

manufacturer of latex and foam products to the bedding industry. has relocated from Santa Fe Springs, California to Phoenix, Ariz, and doubled the size of its western U.S. production center. The new, 100,000-square-foot facility in Phoenix will produce polyurethane (PU) and latex foam. The \$12 million expansion includes new state-of-the-art mattress and topper fabrication and fulfillment capabilities.

Also based in Belgium, aircraft recycling/up-cycling service Aerocircular has recently expanded its operations in

North America with a new facility at Phoenix-Mesa Gateway Airport in Mesa. The company plans to create more than 130 jobs over five years at the maintenance, repair and overhaul (MRO) facility — the company's only North American facility.

"The Phoenix-Mesa Gateway Airport is an ideal location for our operation," noted Aerocircular CEO Koen Staut. "Planes can fly right up to our facility and the infrastructure is there to support the transport of parts to the marketplace."

SkyBridge will expedite cross-border trade

Greater Phoenix's secondary commercial airport, after Phoenix Sky Harbor International, Phoenix-Mesa Gateway soon will play more than a secondary role in cross-border trade. It's the location of SkyBridge Arizona, a joint U.S.-Mexico Customs inspection facility now under construction. The \$230 million project is forecast to create 6,400 direct jobs and 8,400 indirect jobs and facilitate up to 2,000 cargo flights annually. The development ultimately will be much more than a Customs facility. The 363.5-acre mixeduse SkyBridge development will include 1.35 million square feet of aeronautical development, 2.19 million square feet of non-aeronautical development, and 270,000 square feet of commercial development. Additionally, it's expected to become a premier destination for auto parts and food processing as well as an e-commerce business center.

"We are in the final stages of getting approval from the FAA Environmental Assessment Review," says Marco Lopez, president and CEO of Intermestic Partners, an international investment advisory group and founding SkyBridge Arizona partner. "Then we will begin the horizontal construction of the 360 acres that were competed for and won as part of the RFP process with Gateway airport."

At press time, Intermestic was in a 30-day review window for getting Customs regulations adjusted to allow for independent processing of e-commerce shipments into Mexico via Mesa.

"Mesa will represent the first location where these new Customs regulations that we worked on with Mexico will be applied," says Lopez. "They will allow for consumer purchases of e-commerce products to be expedited and delivered to them in Mexico quickly, cutting the process down from 15 days to three or four days."

Lopez says virtually every other customs agency in the world
— certainly in Latin America
— channels personal consumer purchases through the general commercial import-export process. He says SkyBridge will be the first and only place in the country to operate under the new rules Mexico is now promulgating.

The rest of Latin America

For manufacturers, the benefits are more significant. "If you are looking to grow and expand, or manufacture and ship products in and out of Latin America by way of Mexico, this cuts down time to market by at least 70% to 80%," says Lopez. "By April, these rules will be in place, training will be done by the Mexican authorities, and we'll be able to begin processing packages in Mesa."

The Mexican consumer market will be the first to benefit, but SkyBridge is negotiating with other Latin American markets to expand geographically the benefits of expedited trade. "This will be the bridge to Latin America for a lot of these e-commerce or light manufacturing companies whose products would use an airplane to ship back and forth," says Lopez.

Initially, SkyBridge will use an airline with daily service to Mexico to transport the expedited goods. The plan is that by the third month of operation, enough volume will be moving through SkyBridge to justify a regular charter cargo flight from Phoenix-Mesa Gateway Airport to Mexico City. 4



TECH TALENT BASE FUELS INNOVATION IN THE REGION

Startups in Greater Phoenix enjoy longevity and new opportunities

by SAVANNAH KING

hen startups choose Greater Phoenix, the tech talent in the region can can carry them to the next level.

According to CompTIA's 2019 Cyberstates report, nearly 8% of the state's workforce is employed by technology companies. CompTIA's 2019 Cyberstates report shows \$31.3 billion contribution to state economy from tech sector, up from \$28.5 billion in the 2018 report. In Greater Phoenix, technology takes center stage. Greater Phoenix ranked No. 20 on CBRE's 2019 Tech Talent Scorecard, which ranks 50 U.S. and Canadian markets based on their ability to grow and attract tech talent. In

fact, between 2013 and 2018, Greater Phoenix created more than 9.300 tech jobs — more new jobs than other tech hubs like Boston, Washington D.C., Austin and San Diego.

With access to a strong talent base, affordability and positive economic outlook, startup tech companies in Greater Phoenix are able to gain serious traction.

After 12 years of growth, Nextiva, a business communications company, is increasing its footprint in Scottsdale with a new global headquarters. The company broke ground on its new building in October 2019 with completion expected in early 2021. The threestory campus encompasses more than 100,000 square feet.

"While many tech companies choose to establish headquarters on the coasts, Nextiva co-founders Tomas Gorny and Tracy Conrad have continuously found great success over the past 15 years in Arizona, even before Phoenix was dubbed the 'silicon desert,'" the company notes in its blog.

Nextiva has experienced double- and triple-digit growth since its formation and currently employs 1,000 team members worldwide. When the company welcomed its first customer in 2008, Nextiva's team was made up of less than 10 people. This growth is the reason the company was named the largest software firm in Greater Phoenix two years in a row by the Phoenix Business Journal.

"We've been in growth mode from the beginning, building teams at our headquarters in Scottsdale and throughout the world," said Mark Green, Nextiva's chief people officer. "It's very gratifying to be recognized as the largest software firm in Phoenix. Our success can be attributed to our incredibly dedicated employees – people I'm grateful to work with every day."

Another innovative company in the region is Truyo, a joint effort between Intel and IntraEdge — both major tech companies with locations in Chandler. Truyo, previously called GDPR Edge, uses blockchain to ensure customers data privacy.

"We are thrilled to provide a solution

that helps enterprise brands thrive in this new privacy paradigm," said Kal Somani, IntraEdge and Truyo CEO. "This is a pivotal time in data privacy, a time when regulations are granting important rights to consumers. It is thanks to new technologies like blockchain that we can offer a data privacy compliance solution that benefits both the company and consumer."

Several global companies, including Microsoft, BDO and TrustArc, already use Truyo in their privacy compliance offerings. The company makes it easier for companies to fulfill data rights requests and overall consent management - in other words, it helps customers know what data companies collect and how they use it, and if they can use it.

"It's startups like Truyo that give Greater Phoenix's tech ecosystem a good name and an excellent track record," said Chris Camacho, president and CEO of the Greater Phoenix Economic Council. "We are excited about Truvo's innovative initiatives and look forward to seeing them disrupt the data privacy space."

Award-winning innovations

Radpay, a technology company that uses blockchain and digital wallets to make payments, was named a winner of the Arizona Innovation Challenge in December 2019. Hosted by the Arizona Commerce Authority, this technology commercialization competition has awarded 100 companies since it was started in 2011. The winners receive \$150,000 of non-dilutive capital and gain entry into the mentor-led accelerator Venture Ready.

"Radpay constantly searches for new ways to remove barriers to commerce and broaden economic access," said Radpay Co-Founder and CEO Dana Love. "The innovation award is a tremendous validation of our technology and business model. On the heels of our very successful seed round, we can expedite Radpay's go-to-market strategy and start helping merchants lower their processing costs, increase their profitability and improve customer loyalty." 4

Where Startups Gain **Traction Fast**

by MARK AREND

ore than 2,000 of Arizona's entrepreneurs and innovators gathered in Phoenix and Tempe to attend PHX Startup Week (PHXSUW), a six-day networking and educational event organized by the StartupAZ Foundation. The annual event is a do-not-miss for anyone wondering about "How to Navigate Phoenix's Startup Incubator and Entrepreneur Support Landscape," or whether to work with "Venture Capital or Strategic Investor?" or "The Power of Cross-Generational Collaboration." These were just a few of the session topics at PHXSUW, but they demonstrate the depth of experience and knowledge of the entrepreneurial ecosystem already in place in Greater Phoenix.

The StartupAZ Foundation does more than organize an annual entrepreneurs' event. Its mission is "to help Arizona's most innovative startup companies improve their leadership, performance, and connections, while inspiring generosity and philanthropy within their communities." Generosity is the operative word in that statement.

As of early 2020, 20 Foundation member

companies have taken a Generosity Pledge, committing them to giving back to the entrepreneurial community. They have formed "a community of startups building generosity and corporate philanthropy into the DNA of their companies," the Foundation explains. Greater Phoenix startups are encouraged to give back to the same community that accepted them while they grow and improve the regional ecosystem.

What Greater Phoenix can offer startups

"The number one factor is our level of connectivity," says Brandon Clarke, cofounder and interim CEO of the StartupAZ Foundation. "As a market, we're pretty spread out, so the assumption is that we're disconnected. But a couple of meetings opens doors, and suddenly you find yourself fairly well connected in a short period of time. We hang our hat on that welcoming nature, that level of connectivity, opening doors, making introductions, helping people feel welcome."

