



# SILICON ARMENIA

Armenia is hard at work establishing itself as a country with a strong technical talent to invest in. The Soviet Union left a university environment strong in mathematics and engineering, talent that is scarce in today's economy. Synopsys, Microsoft and VMW are already in the country, and others like Disney and IBM are opening offices or offshore locations. Though these larger companies have subsidiaries in Armenia, the Diaspora is coming back to open offshore development centers to service companies in United States, Europe and even India, a known leader in offshore development. At the same time, Armenia is also growing as a place where repatriates from the Diaspora as well as the locals are capitalizing on the exciting startup industry in the country. Investors from Silicon Valley, Europe and other places are pouring money into the ideas of young entrepreneurs to make a global impact on the world economy.

*Text: Joanna Bekkiana | Illustration: Gegham Vardanyan*



### Startups: Key to Growth

According to the World Bank, Armenia has seen a growth of 27 percent in its compound annual growth rate from 1998-2010, with the demand for technology services being a major contributor for that growth. The past ten years have shown the country is hard at work in bringing some serious changes. In December of 2012, Armenia's Prime Minister Tigran Sargsyan made a visit to CalTech, Silicon Valley and Harvard University to start conversations and actions to bridge the gap between the technology industry in the United States and Armenia. Currently, Armenia has active trade relations with the European Union, Russia and the United States, a motivating reason for the Prime Minister to attract companies. Historically, Armenia was the high tech research center of the Soviet Union. Since that time, the country has continued to maintain the same standards of education, which is one of the driving forces of the country in attracting investors. In fact, recently the country's startup industry has been receiving attention and investments from foreign and native entrepreneurs who are looking to make an impact on the global high-tech field.

Plug and Play Tech Center, a business accelerator headquartered in Sunnyvale, California, started a program with Armenia at the end of 2012 to connect Armenian founders with Silicon Valley. Jupe Tan, the head of International Programs and Initiatives for Plug and Play, is focused on providing an opportunity for companies outside the United States to gain access to venture funding. "Since 2009 we have accelerated around 100 startups per year, mostly companies from Canada, Austria, Chile, Brazil and other parts of Europe," he stated in an interview. He compares Armenia to Estonia and Singapore - countries smaller in size and more open to adopting policies that attract talent and propel business growth. "Plug and Play is in a good position to help build the bridge and move the IT industry from a more traditional outsourcing model to high tech startups," he stated.

"Silicon Valley definitely does not have a monopoly on the best ideas, so in the last two to three years we have expanded our international operations and initiatives, investing more in international startups," said Tan. Although Armenia has a physical presence in the Valley, they have just started putting the relationship into action, hoping to see more companies coming over in the latter part of 2013.

