



HIGH TECH HOT SPOTS

IF YOU BUILD IT, THEY WILL COME. FIND OUT
HOW THE FOOTHILLS, THE CITY OF RENO AND
EVEN THE MOUNTAIN RESORTS ARE ATTRACTING
HIGH TECH TO THE HIGH SIERRA.

BY KATRINA PAZ, WHIP VILLARREAL AND TIM HAUSERMAN

THE GOLD COUNTRY

It used to be gold that brought legions of hopeful prospectors to the Sierra Foothills for riches and a better life. Today, amongst the tranquil trails and historic quaintness, Southern Nevada County has become a haven for boutique tech companies, startups and individuals escaping the frenzy of the Bay Area.

The area's more modern tech roots go back over half a century, to when the Grass Valley Group got its start in 1959 (though some would say it's been a cradle of innovation since the invention of the Pelton Wheel in the 1870s and Lyman Gilmore's steam-powered airplane in 1902). The Grass Valley Group built surround-sound systems for Cinerama theatres and at one time employed up to 1,500 people. The products evolved and varied throughout the years, as did the company's organizational structure and

ownership. It retains its roots in the moniker but the company is now based out of Canada and known as Grass Valley, A Belden Brand.

While many of the jobs left with the company, quite a few professionals did not. Jason Fountaine of Gyro-Stabilized Systems believes the company's gift to the area was the people who left the company (or were left behind) and started their own spinoffs and startups. While Fountaine isn't a direct descendent of Grass Valley Group (he came to the area by way of his work at Beale Air Force Base), he helped found GSS in Nevada County in 2011 with a Penn Valley local. Today the company, which develops custom stabilized platforms for camera and sensor technologies, has 15 employees, all local, with a worldwide sales and support network. They're one of the leading innovators and producers in their industry and manufacture and design everything on-site.

Autometrix also taps the local talent and resources of the region. The company of approximately 30 employees utilizes area machine shops in Yuba, Nevada and Placer counties to manufacture automated cutting systems for industrial textiles. The company is helmed by Jonathan Palmer, whose father founded it in 1989 after spending several years independently developing software. Palmer has been in Nevada County his entire life and says the notion of relocating the company has occurred to him, but he believes the benefits of staying outweigh any possible reason to leave: A move would be expensive, of course, but it's also simply a beautiful place to live. "I absolutely loved growing up here and I want to have that for my family," he says. "I live on 9 acres and I love it. It's actually the life I want for myself and my employees."

Palmer's employees take full advantage of their surroundings, the temperate weather and recreational opportunities. Most days anywhere from two to eight of his staff go for a mountain bike ride on their lunch break. "We totally encourage that," says Palmer. "We encourage walking and biking on the nearby trails. I want my employees to have the same healthy work-life lifestyle that I have. Nevada County is perfect for that."

TraitWare is another small startup making a name for itself, designing a program to alleviate the need to track and remember all the passwords necessary in daily life. The company launched two years ago and is just "getting past the super small stage," according to CEO and director Bert Spencer, with about 16 people involved. While not all the staff is on-site, the ones that are come from a variety of backgrounds and experiences, ranging from a graduate of Sacramento State to a homeschooled self-taught android developer.

"We've been able to find a fair amount of people that grew up in the area that have the skill level to grow the company," says Spencer. "It's amazing how many developers we have in the area."

In fact, it's not just locals—the Gold Country is increasingly attracting transplants who work remotely, either as individual contractors or for big companies. For instance, Ryan Mount moved here in



Autometrix staffers
on their lunch break
in Nevada County

2004 and works from home for IBM. One of the motivating factors in moving to Nevada County was the cost of living, he says, noting that even with a significant increase in income, it was still cost prohibitive to purchase a home in the Bay Area. He was also drawn by the subtle benefits of the overall quality of life, including good schools and essentially no traffic.

It's also not just techies who are drawn here. Benji Brown, a Nevada County native, acknowledges the influence of the area's rich artistic offerings on the tech community. The county is the only rural county in California with two state-designated cultural districts (Grass Valley-Ne-

vada City and Truckee). "We're packed full of artists," he says, adding that it affects virtual and augmented reality innovations, a growing niche in the foothills.

In fact, Brown recently founded Tesuji Games Inc. He works with a team of eight people that work remotely all over the world. They design geo-aware, a spontaneous way of personally connecting with friends through group games, live stream and augmented reality while broadcasting to thousands of fans. They tout an office in Asia but their headquarters are in downtown Nevada City, which contains an on-site virtual reality room. Brown loves the people, the local vibe, rides his bike



Apple's
groundbreaking
ceremony



Tesla's
Gigafactory

to work and—like most that live there—is enamored with the Yuba River. He would love to one day build a company with hundreds of employees, but acknowledges that one of the failings of the region is the lack of investors.

“There’s not much of an investor community (here),” he says. “But it makes everyone pretty scrappy and work pretty hard around here. If you’re scrappy, that’s how you make it.”