Phoenix is increasingly on the radar screens of venture capitalists, says Clarke, even if the firms investing in Greater Phoenix startups are largely in the more traditional VC clusters, on the coasts.

"Capital is being raised here," he points out. "Geography does not have a monopoly on great ideas or great people. Capital will find those people and those ideas and those products that are disrupting industries and capturing market share quickly. We are seeing more capital flowing in from outside the state. It becomes our responsibility to aid that capital in kicking the tires on a company. We've seen that play out. Whether it's Battery Ventures or Anthos Capital, once some of these large VC firms have cut checks in a market like Phoenix, they want to cut more. We need to amplify who those companies are that they should be cutting checks to."





How it works in practice

Scottsdale-based Trainual markets a knowledge transfer and training app to simplify employee training with customizable software. In late 2019, the company raised its first round of institutional funding — \$6.8 million worth — that will help it expand payroll, workspace and product development. Boston transplant Chris Ronzio, founder

and CEO of Trainual, has spent 10 years in Greater Phoenix, following a stint on the West Coast growing another startup.

"I looked at different West Coast locations — I looked at Las Vegas and Los Angeles and San Diego," says Ronzio of his options when considering where to be more permanently. "I picked Phoenix, and Scottsdale specifically, because it seemed to be kind of a new frontier. Everything was being built brand new. The cost of living was really low. There was a lot going on with Arizona State University. It had a small town feel with big shoes to fill in the southwest."

Following other business ventures, Ronzio started Trainual in 2018 for growing companies to onboard and train their new hires and contractors. At first, it was bootstraps and credit cards, says Ronzio, which was followed by three angel investments, or convertible notes, from local entrepreneurs. Then came the institutional funding finalized last fall. Two venture capital firms in the midwest provided funding, but it was the local support initially that made the biggest impression on Ronzio.

"One of the reasons Greater Phoenix is such a great place to start is there's so much support for early businesses," he relates. "The co-working space, the events, the conferences it's a big hub for associations and people to have their events each year because of the climate. There's just a lot going on to support the startup culture."

One example is #yesphx, says Ronzio, which started as a hashtag for Arizona startup activity. "It quickly and organically become the way that many people within the ecosystem refer to our community," its website explains. "#yesphx is not a nonprofit, or a startup, or a movement and, to be honest, it isn't even the point," the site points

out. "Building the Greater Phoenix startup community and economy is the point. Making Phoenix a better place to live for our children and our children's children is the point. Taking pride in our city is the point. This is just one of many vehicles to help focus us on the points that actually matter."

The cost of labor is low, the cost of office space is low, and support from the community is very high. You can build something here and get traction.

- Chris Ronzio, founder and CEO, Trainual

Completely communityowned and self-organized, #yesphx puts dozens of local

entrepreneurs and innovation startup leaders at users' fingertips, with direct links to their LinkedIn pages. They're just a click away from a startup events calendar, accelerators, VC sources, mentorship and relocation assistance, and much more.

Besides the demonstrably welcoming nature of the area, Greater Phoenix's relatively recent history as an entrepreneurial ecosystem is a critical advantage.

Ronzio explains: "There is capital at the angel level — a lot of wealthy individuals, family offices, retired executives, a lot of angels that want to be mentors and make small investments," says Ronzio. "There are a few angel groups and they're getting more sophisticated. It's a great place to start an incubator business, because you can do it very cheaply. The cost of labor is low, the cost of office space is low, and support from the community is very high. You can build something here and get traction."

It's a winning location in another important way, mathematically, he adds. "When we went out to the bigger markets to pull in more investment, everyone we talked to was astounded with how efficient we were," says Ronzio. "In the small amount of funds that we raised in our convertible note round, we were able to 3X our ARR, our annual recurring revenue, on those funds when a 1X or .5X is more typical. They were astounded at the traction, which skyrockets your valuation and gets you a better deal." 4



Greater Phoenix challenges the competition

by RON STARNER

eed a little help convincing the executive team at your company that it's time to move your firm to **Greater Phoenix?**

If your powers of persuasion aren't swaying enough, let the data make your case for you.

When you compare Greater Phoenix side by side with competing cities like Denver, Dallas, Atlanta, Houston and Austin, the region comes out smelling like a rose.

According to the 2019 C2ER Cost of Living Index, Greater Phoenix wins out on multiple counts. For starters, the healthcare cost of living index for Greater Phoenix is just 90.1 (where the national average equals 100), while the index is 103.6 for Denver, 105.4 for Dallas and 107.0 for Atlanta.

Median apartment rent is also a bargain

in Phoenix compared to the other cities. According to the 2019 Zillow Rent Index, Phoenix's median rent of \$1,390 a month is cheaper than Dallas and Atlanta at \$1,440, and Denver at \$1,770.

Numbers like these may explain why so many people are choosing to relocate to Greater Phoenix. According to the U.S. Census Bureau, Greater Phoenix is in the top three for net metropolitan statistical area (MSA) population growth between the years 2010 and 2019, netting a gain of 42,869 new residents a year.

Greater Phoenix also bests all comers in small business job growth — a key metric of a booming economy. In January 2020, the Phoenix metro scored the highest among all major U.S. metro areas in small business hiring, with an index of 99.84, topping Dallas,

Greater Phoenix makes its pitch on the streets of Silicon Valley.

Photo courtesy of GPEC

Tampa and Denver, which finished second, third and fourth, respectively. Atlanta came in eighth.

Small businesses are vital to Greater Phoenix's MSA economy, as firms with under 100 workers make up more than 97% of the businesses in Maricopa and Pinal counties. At the state level, Arizona flexed its muscle as well, ranking second only to Tennessee in small business job growth. Arizona's index of 100.8 was iust below Tennessee's 101.4 and topped third-place Texas.

With a robust economic performance and a relatively low cost of living, it's no wonder so many California companies are relocating to Arizona. According to the Greater Phoenix Economic Council. 68,000 Californians moved to Arizona in 2018, and GPEC has helped more than 200 companies, like Yelp, Charles Schwab and Weebly, make the move from California to Arizona.

GPEC launched a campaign last summer to convince even more Golden State tech companies to make the move. The campaign is called #CAstruggles, and it includes wrapping 24 vehicles with a call to action to visit TimeToGetOut.io, a website pitching Greater Phoenix as a location of choice for businesses currently residing in California. For 12 weeks in the 2019 summer, those vehicles roamed the crowded roadways of Silicon Valley, and in fewer than six weeks, the @CAstruggles Twitter amassed more than 13,000 followers.

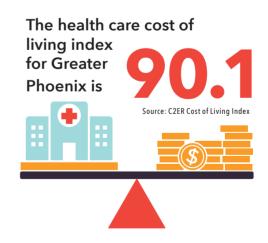
A message to California residents on the website makes the pitch succinctly: "We know it's not an easy decision to move, but when you start to evaluate your situation, you'll see that in Greater Phoenix you can afford a home, have less than a 30-minute commute, enjoy 300plus days of sunshine per year, and live a life where you stress a bit less."

Perhaps that's why today, California technology, corporate services and manufacturing companies make up 23% of the 300-plus firms evaluating Greater Phoenix, according to GPEC. 4

68,000 Californians moved to Arizona in 2018. Source: Greater Phoenix Economic Council

California technology, corporate services and manufacturing companies now make up





Framework for the **Future**

by ADAM BRUNS

f the road to ruin is paved with good intentions, then the road to prosperity must be intentionally paved, for starters.

Intentional infrastructure planning has been central to Greater Phoenix's success ever since the first horse-drawn streetcar line giddied up down Washington Street in 1887. The link between infrastructure and commerce has been direct ever since: One year after the railroad showed up in 1887, the original Phoenix Chamber of Commerce was organized.

Fast forward, really fast, to December 2019, when the 22-mile South Mountain Freeway — aka Loop 202 — officially opened, connecting the West Valley to the East Valley with Arizona's first-ever publicprivate partnership highway project. The model allowed the Arizona Department of Transportation (ADOT) to open the \$1.7 billion freeway three years earlier than if it had been built as a series of traditional projects, at a cost savings of more

than \$100 million. "Arizona has solidified its reputation as a state that is open for opportunity," says Arizona Gov. Doug Ducey of the project

traversing the southwest quadrant of the metro area. "As we welcome hundreds of new residents every day, we are making sure our infrastructure remains some of the best in America."

Thinking ahead

How fast has Greater Phoenix been growing? The new freeway, with 15 interchanges, is projected to carry about 117,000 vehicles per day within its first year and as many as 190,000 vehicles per day by 2035. But looking into the future is possible because leaders and citizens were looking to it in the past. Maricopa County voters approved the project in 1985, and again in 2004, as part of the Maricopa Association of Governments' Regional Transportation Plan.



Greater Phoenix businesses and citizens welcomed the December 2019 opening of the 22-mile South Mountain Freeway, a \$1.7 billion highway looping around the metro area's southwest quadrant.

Photos courtesy of Arizona Department of Transportation

It's just one of many examples across all modes of infrastructure where Greater Phoenix has been looking ahead since way back when.

That includes mixed-use development. In January 2020, Plaza Companies, developers of SkySong Center, the ASU Scottsdale Innovation Center, filed for design approval with the City of Scottsdale for SkySong 6, which will be the largest building in the 42-acre development. With construction scheduled to begin in May 2020, the new Class A office building includes approximately 340,000 sq. ft. of leasable space in six stories, with an adjacent multistory parking structure. When it's completed, the overall developed space at SkySong will exceed 1 million sq. ft.

Sethuraman Panchanathan, executive vice president, and chief research and innovation officer of the office of Knowledge Enterprise Development at Arizona State University, says the project "will provide an ideal environment for innovation and technology, and will create additional synergy and energy for the companies that locate at SkySong.

With more than 119,950 students studying across four metro Phoenix campuses, in Lake Havasu and online, ASU is one of the largest public universities in the nation, with the majority of its students attending its campus in Tempe, less than three miles from SkySong. SkySong has launched 144 startups, created more than 1,100 local jobs and generated over \$108 million in state revenue.

New record at Sky Harbor

Less than 6 miles from SkySong is Phoenix Sky Harbor International Airport (PHX), which is also reaping the benefits of thinking ahead.

Nearly 46.3 million travelers passed through Phoenix Sky Harbor in 2019, surpassing the previous record set in 2018 when just under 45 million passengers were served. Moreover, the airport had 70% origin and destination traffic, meaning that the majority of travelers started or ended their journeys in Phoenix rather than connecting through the airport in route to somewhere else.

"The record-breaking number of passengers Sky Harbor saw in 2019 is another data point highlighting the importance of investing in our airport," says Phoenix Mayor Kate Gallego. "Phoenix Sky Harbor International Airport is the No. 1 economic engine in the state — yet receives no tax dollars and operates solely with the revenue generated by businesses operating there. We must continue to deliver not only world-class customer service, but ensure upgraded facilities to travelers and those that want to do business with our airport."

Among the projects underway at Sky Harbor are a 2.5-mile extension of the PHX Sky Train from the terminals to the Rental Car Center, which will take more than 80 buses off the roadways. Other projects include the recent completion of the Terminal 3 Modernization Program. In January 2020, Mayor Gallego, Cindy McCain and others dedicated the \$590 million John S. McCain III Terminal 3 at the newly renovated North Concourse. Construction also continues at Terminal 4, where Southwest Airlines' eight-gate concourse will open in 2022.

New flights are on the schedule too. In 2019, American Airlines launched their first-ever nonstop service from Phoenix to London Heathrow Airport as well as new service to Chihuahua, Mexico; Condor Airlines extended their seasonal service to Frankfurt, Germany. In 2020, Eurowings also will begin nonstop seasonal flights to Frankfurt as well. PHX currently offers nonstop service to more than 100 domestic destinations and 23 international destinations.

Light rail, heavy impact

Light rail launched in 2008 with the original line connecting Central Phoenix, Downtown Phoenix, Tempe and Mesa. The light rail has continued to expand further north in Phoenix and east into Mesa.

In August 2019, voters in Phoenix defeated an initiative that would have ended all light rail construction, prohibited future

rail investment and returned billions in federal dollars previously pledged to expand the regional transit system. The vote marks the fourth time since 2000 that Phoenix voters have publicly supported light rail through the election process.

The Valley Metro Regional Public Transportation Authority (Valley Metro) says that the vote means the rail authority will continue to build out the regional rail system, including the South Central Extension/Downtown Hub; Northwest Extension Phase II: and Capitol/I-10 West Extension. Light rail supports 41,000 riders each day along a 28-mile system. According to Valley Metro, the light rail supports job growth and has generated about 12.2 billion, which includes the development of the Tempe Streetcar.

Construction began in October 2019 on underground utility upgrades associated with the South Central Extension/ Downtown Hub. For every linear foot of trackway installed, six linear feet of wet utilities, including water, sewer, or storm drains, will be removed, relocated or upgraded. In addition, the project's new infrastructure will include dedicated bicycle lanes, 21 new bus pullouts, rebuilt sidewalks, re-paved streets and an estimated 160 new trees. Construction will be complete by 2024.

Plans and results

Where else has past visualization led to present prosperity? It was way back in 1966, when the College of Architecture at Arizona State University designed plans to control flooding and create recreation and economic development opportunities along the Rio Salado. In 1987, a tax increase was proposed to fund the project. It failed, but there was support for the project in Tempe, leading the city to develop a plan to create Tempe Town Lake.

Construction began in 1997, the lake was opened in 1999, and since then it's had a nearly \$2 billion economic impact. More than 40,000 people work in the area surrounding the lake. To keep the momentum going, in 2018, the city created the Rio Salado and Beach Park Master Plan to serve as a comprehensive planning document for the area over the next

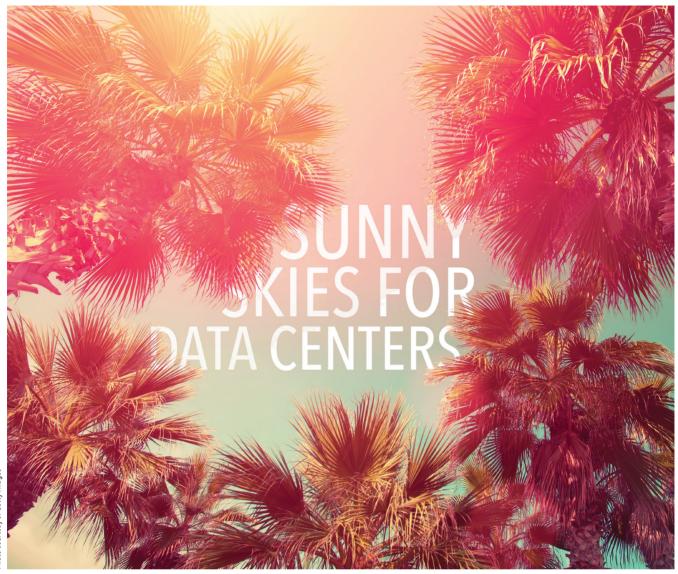
20 to 30 years.

That kind of attention to quality of life has netted Tempe a number of honors. Most recently in May 2019, when the League of American Bicyclists recognized Tempe as one of only 34 Gold-Level Bicycle Friendly Communities nationwide. "Biking is important in our community, we have the highest percentage of bicycle commuters in the state," says Tempe Mayor Mark Mitchell. "Continuing to invest in our bicycling infrastructure will help us achieve a healthy, sustainable and connected community."

In the urban core of Phoenix, ASU opened a campus and continues to bring new programs to downtown. Phoenix has invested \$25 million with ASU to construct buildings to bring the Sandra Day O'Connor College of Law and the Thunderbird School of Global Management to the area. The University of Arizona and Northern Arizona University also have a presence in downtown Phoenix with programs at the Phoenix Biomedical Campus, including the University of Arizona's medical school. Meanwhile, the Phoenix Warehouse District has welcomed the repurposing of vacant, historical buildings through projects that have attracted tech companies, marketing and architecture firms, and other creative industries.

In December 2019, ASU announced that Mikhail Chester, associate professor of the school of sustainable engineering and the built environment for ASU's Ira A. Fulton Schools of Engineering, will lead an extensive five-year endeavor, funded by a \$3.5 million grant from the National Science Foundation's Growing Convergence Research program, to create platforms for the development of social, ecological and technological infrastructure systems for urban resilience. Atlanta, New York, Phoenix and San Juan, Puerto Rico, are the test cities selected for the project. The goal is to "identify cutting-edge transition strategies" for cities to follow in strengthening urban infrastructure systems against extreme weather events they will likely face throughout the 21st century.

In other words, the next era of infrastructure will bring its own set of visionaries, and Greater Phoenix will lead the way there too. ។



hoto courtesy of Getty Images

hat's the forecast for the information superhighway? Lots of sun.

Greater Phoenix is the secondfastest-growing data center market in the U.S. now, according to CBRE and JLL, and experts say the year ahead promises more of the same.

"We're ranked second behind Northern Virginia," says Mark Bauer, managing director of JLL in Phoenix. "Cloud operators moved into Phoenix very quickly.

Microsoft acquired over 800 acres at three sites in the last 18 months. They will deliver these facilities in the next 90 days. Google acquired 180 acres in East Mesa and is now in design."

Upon completion, Google will invest \$1 billion into its threephase data center campus of 750,000 sq. ft. at the northeast corner of Elliot and Sossaman, while NTT Global Data Centers recently closed on a land purchase for its first data center location in Mesa.