Whether it builds scrappy resiliency or not, however, local leaders and dedicated professionals have made a concerted effort in recent years to further develop the area’s tech pool as well as attract new companies to the area.

The Nevada County Economic Resource Council conducted a survey in 2015 to assess the digital technology sector.

Shavati Karki-Pearl led the assessment, which resulted in the development of the Nevada County Tech Connection, a multifaceted, comprehensive organization focusing on connecting and educating professionals to drive innovation and performance. The Green Screen Institute, a 27,000-square-foot tech center, was also a product of the initiative. The center provides co-working space for companies and individuals, as well as an accelerator and investment program.

Karki-Pearl points out that one of the main challenges was educating up-and-coming professionals as well as providing continuing education for those already experienced in the industry. NCTC’s Connected Communities Academy offers courses and workshops on everything from digital audio mixing and virtual reality con-

tent development to IT tech certifications and software programming.

There’s also the more casual (and free) Code and Coffee and VR/VR “meet ups,” as well as TechTonic Tuesdays once a month. These monthly gatherings draw two to three dozen people and feature a variety of speakers focused on the growth and development of the profession on all levels.

Last year, NCTC also received a grant to build a tech ecosystem. “We held a lot of focus groups,” says Karki-Pearl. “Businesses were saying they had a hard time recruiting people, and that it was hard to compete with the Bay Area to hire people. The whole idea is to make our tech ecosystem more visible.”

A talent directory was established in order to further help connect local profes-



sionals, as well as a business directory. There are also mentor programs, computer clubs and robotics programs. Partnerships with the Nevada City Film Festival and the local agricultural industry (they presented an AgTech Micro Conference in February) further solidify the organization's place in the community.

"Technology is not a sector," says Karki-Pearl. "It's a thread that weaves through every sector and industry creating solutions." —**K.P.**

THE CITY OF RENO

Life after a wave of tech companies moved into the Reno-Tahoe region has shaped up to be both a story of success and also pitfalls. The diversification of businesses brings new opportunities and prosperity for Northern Nevada, but it has also

highlighted the area's weaknesses and the challenges that lay ahead for the future.

In 2014 when Tesla announced its enormous Gigafactory would call Nevada home, it created a ripple effect that attracted other gigantic corporations that rely on technological innovation to expand: Google, Panasonic and Switch, just to name a few. And this past January, Tim Cook, CEO of Apple, made a trip to the Biggest Little City to attend a groundbreaking ceremony with Gov. Brian Sandoval and Reno Mayor Hillary Schieve for Apple's new data center in downtown Reno—part of the company's expansion plan.

The data center measures up to 1.1 million square feet on 1,700 acres of land and construction of the site is expected to employ 300 people. When finally up and running, the data center will account for 100 new jobs for Apple in the region. Cook said at the groundbreaking ceremony that Apple has invested \$1.6 billion in the Northern Nevada region and in the course of the next several years, intends to invest an additional \$1 billion.

Switch, a company focused on technology infrastructure, also built a mammoth data center here. It is located at the Tahoe Reno Industrial Center and the company says the facility is designed for up to 7.2 million square feet of data center space on a 2,000-acre campus. The total cost for the data center will add up to \$3 billion when fully built out. It will be a key part of Switch's "Superloop" system, allowing high speed connections for its clients through an area bordered by Reno, San Francisco, Las Vegas and Los Angeles. Switch's clients number more than 1,000 and include high-profile companies such as eBay, Xerox and DreamWorks.

Last April, Google purchased slightly more than 1,200 acres of land at the TRIC for approximately \$29 million, reportedly for a data center as well. Most recently, Blockchains, LLC, a company focused on the technology behind cryptocurrencies such as Bitcoin, purchased an enormous block of land at the TRIC as well, which was also the remaining vacant land for sale at the industrial park. The sale included 74,000 acres in 15 separate deals worth \$175 million.

Not only have giant corporations invested in the area, both local and

outside startups have also contributed to Nevada's growing tech industry. According to the Economic Development Association of Western Nevada, local startups that worked with the association contributed \$58 million in capital and 181 jobs to the region in 2017. That is a significant increase from 2016, when startups contributed \$9 million and 130 jobs to the local economy.

To help fill the new jobs spawned from increased investment and development in tech, EDAWN works with the University of Nevada, Reno, to hire qualified graduates and alumni. Historically, university graduates that majored in data sciences were forced to search for work outside the community. But with more diverse options in the workforce now, students with those skills who want to stay in Reno can.

"These tech companies bring high wage jobs, career skills and career arcs that are in demand and will be a big part of the future workforce here," says Doug Erwin, senior vice president of the Entrepreneurial Development program at EDAWN. "We're particularly interested in increasing wages and skills so we can keep our talent from the schools and create more opportunity for people who want to work in the region."

Erwin says there are companies coming from all over the country, but Reno is especially appealing to companies and individuals from the Bay Area because of its proximity to Silicon Valley. He added that the local business climate, low taxes and decreased operating costs help incoming companies get a lot further on the same amount of capital compared to San Francisco and other big cities.