Greater Phoenix rises to the No. 2 growth market for missioncritical operations

by RON STARNER

All told, Greater Phoenix saw 15 megawatts of absorption in the first half of 2019, with 20% of that investment into mission-critical facilities driven by the cloud. Another 54.5 MW of data centers were under construction by mid-2019, making the Valley of the Sun the third most active market for construction in North America, behind Nevada and Northern Virginia.

"Greater Phoenix has been a top five data center market over the last 10 years," says Bauer. "The colocation trend began around 2008 to 2010 and it's been steadily growing since." Valley; and data centers have to go where the power is. Plus, the tax structure that was implemented in 2013 to attract colocation centers provides benefits to customers all the way down to 500 kilowatts, making this one of the lowest-cost locations in the country."

From 10th to 5th in overall capacity

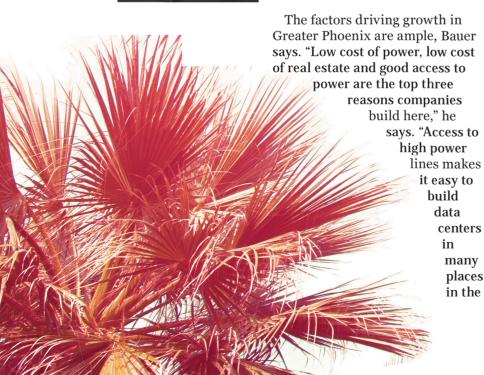
The result has been an explosion of facilities in the market.

Michael Rareshide, executive vice president and partner of Site Selection Group, notes that just three years ago Greater Phoenix was the No. 10 data center market



Low cost of power, low cost of real estate and good access to power are the top three reasons companies build here.

- Mark Bauer, managing director, JLL Phoenix



in the country, but the competitive advantages and friendly business climate of the region propelled it to No. 5 in overall capacity, overtaking much larger markets such as Los Angeles, Greater New York/New Jersey and Atlanta.

To put this growth into perspective, consider that Greater Phoenix registered a record 41.6 MW of net absorption in 2018 — an increase of more than 580% compared to 2017.

And Greater Phoenix is not done climbing the charts. "It stands poised to move another rung or two as hundreds of megawatts comprising several existing data center developers along with a few new entrants are in the pipeline," Rareshide wrote in his recent

market report. He cited several specific reasons why developers love Greater Phoenix: competitive power rates (the average rate in 2019 was 6.4 cents per kilowatthour); reliable electric power from Salt River Project and Arizona Public Service; absence of any significant natural disaster risks; abundance of fiber; generous economic incentives; and a plethora of available sites at reasonable cost.

Costs are low for multiple reasons, but chief among them is the Valley's power infrastructure. Palo Verde Nuclear Generating Station is the largest nuclear power plant in the U.S. with a 3,937 MW capacity. The region's diverse energy supply includes coal, nuclear, natural gas and renewable sources. Plus, with cabinet arrangements using enclosed hot aisles, the region's mild climate offers reduced chiller operations up to 40% of the year, free airside cooling up to 38% of the year, and waterside free cooling (or no chiller operation) up to 41% of the year — factors that reduce the end user's annual electric bill.

Benefits like these have attracted a bevy of investors to the metro area. In the last 24 months, major investments have come from Compass Datacenters, Stream Data Centers, EdgeCore Internet Real Estate Data Center, Vantage Data Centers and NTT Global Data Centers, among others.

A guest for land and talent

"One of the major attractions of Phoenix is that we have an abundance of land," says Bauer. "We still have very competitive pricing on our industrial land. We're not selling land for \$1 million or \$2 million an acre, and we still have plenty of good sites available. Politically, this is a very respected government that supports growth."

Talent makes a difference too, he adds. "The universities and other educational assets of Arizona are very strong," Bauer says. "That's another attraction for companies moving here. Ten years ago, companies would come here and hire graduates to move them away from Phoenix. Now, they come to hire our grads and keep them here."

Bauer's JLL Data Center Outlook for 2020 remains strong. "The outlook for users will continue to be a favorable market with new supply coming online through 2020," the report notes. "Not only pricing, but options will be competitive with multiple engineering designs. As cloud providers build out, users will see favorable economics and terms available."

JLL cites EdgeCore, CyrusOne, Aligned Energy and Iron Mountain among those who will be bringing more supply online before the end of the third quarter.



TOGETHER



The state's FinTech sandbox eases burdens for entrepreneurs and startups

by SAVANNAH KING

hen you hear the words "Arizona" and "sandbox," you're likely to conjure images of the Sonoran Desert and towering Saguaro cactus, rather than innovative banking solutions and digital currencies. But that's exactly the kind of scene Arizona's FinTech Sandbox is trying to attract.

In August 2018, Arizona launched the first-in-thenation FinTech Sandbox to ease regulatory burdens for entrepreneurs and businesses. The program enables fledgling companies to test innovative FinTech products and services while remaining subject to Arizona's consumer protection laws. Eight companies are currently participating in Arizona's FinTech Sandbox. Four other states have followed Arizona's lead and recently established their own FinTech Sandboxes including Hawaii, Nevada, Wyoming and Utah.

Companies that have been accepted into the sandbox offer a range of products from

blockchain-enabled auto title liquidity to mobile hospitality payment solutions, and beyond.

Some of the more recent companies to join the program include ENIAN, Ltd., an algorithm-based evaluation software platform that allows investors to compare solar and wind power projects looking for funding; and Zona Digital Commodity LLC and its startup ALTA. ALTA is a private financial services "club" using money transmission services and digital asset technology aimed at providing a cash management solution for licensed medical marijuana providers and vendors. ALTA uses digital tokens to allow members to safely transfer cash. ALTA allows those tokens to be redeemed for cash and the value of the token never fluctuates (1 token = \$1).

"We help solve the banking challenges facing medical marijuana companies and their vendors," says Jesse Forrest, co-founder and CEO of ALTA. "ALTA uses blockchain and geofencing technology to protect clients' digital payments and transfers. Other digital payment companies require a bank account. We provide all the financial services medical marijuana companies need without requiring a bank account."

Deciding factors

In May 2019, Verdigris Holdings was selected for the sandbox. Then, in July, the company announced it would locate its headquarters in Scottsdale, where it will create 210 jobs with average annual salaries of more than \$150,000. The announcement represents an economic infusion of more than \$32 million per year by 2022, along with a \$19 million capital investment.

For Michael Coghlan, CEO of Verdigris Holdings, the decision to relocate in Greater Phoenix was made easier by the state's eagerness to foster innovation in the FinTech sphere.

"The decision that we made to base our business in Arizona, in the Greater Phoenix area, has proven to be the right decision," says Coghlan. "I am absolutely certain that we have found the right place. The opportunities to connect with other businesses are here, and people are open and friendly and make their time available and will happily answer questions. The economic environment is positive. It's a growing region; there's interesting things that are going on here. The staffing profiles absolutely have been terrific. We needed a whole range of experience and capabilities for our roles to fill, and we have had no problems filling those with people from the area."

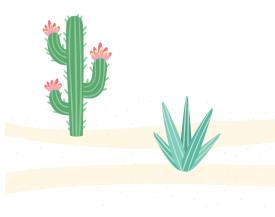
The company aims to bring lowcost banking to the "unbanked." In November 2019, Verdigris opened its pilot program in Greater Phoenix. Following the pilot period and upon regulatory approval, Verdigris' banking solutions will enable customers to access a real,

insured banking account, an easyto-use app to manage deposits and transfers, and a no-overdraft debit card without transaction fees. According to Verdigris Holdings, these tools can help customers save up to \$500 compared to alternative financial products.

"Arizona was a first mover to assure that businesses can test, validate and scale FinTech operations through a sandbox program, and Verdigris's selection of Greater Phoenix for its headquarters validates the importance of these cutting-edge programs," says Chris Camacho, president and CEO of the Greater Phoenix Economic Council. "By working together, we can always accomplish more, and we're excited that Verdigris' innovative approach to banking will benefit Greater Phoenix's residents, businesses and economy."

The Greater Phoenix area was selected after a comprehensive search involving a targeted bid to more than 11 cities. Arizona stood out, thanks to strong representation by the Arizona Commerce Authority and the **Greater Phoenix Economic** Council. Arizona's access to both technical and business education, its vibrant business community and its commitment to supporting emerging businesses and communities with forward-thinking policies made Arizona a natural fit.

"We're pleased to see the success of Verdigris as they bring viable and innovative products to the marketplace that have the potential to serve Arizona consumers," says Arizona Attorney General Mark Brnovich. "Arizona's FinTech Sandbox is the most active sandbox in North America, and Verdigris is playing a pivotal role in showcasing Arizona's leadership in developing innovative financial



From the Outside



How Greater Phoenix is using wearables to elevate health and safety

by RON STARNER

hey say it's not good to wear your heart on your sleeve, but did you know that you can now learn a lot more about your heart by what you wear on your sleeve? Welcome to the world of wearable

technology, or wearables, for short. What vou used to find out from your doctor's office is now readily available on a multitude of self-scanning devices.

Just how big is the market for wearables? A 2020 report from IDC put the number of wearables sold in 2019 at 336.5 million.

The epicenter of this industry, fittingly enough, is a place known for getting your heart rate up and your body moving outdoors — Greater Phoenix.

"Today, there are more than 133,600

innovators and businesses in the Valley's wearable technology workforce," says Christine Mackay, director of community and economic development at the City of Phoenix, in a recent AZ Big Media article. "This includes electronic, biomechanical and mechanical engineers, electrical and electronic technicians and software developers, plus supporting occupations and vendors."

Joe Hitt, co-founder and CEO of GoX Labs, is one of these innovators. A former West Point professor who built humanoid robots at DARPA, Hitt leads one of several firms operating out of the new WearTech Applied Research Center in the City of Phoenix. Hitt and his team of researchers are developing a human exoskeleton

We were a finalist for a major U.S. Army wearables competition. They selected five companies from across the country, and three were from Phoenix.

- Joe Hitt, co-founder and CEO, GoX Labs



Facing page and left: Wearable devices from GoX Labs

Photos courtesy of GoX Labs

that can improve worker safety and performance.

"We believe that wearable robots will become something that will transform human capabilities," says Hitt. "Toyota, Ford, Caterpillar, Boeing and others are doing this to improve productivity and reduce injuries in the workforce."

Hitt says the ubiquity of wearables is a harbinger. "About 100 million people wear smartwatches," he says. "That's expected to double to 200 million in the next three years. We'll be able to use the advanced sensors on those devices to predict disease and prevent injuries."

A new hub for health-tech

Greater Phoenix is a wear-tech hub, says Hitt, "because Arizona State University has very strong research programs in wearables and robots, and because we have great hospitals like the Mayo Clinic. Plus, we're a fast-growing county and city. This is the fastestgrowing metro area in the country. The vibrancy and workforce are here, and culturally, this is a place where health is very important."

Other factors promote the growth of WearTech in Greater Phoenix, he adds. "The Valley of the Sun is a preferred destination for an aging population, and this is a good junction between California, Colorado and Texas, where a lot of this work is being done."

ASU and the City of Phoenix saw an opportunity to position the region as a hub for wearable technology development. "WearTech was jointly put together by the city and ASU, and that is where the trade association and GoX labs are located today."

They're not alone. Joining them at the 5.000-sq.-ft. WearTech Center at Park Central Mall in midtown Phoenix are Hoolest Performance Technologies, a company focusing on electrical nerve stimulator earbuds to calm anxiety; Flexbio and TrueMobile Health, a firm working on an absorbent patch to detect the presence of alcohol in sweat; and LevelUp, a company producing a baseball hat with an EEG headband that uses neuro-feedback to improve performance.

The WearTech Center is strategically located close to key health technology assets in the area, including the Phoenix Biomedical Campus, Barrow Neurological Center and other prominent healthcare providers.

Winning national competitions

"Many different factors helped in the assemblage of the WearTech Center," says Hitt. "We're trying to attract other companies. For example, we were a finalist for a major U.S. Army wearables competition. They selected five companies from across the country, and three were from Phoenix. We have a lot of companies working in that space. They are small companies that are unknown to many people around the country."

WearTech was set up last year with a \$750,000 grant from the U.S. Department of Commerce. "Our goal with this institute is that we become proud Arizonans of an Arizona-based intellectual property generation," says Chris Camacho, president and CEO of the Greater Phoenix Economic Council. "It's less about importing other states' and other people's technology and more about building our own." ។



YEARS YOUNG

Valley's semiconductor sector shows no signs of slowing in its 8th decade



by RON STARNER

ust how important is the semiconductor industry to Greater Phoenix? Consider this: one of the largest semiconductor manufacturing plant investments in history is taking place right now in Chandler.

The \$7 billion investment into Intel's Fab 42 facility in Chandler is ongoing and upon completion will fabricate the most advanced computer chips in the world.

The expansion is so mammoth that, upon completion and opening, it will generate up to 3,000 jobs — a number that will be added to the 12,000-plus employees who already work at Intel in Chandler today.

Work on multiple fronts is taking place on-site to get the project ready. Several major infrastructure

projects are underway, including a \$5.4 million road expansion to accommodate the expected increase in traffic to and from the Intel campus. Construction and outfitting of Fab 42 continues, and base construction and tool installation are expected to be completed sometime this year.

Intel will manufacture chips with 10-nanometer technology at Fab 42. One nanometer is approximately one-billionth of a meter. The chips will power computers, data centers, sensors and other electronic devices.

The expansion is part of Intel's path to once again become and remain the world's No. 1 semiconductor supplier. According to data supplied by market research firm IC Insights, Intel was poised to overtake

Intel Fab 42 under construction in Chandler, Arizona; worker in a cleanroom facility at Intel campus in Chandler.

Photos courtesy of Intel Corp

Samsung as the global leader late last year. Other leading suppliers of microelectronic chips in the Greater Phoenix include ON Semiconductor, NXP Semiconductors. Microchip Technology and Retronix Semiconductor.

Motorola paved the way

The semiconductor industry has called Greater Phoenix home since 1949 when Motorola first opened a facility in the region. Since then, it has welcomed a host of manufacturers, suppliers and contractors. Today, the vibrant electronics sector in the region includes such stalwarts as Broadcom Inc., Cirrus Logic, Infineon Technologies, Qualcomm and SUMCO Corporation, among others.

Together, these firms employ roughly 18,865 highly skilled workers throughout the region, making the Phoenix metropolitan statistical area the third largest metro area for electronics employment in the U.S.

When asked why so many electronics firms choose to make Greater Phoenix their home, one response that is often given is access to suppliers. Overall, 70% of companies interviewed said they bought mostly from other companies in the U.S., and 63% of those firms said they purchased mainly from other Arizonabased companies.

"The Greater Phoenix region is a great place to do business and a great place to live," says Elizabeth Shipley, public affairs director of Arizona/Latin America region for Intel. "We opened our first Chandler manufacturing facility in 1980. There were many factors that contributed to that decision, from the proximity to our California headquarters, to the presence of a skilled workforce,

and the availability of natural resources. Since then, Intel has expanded its operations and we're producing some of the world's most advanced technology right here in the East Valley. Today, we employ more than 12,000 of the best and brightest Arizonans, spend more than \$4 billion each year with Arizonabased organizations, and have a statewide economic impact of \$8.3 billion."

'An Ecosystem of Innovation'

"In the four decades we've been developing and manufacturing technology here, Intel has encouraged an ecosystem of innovation that is helping to make our community a vibrant place to live and work," says Shipley. "The City of Chandler, Maricopa County, and the State of Arizona have been thoughtful partners, and the ecosystem of innovation here in the East Valley, along with access to quality educational resources, has contributed to the region's success. Intel's commitment to the community and to sustainability has made it possible for us to be successful in the Greater Phoenix region for so long."

Since 1996, Intel has invested more than \$23 billion to build high-tech manufacturing capacity in Arizona. Intel has maintained a presence in Arizona for 40 years, and the company's operations there are some of Intel's most diverse. **Intel's Internet of Things** organization has a significant presence in Arizona, and the firm's Chandler facility hosts **Intel's Assembly Test Technology** Development group. Other functions there include research and development, chip design, marketing, IT, finance, HR, legal, supply chain, and logistics. Ψ

INTEL ARIZONA BY THE NUMBERS

40 YEARS IN ARIZONA

12,000 **ARIZONA** EMPLOYEES

\$8.3 BILLION ANNUAL

\$23 BILLION IN CAPITAL INVESTMENTS

\$4.5 BILLION ANNUAL SPEND WITH

ARIZONA-BASED ORGANIZATIONS

Source: Intel Corn



by ADAM BRUNS

n July 2019, Nike launched construction of a new \$184 million, 500-job Nike Air **Manufacturing Innovation** facility in the Phoenix-area community of Goodyear.

Production of Nike Air soles starts in early 2020. Alongside Nike Air MI's existing facilities in Oregon and Missouri, which have recently undergone their own expansions, the new Arizona location will bring together experts in design, engineering, and product creation to deliver the next era of Nike Air, said the company.

"The expansion of Air MI in Arizona helps us keep pace with the growing demand for Nike Air and also greatly increases the size of our U.S. manufacturing footprint," says Eric Sprunk, NIKE, Inc.'s COO, last summer. "We want to thank the state and City of Goodyear for their partnership as we continue to accelerate our growth."

According to an agreement reached with the City of Goodyear in July 2019, the city will waive a little over \$990,000 in plan review and permit fees, and reimburse the company up to \$1.02 million for the jobs it creates. Nike in return will transform the 901,700-sq.-ft. Lincoln Logistics 40 building near Phoenix Goodyear Airport, pay an average salary of \$48,514 per year

The Air Max 2090 is Nike's current shoe of the future, and Goodyear, Arizona, is Nike's manufacturing location of the future.