One of those tech companies that have expanded to Reno is New York-based Bombora, a business-to-business marketing company that heavily relies on advanced technology.

"I definitely had to defend and explain that I was moving to Reno early on, and quite a bit—one of my co-founders said, 'Oh, that would be a weird place to go,'" says Rob Armstrong, co-founder of Bombora. "However, it's something that gets easier everyday to explain. The more often I go to the Bay Area, I'm getting interest and questions like, 'How is it? I heard about Reno,' where I used to get strange looks."



Armstrong says that since expanding to Reno, the company has grown and added to their workforce: The company started with 13 employees and now has 33 positions based in Reno; at least 10 of its interns from UNR were hired for full-time jobs at the company. Armstrong also says that through EDawn, Bombora was able to find and hire the company's director for its data science department, a graduate from UNR who had moved to California in search of work in his field.

Even with the advantages of doing business here, some companies are still hesitant to make the move because of lingering reputations associated with Reno. However, that may be slowly changing. "When you talk to these small business owners they say there is definite risk.

They ask themselves, 'Am I moving to a place that doesn't matter?' because Reno is still a small place," says Thoran Towler, CEO of the Nevada Association of Employers, which represents more than 400 businesses. "But when they see these big companies expanding to Reno, in addition to Tim Cook coming out and personally breaking ground here and with Tesla being all in, I think it does tell these other tech companies this is a legitimate place to be."

With more and more tech companies relocating or basing new startups in Northern Nevada, business and city leaders believe their economic development strategy has been a success, with its focus on attracting other industries to diversify the local economy, moving away from the city's dependence on gaming and tourism

revenue, industries that had been on a decline for many years. But as the amount of job opportunities increases, it may be a challenge to not only fill those positions in a timely manner with a sustainable workforce, but also supplying enough housing for the growing population.

In December 2017, the Reno-Sparks Association of Realtors reported new home listings at 292, which is down 14 percent from one year ago. The report also shows that active inventory for existing single-family homes in the area was down to just 637 in December, a five-year low. And low housing inventory means prices are being driven higher. At the beginning of 2017, the median sales price for a single-family home was \$302,000, but by early 2018, it was \$345,000, a 15 percent increase. The RSAR says during the peak selling season, April through July, it expects continued pressure on inventory, which will drive the median price even higher this year.

Renters have also felt the squeeze. According to data from Johnson Perkins Griffin, a real estate appraisers and consulting firm, the overall average monthly rent for the Reno-Sparks area was \$1,180 in the fourth quarter of 2017. The average rent has been steadily increasing in the Reno-Sparks area since 2011, when the average rent was only \$822.

Though there is construction underway of thousands of new housing units, including renovating old hotels as urban apartments, it may take years before inventory meets current demand, which could push the region's rents and housing costs up faster than most areas in the nation.

Other concerns that have been echoed throughout the community have been the state of regional infrastructure, increased and congested traffic, additional smog and deteriorating public school facilities—or the lack of schools—in Washoe County.

However, despite all the challenges, with a strong economy and new development underway bringing further investment, prosperity and opportunities into the region, optimism remains high among investors, residents, business and city leaders alike. And if growth continues to accelerate in the coming years, the Biggest Little City may not stay so little much longer.—W.V.



The Tahoe Mill Collective

Tahoe Mill Collective

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THE MOUNTAIN COMMUNITIES

One of the great benefits of the high tech/freelance/everyone-is-an-entrepreneur world we live in is that you can be your own boss and work anywhere. But unfortunately for freelancers, that sometimes means working at the kitchen table surrounded by kids, or in the car in the ski area parking lot before heading out onto the slopes. The solution: Shared workspace.

Megan Michelson originally sought an office to share with a small group of local writers and other independent workers who were tired of working out of their (at times chaotic) homes. They found the perfect spot, right at the bottom of

Alpine Meadows Road, with easy access to Alpine Meadows and Squaw Valley ski resorts. They'd planned to use the space just for themselves, but it was bigger than they needed, so they decided to form the collective. "I was real nervous, but as soon as we started opening the doors, people came out of the wood-work," says Michelson.

The collective concept is simple: Have an inviting space with high speed internet, coffee and snacks, private meeting rooms, and desks to plug into and get to work. At Tahoe Mill, you can rent a desk for \$250 a month and use it any time you want, or you can share a desk for \$150 per month. Desks are also rented for a day or week, which is

perfect for a vacationer. Collectives allow independent people to continue to live lives of balance between play and work, but they also give folks who work alone a chance to share ideas with others, and perhaps acquire a skiing or biking buddy.

Although Tahoe Mill was started by a group of Tahoe freelancers, at Mammoth Mountain, the ski resort itself established a collective called The Fort, with two locations: one on the mountain and the other in the town of Mammoth Lakes. Both have high speed internet, meeting rooms and desk space available by the month, week or day. The Fort also sells a 12-month plan that includes a ski pass, on-site ski lockers and storage. —**T.H.**