(including overtime and bonuses) and pay at least 65% of employee healthcare premiums. The facility, developed by Lincoln Property, is part of the Airport Gateway at Goodyear project located in a Foreign-Trade Zone.

Like a well-made sneaker, Goodyear's employer portfolio is well structured and balanced. In addition to its healthy number of logistics operations and recent data center investments from the likes of Microsoft, Stream Data Centers and Vantage Data Centers, Goodyear knows manufacturing well, including major operations from aluminum can maker **Ball Corporation and Andersen** Windows & Doors. They're part of a larger universe of more than 2,800 manufacturing companies employing more than 138,000 in Greater Phoenix.

Education infrastructure

There to assist those companies in implementing new processes and sourcing new talent is the Arizona Advanced Manufacturing Institute (AzAMI) at Mesa Community College, with core programs in electronics, drafting, automation and machining, and welding. MCC is one of 10 institutions that comprise the Maricopa County Community College District, which as recently as 2016-17 served more than 200,000 credit and non-credit students, and supported one out of every 27 jobs in the county.

The value of associate's degrees and certifications continues to rise in stature nationally and in Arizona, where the state is investing \$10 million to expand Career and Technical Education (CTE) programs at high schools

across the state. The state's most recent budget also expands CTE programs at Maricopa County Community Colleges and Pima Community College in Tucson. It's all part of a recognition that advanced manufacturing is a big reason why Arizona's real GDP is 3.3%, the third-fastest growing rate in the nation.

Major universities recognize the power of manufacturing as well. Among the nearly 119,000 students enrolled at Arizona State University (ASU) are the 5,243 enrolled in science, engineering, management, technology and education programs at ASU Polytechnic, whose campus is near the City of Mesa's Pecos Advanced Manufacturing Zone. And ASU's W. P. Carey Department of Supply Chain Management is consistently ranked among the top five nationally for undergraduate and graduate programs.

MCC and other institutions are further expanding their programs to serve the automated industrial technology needs of the manufacturing companies that employ some 162,000 Arizonans. Recently the state's private companies, public sector and academic institutions came together to create the Arizona Advanced Technology Network. Mesa Community College, Estrella Mountain Community College, Pima Community College and Central Arizona College partnered to develop "a unified, industry-recognized curriculum specifically designed to teach the skills needed for high-paying, high-tech automated manufacturing jobs with the goal of preparing Arizona's workforce for the future." 4

MORE THAN MANUFACTURING COMPANIES MORE THAN 138,000 IN **GREATER PHOENIX**

ADVANCED

MANUFACTURERS IN

GREATER PHOENIX

CAN REACH

WITHIN ONE DAY'S TRUCK

DRIVE WHILE PAYING NEARLY

25% LESS IN OPERATIONAL **COSTS VERSUS CALIFORNIA**

Source: GPEC



erre Stead, executive chairman and CEO of Clarivate Analytics, makes the case for the Greater Phoenix region being the best location for advanced business services like his: "We were looking for locations that allow us access to a wide talent pool, coupled with affordable

living, flexible language skills and easy travel," Stead says. In February 2020, Clarivate Analytics finalized a 30,000-sq.ft. lease in Chandler where it plans to employ about 150.

Headquartered in Philadelphia and London, the company applies insights and analytics to innovation lifecycles in such fields as scientific and academic research; patent intelligence and compliance standards; pharmaceutical and biotech intelligence; and trademark, domain and

brand protection. The Chandler office will be one of three new Centers of Excellence, with the other locations in London and Malaysia. The operation in Chandler will include divisions from finance, administration, sales and customer service, along with several executive positions.

A closer look at Jerre Stead's location requirements shows how right he is.

Access to a wide talent pool? Check. Greater Phoenix is home to more than 40 universities and higher education institutions, including Arizona State University, Maricopa Community Colleges and Grand Canyon University. Employment growth is forecast to increase by 17% in the region over the next decade compared with 9% nationally.

Diverse language skills? Check. According to the Census Bureau's ACS 1-Year Estimate,

38% of Phoenix citizens are speakers of a non-English language, which is higher than the national average of 21.9%. In 2018, the most common non-English language spoken in Phoenix was Spanish; 31.5% of the overall population of Phoenix are native Spanish speakers.

Easy travel? Check. Phoenix Sky Harbor International Airport, a major hub for American Airlines, served more than 46 million passengers in 2019. Passengers can travel to 128 destinations from Sky Harbor on more than 20 airlines.

"Phoenix is very much an established labor market when it comes to advanced business services." savs Paul Komadina, senior managing director and market leader

for CBRE Arizona. Large shared services operations in the valley include JP Morgan Chase, Northern Trust, American Express and Silicon Valley Bank, to name just a few. While this can increase competition for these jobs, Phoenix continues to grow rapidly, which helps replenish the workforce for these employers. In comparison to other southwestern markets, Phoenix offers a large and expanding labor pool, favorable business climate and excellent flight accessibility.

Why the Phoenix region keeps winning

Other recent business services deals in Greater Phoenix echo Clarivate Analytics' location priorities and reveal some new ones.

WeTravel, an online platform for small travel companies to collect payments, manage bookings and pay suppliers will create at least 100 jobs in the next three years across their new operating and sales location in Scottsdale. The company considered multiple markets, including Salt Lake City, Atlanta, and Denver, but ultimately selected Scottsdale due to the city's competitive costs to do business, the availability of talent, and access to local resources. In addition, the executive team was energized by the entrepreneurial spirit of the region and felt alignment with the regional leaders.

"We're very proud and excited to bring WeTravel to Scottsdale," says Johannes Koeppel. CEO and co-founder of WeTravel. "The talent pool, the economic climate, and the business infrastructure make Scottsdale

> an obvious choice for our company's expansion."

Companies should not take that talent pool for granted, cautions CBRE's Komadina.

"While Phoenix's high quality of life can translate into a more sustainable workforce over the long term, the greatest external driver of employee turnover is employer competition," he explains. "Strong labor market conditions can increase turnover rates for employers, because there are so many other job

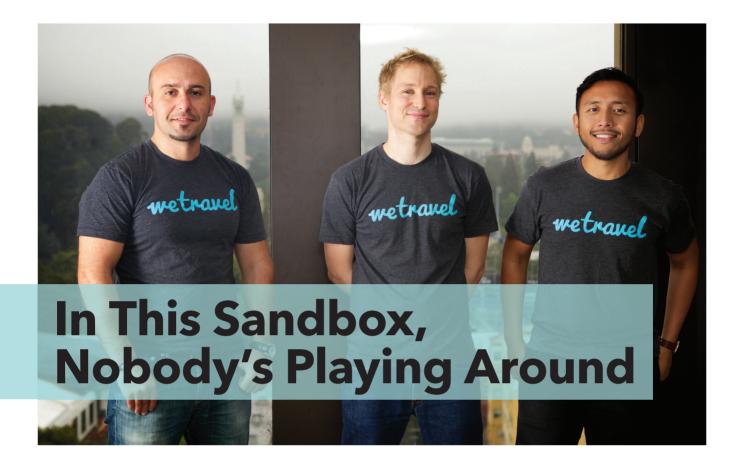
opportunities available. Phoenix's strong base of advanced business services can increase turnover for companies if they are not staying competitive with wage rates, career path opportunities and other job perks and benefits."

Front, the company replacing corporate email with an inbox built for teamwork, will create up to 50 new jobs in Greater Phoenix in 2020, with offices in San Francisco and Paris. Their goal is to increase productivity and teamwork, says Anthony Kennada, Front's chief marketing officer and head of their Phoenix operation.

"While the world of work has changed all around us, one paradigm has remained constant for over three decades: our corporate email. As a result, we are more overworked, more burned out and are lacking vocational fulfillment unlike ever before," says Kennada. "That's the problem Front is solving in the marketplace, and as a result, is helping thousands of businesses work together with purpose. I am thrilled to help the company usher in its next chapter of growth, and even more excited to be doing so in Greater Phoenix, adding yet another case study to the evolving story of the city's incredible startup ecosystem." 4



Paul Komadina, senior managing director and market leader, CBRE Arizona



by ADAM BRUNS

inTech, welcome to Arizona and welcome to Greater Phoenix.

Arizona in 2018 became the first in the nation to pass legislation enabling a regulatory sandbox. The Regulatory Sandbox Program (RSP) allows financial services companies to test innovative products and technology in market for up to 24 months without obtaining a license or other authorizations that might otherwise be required. By statute, the program doesn't expire until July 1, 2028, and it was improved in 2019 with legislation allowing more kinds of businesses to participate.

In early 2019, Governor Doug Ducey signed legislation creating another regulatory sandbox for property technology companies in Arizona. By reducing costly barriers to entry, the bill promotes the development of disruptive technologies affecting the transfer and management of commercial and residential property.

"PropTech is changing the way we rent, sell, buy, develop and manage property," said Governor Ducey. "With this forwardthinking legislation, PropTech companies will have a place to develop and test their products while benefiting and protecting consumers. With this bill, Arizona continues to send the message loud and clear that our state is the best place to develop cuttingedge technologies."

The state is one of about eight states that are members of the American Consumer Financial Innovation Network (ACFIN), which has coalesced to facilitate consumer-driven innovation in markets for financial products and services through increased coordination among federal and state officials. Jackson Mueller, the associate director of Center for Financial Markets at the Milken Institute, says such crossborder regulatory alliances offer

WeTravel Founders (left to right) Garib Mehdiyev, Johannes Koeppel and Zaky Prabowo chose Scottsdale over locations such as Salt Lake City, Atlanta and Denver for a new operations and sales location announced in early 2020.

Photo courtesy of WeTrave

intriguing possibilities. The prime example is the Global Financial Innovation Network first started by authorities in the UK.

"In addition to information sharing, they've also tried to put together a cross-border pilot initiative where firms can test their product or service with a number of regulatory bodies," saya Mueller. "I'm wondering if in the future some of these states in ACFIN may decide they'd like to develop cross-border sandbox initiatives. For firms looking to launch, given FinTech's borderless nature, it would be interesting to see whether that testing regime, and what comes out of it, also satisfied regulators in other states."

Sharp turn upward

Both sandbox statutes just add rocket fuel to Greater Phoenix's surging finance and insurance cluster. Among the Phoenician FinTech players is secure payment transfer technology Zelle, created by Early Warning Services, LLC, which employs about 1,000 throughout the region. Emailage, based in the Greater Phoenix municipality of Chandler, is a global leader in fraud prevention and risk management. In 2018, the company was responsible for analyzing 164 billion global transaction data points — a 91% increase over the previous year preventing an estimated \$2.7 billion of fraud in over 150 countries.

Emailage recently established an office in Dublin, Ireland, among other locations, but its beating heart is firmly headquartered in Chandler, where the company was founded in 2012 by Rei Carvalho, a finalist for EY's Entrepreneur of the Year 2019 award for the Mountain Desert region. Emailage in 2018 doubled its HQ to 30,000 sq. ft. and aimed to add 40 more people to the payroll. The FinTech firm's growth trajectory has been so attractive that LexisNexis

Risk Solutions in February 2020 announced it had signed an agreement to acquire it.

Greater Phoenix - and the entire state of Arizona - are increasing their visibility in the FinTech arena. Based in Ohio, Root Insurance, valued at more than \$3.6 billion, is the nation's first licensed insurance carrier powered entirely by mobile, basing its rates on how you drive. Now in 29 states. Root measured more than 4.5 billion miles in 2019. When it looked at state driving habits at the end of 2019, it found, among other driving behaviors that "Arizona saw more improvement in sharp turn events than any other state."

Root itself is turning for Phoenix, investing in a \$1 million, 370 phase-1-jobs office. It's part of national growth on the way to being available in all 50 states that's caused the company to expand its workforce by over 200%, bringing the total to more than 800.

WeTravel, a FinTech startup for travel companies, is also expanding from its San Francisco and Amsterdam home bases to Scottsdale, and will create over 100 new jobs at an operations and sales location over the next three years. The company raised a \$2 million seed round in 2018, and more than 1,200 travel businesses use the online payment platform that helps small travel companies transition from paperbased and traditional finances, communication and marketing.

The company considered multiple markets including Salt Lake City, Atlanta and Denver, but ultimately selected Scottsdale due to the region's competitive costs to do business, the availability of talent, and access to local resources. Home to the ASU SkySong Innovation Center in partnership with Arizona State University, Scottsdale boasts nearly 18,000 businesses supplying over 150,000 jobs. 4

In 2018, Arizona became the first state in the nation to pass legislation enabling a regulatory sandbox for FinTech, and has now added a sandbox for PropTech.



POISED FOR FLIGHT

Greater Phoenix hosts some of the world's top aerospace companies

by GARY DAUGHTERS

reater Phoenix, with a swelling army of engineers, is an increasingly favored location for aerospace and defense companies. Boeing's facility in Mesa, which produces Apache Attack Helicopters, is one of the region's largest employers with 3,600 workers. Honeywell Aerospace, maker of aircraft engines and avionics, has its global headquarters in Phoenix. Able Aerospace, an aircraft maintenance group, now is the largest employer at Phoenix-Mesa Gateway Airport.

The region's fastest aerospace project is Northrop Grumman, a name that is synonymous

globally with military aircraft, rockets and satellites. With locations in Chandler, Gilbert and Mesa, the powerful defense contractor employs more than 2,220 people in the region. And the company's presence continues to expand. Just months after opening

a new Launch Vehicles Division Headquarters in Chandler, Northrop Grumman broke ground in January 2020 on a 220,000 sq.-ft. expansion of its satellite manufacturing operations in Gilbert. The company's satellite business began in Gilbert in the early 1990s and its current programs include NASA's Landsat 9 and Polar Satellite Systems satellites. This latest of many expansions is to double production capacity at the facility.

"This marks another step forward

in solidifying our Gilbert site as a state-of-the-art facility that provides high quality, high reliability space hardware in support of our domestic and international customers," says Frank DeMauro, sector vice president and general manager of tactical space systems at Northrop Grumman. "This expansion also continues the long history of developing innovative aerospace products in the Gilbert area that help customers achieve mission success while creating new aerospace jobs in the region."

The Gilbert facility already is one of the largest and most advanced spacecraft assembly and test facilities in the U.S. The expansion is to consist of a new, 120,000 sq.ft. office building to be completed by the end of 2020 and a 100,000 sq. ft. addition to the adjacent manufacturing facility that's to open in 2021.

Willmeng Construction, a contractor on the project, also built the new Launch Division Headquarters that opened in November 2019 in Chandler's 180-acre Park Place, a masterplanned, mixed-use development. It's just one measure of the region's rapid growth that, not long ago, the land upon which Park Place is built was home to dairy and cotton farms. Willmeng's president & CEO James Murphy calls Park Place "a top-shelf development that can successfully attract top-shelf global companies like Northrop Grumman."

Murphy says the Launch Division Headquarters clearly was built with expansion in mind.

"You'd be amazed at how many

times a user finds they're out of space before we even hand them the keys," says Murphy. "That was not the case with Northrop Grumman. They did a phenomenal job of addressing not just the now but of addressing their growth and the evolution of the industry. It's a visionary and industryleading facility."

A little less than half of the building, 261,000 sq. ft., was designed for manufacturing. With a current headcount of just over 1,650 in Chandler, Northrop Grumman plans to hire an additional 250 new workers in the coming months to staff the operation. In September 2019, the Chandler facility started work on a \$1.1 billion contract for missile targets for the Pentagon's Missile Defense Agency. Target rockets made at the plant will be programmed to simulate incoming enemy missiles against which to test defensive weapons.

Willmeng's Murphy, who serves on an advisory board to Arizona State University's Ira A. Fulton Schools of Engineering, believes the aerospace sector is an increasingly vital contributor to the Greater Phoenix economy, and to the region's future.

"The more we have industry leaders like Northrop Grumman, like Boeing and like Able Aerospace Services, the more we get to retain our best and brightest. To me, it's this big snowball rolling downhill, and this continued growth creates these micro-economies in places like Chandler and Gilbert and Mesa that are powered by this heavyhitting industry. It has transformed the entire community." Ψ

Northrop Grumman's new Launch Division headquarters in Chandler boasts 261,000 sq. ft. of manufacturing space.

Photos courtesy of Willmeng Construction



Greater Phoenix is quickly becoming a hub of healthcare education

ith more than \$3 billion in bioscience capital expenditures earmarked for investment in Greater

Phoenix over the next two years, the region is a thriving biomedical hub. These investments will create more than 7,000 healthcare and biomedical jobs. Fortunately, Greater Phoenix is home to some of the most innovative and forward-thinking educational institutions in the country.

The Phoenix Biomedical Campus (PBC) is a 30-acre complex in downtown Phoenix with more than 6 million sq. ft. of research, academic and clinical facilities for students earning advanced degrees in medical professions. It was established in 2004 in partnership with the Arizona Board of Regents, Arizona State University, Northern Arizona University, the University of Arizona and the City of Phoenix.

The PBC is home to a number of worldclass health and bioscience facilities including Mayo Clinic, Dignity Health St. Joseph's Hospital & Medical Center, **Translational Genomics Research**

Institute, National Institute of Diabetes and Digestive and Kidney Disorders, University of Arizona College of Pharmacy-Phoenix, and VisionGate.

In March 2019, ASU and Wexford Science + Technology broke ground on a new building, the PBC Innovation Center, at the Phoenix Biomedical Campus. Wexford Science + Technology is a real estate development company that works exclusively with universities, academic medical centers and research institutions to develop vibrant, mixed-use, amenity-rich knowledge communities.

"Wexford is all in on creating this knowledge community in downtown Phoenix," says Jim Berens, founder and CEO of Wexford Science & Technology. "The reason we are so confident about its success is that when we look around the country at these kinds of projects, it starts with having a world-class university — and here, we have that in spades with Arizona State University, their research enterprise and their commitment to creating jobs and building communities."

Care for health

Creighton University recently broke ground on a new 183,000-sq.-ft. Phoenix campus. The Jesuit, Catholic university based in Omaha, Nebraska, is being built in midtown Phoenix where it will eventually house hundreds of health science students. The expansion will include a four-year medical school, nursing school, occupational and physical therapy schools, pharmacy school, physician assistant school and emergency medical services program.

"The next generation of health professionals will be built right here," said Gov. Doug Ducey, who lauded the vision for the campus, which is eventually expected to serve nearly 900 Creighton students studying to be physicians, nurses, pharmacists, physician assistants, and physical and occupational therapists. "It was just about a year ago we came together to announce this project, and now it's already being built."

Creighton University's College of Nursing, which launched its first Phoenix-based Accelerated Bachelor of Science in Nursing program in January 2018, will move into a temporary home at Park Central effective January 2019. The School of Medicine, which first came to Phoenix in 2009, will continue operating its third- and fourth-year programs out of space adjacent to Dignity Heath St. Joseph's Hospital and Medical Center until construction is completed in spring 2021.

The new Phoenix campus for Creighton will meet the university's current needs while providing ample room for expansion in the future, and the central Phoenix location makes it convenient for students doing their residencies and other studies at nearby hospitals.

"Creighton University is preparing for an exciting new era in Phoenix, one that combines our tradition for educational excellence in the health sciences with our distinctive Jesuit, Catholic mission," says Rev. Daniel Hendrickson, SJ, PhD, president of Creighton University. "Creighton University has strong connections to the Arizona medical

community, and we look forward to expanding our impact by educating many more exceptionally qualified healthcare professionals to serve the community moving forward."

For Linda Hunt, CEO of Dignity Health Arizona, which includes St. Joseph's and four other hospitals, the new campus fulfills a longtime dream for Dignity Health leaders.

"We had a dream years ago to find a Catholic partner that could offer medical education training to students," she said. "Today, we are realizing that dream for Dignity Health and St. Joseph's Hospital. This creates a place where students can be educated, with a strong spiritual component."



The combined resources of Valleywise Health, Dignity Health, District Medical Group and Creighton University will provide access to high-quality teaching environments for Creighton students and medical residents, says Steve Purves, president and CEO of Valleywise Health.

"We at Valleywise Health are very pleased to be part of this exciting venture, which leverages our vision to be nationally recognized for transforming care to improve community health," says Purves. "Our innovative Creighton Alliance will ensure that this health sciences campus and medical school provides exceptional student clinical training experiences, which are second to none." ។

Life is Better in the Valley

10 Reasons to call this region home

by SAVANNAH KING

Photo courtesy of Visit Phoenix

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- 1. Cost of Living: According to Payscale, the overall cost of living in Phoenix is 1% lower than the national average. Arizona offers residents low personal income taxes and low effective property tax rates.
- 2. Amenities and Attractions: Greater Phoenix has something for everyone. Those who prefer a more urban environment with nightlife, galleries and monthly art walks should visit Roosevelt Row. Families can keep the youngsters entertained between visits to the Phoenix Zoo, the Musical Instrument Museum and the Phoenix Art Museum. More eclectic tastes will surely enjoy visiting the hip restaurants and shops that line the streets of Old Town Scottsdale and downtown Phoenix's Heritage Square.
- 3. Commutes: Between our communities. Greater Phoenix has an average commute time of 26 minutes, so you can spend your time doing things you like rather than being stuck in traffic for hours.
- 4. Jobs: Arizona's economy is booming and leading the nation in job growth. In 2019, the U.S. Bureau of Labor Statistics ranked Arizona No. 2 in the nation for year-overvear job growth.
- **5. Culture:** Greater Phoenix is a hub for culture and history. Every year, 22 regional Native American tribes gather at the World Championship Hoop Dance Contest in Phoenix. Visitors can also take a trip back in time to the 1800s at Goldfield Ghost Town — Phoenix's only authentic ghost town.
- **6. Education:** Greater Phoenix is home to several nationally ranked schools and internationally known universities. On the K-12 level, the region's public school system has a strong system of charter schools like Phoenix's Bioscience High School and the Arizona School for the Arts. There are more than 50 higher education institutions in the region that offer degree and certification programs. From P-20 to career training and beyond,

- students can access innovative programs that advance their career goals and improve their income.
- 7. **Sports:** More than 300 golf courses are located across Greater Phoenix. Every year, golf fans watch the pros at TPC Scottsdale's Stadium course, home of the PGA Tour's annual Waste Management Phoenix Open. Greater Phoneix hosts several other major sporting events including college football's Fiesta Bowl and Cactus Bowl, NASCAR events and Cactus League Spring Training. where Major League Baseball fans can watch 15 teams train and play. The area is home to several pro teams, including the MLB's Arizona Diamondbacks, the NFL's Arizona Cardinals, the NBA's Phoenix Suns, WNBA's Phoenix Mercury and the NHL's Arizona Coyotes.
- 8. Outdoor Recreation: The Sonoran Desert's stunning scenery offers more than beautiful sunsets. From hiking and mountain biking along the area's many trails or paddling down the Salt River, outdoors enthusiasts have limitless opportunities for fun.
- 9. Sunshine: If there's one thing Greater Phoenix has in spades, it's sunshine. With more than 300 days of sunshine each year, residents are able to enjoy the area's stunning natural scenery and opportunities for outdoor recreation. The Valley of the Sun does get hot over the summer months but maintains a pleasant temperature throughout the other seasons. As if the sunshine wasn't reason enough to move to Greater Phoenix, the region is also safe from natural disasters - no earthquakes, wildfires, tornadoes or hurricanes.
- 10. Home Sweet Home: According to WalletHub, several Arizona cities rank among the top in the nation for first-time homebuyers. Peoria, Chandler, Gilbert, Surprise and Scottsdale all ranked among the top 10% of the country. Phoenix, Mesa and Glendale were also ranked among the top half of cities in the study. Ψ













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Downtown from Mummy Mountain at dusk

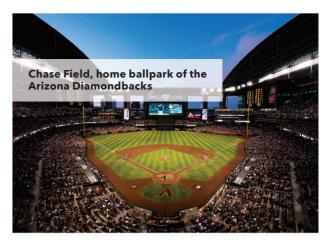
All photos courtesy of Visit Phoenix

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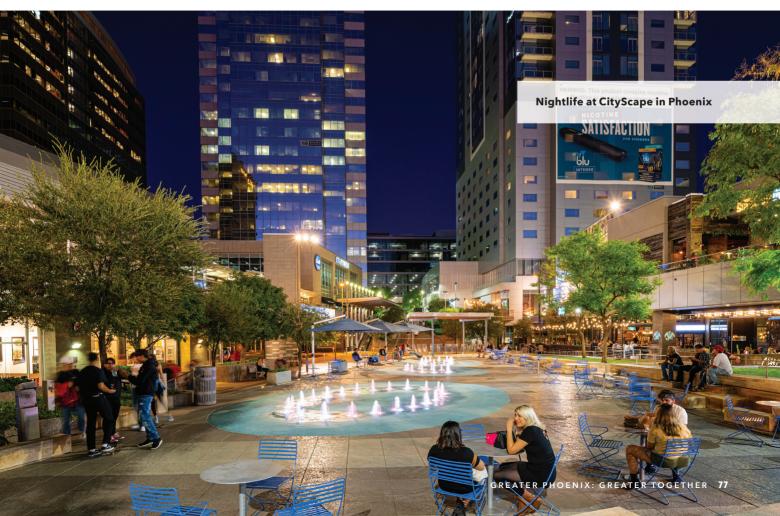


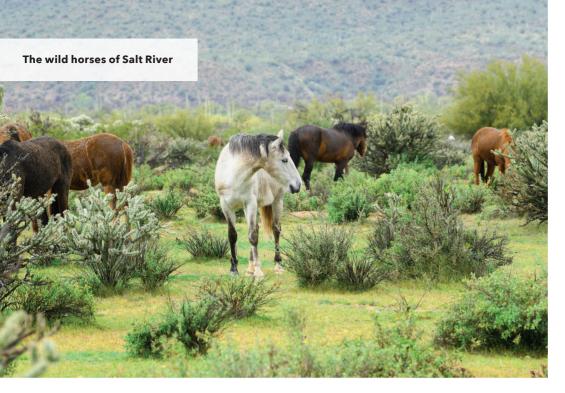


















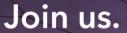
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