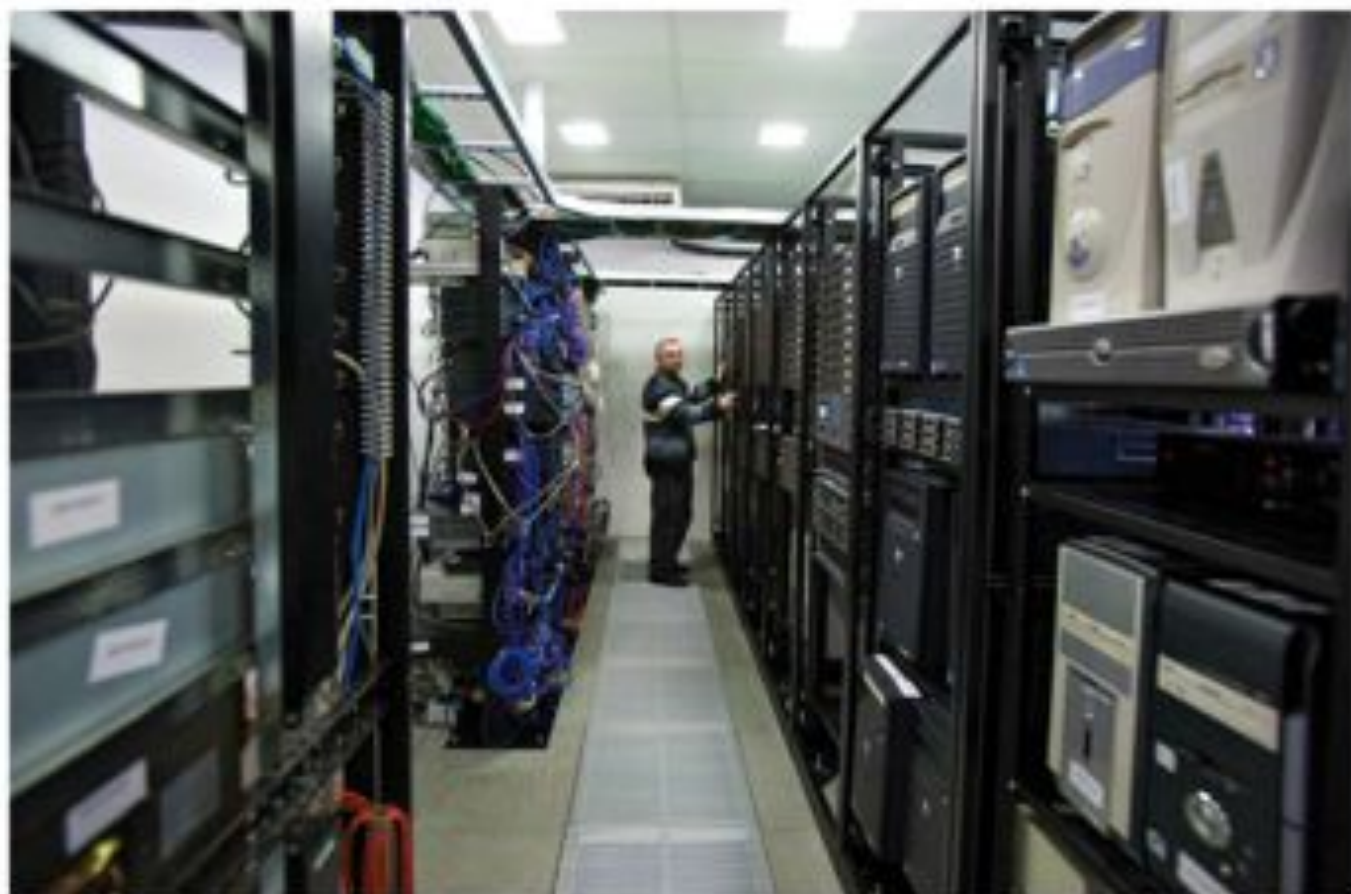
Opportunity is abundant in Armenia, and it is the reason many Armenians who have left the Motherland for other ventures are moving back to the country, along with next generation Armenians from the Diaspora. Raffi Elliot, 24, who is half Armenian, half Canadian-Irish, is from Montreal, Canada. He moved to Armenia in 2011 with a Belgium-based



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think tank called European Friends of Armenia, where he was a research fellow. He stayed in the country for the fellowship and decided not to leave when his contract was over. Thinking of what to do next, he went through several ideas deciding that natural resources were scarce so that was out, as was import/export because it can get overly complicated with customs. In September 2012, he discovered Armenia Startup Cup, the first-ever national competition where startups showcase their companies. "I submitted a proposal for an Armenian technology startup and ended up being a finalist, but didn't win." His proposal was the reason he stayed in Armenia. Though he was only a runner up, he decided to start his company, Nest Innovations, full time with his partner Hagop Kazanjian, a twenty-five-year-old Armenian repatriate from Syria.

According to Elliot, Nest provides web servicing, search engine optimization (SEO) management, inbound marketing, website maintenance, and aims



to support "every small and medium enterprise around the world, with the same quality and friendly service, providing services in up to six different languages with lightning fast response times." Raffi Elliot's mother was the inspiration for his idea. "My mom's total incompetence in the IT field was the inspiration. Being a very savvy businesswoman, she runs two dental clinics, but she can barely use a cell phone, let alone a computer," he said. Taking note of how busy she was running her businesses, how she had minimal time to manage a website and did not want to pay someone \$2,000 per month to manage it, he thought of starting a company that would support small companies, paying him \$50-100 per month to run, operate, and market their company websites. He also adds, "This is a great way to interact with Armenia, instead of blindly giving away money to charities." So, another motivator was to provide job opportunities to Armenians who want to stay instead of leaving for other countries.

Raffi Elliot is not alone in his repatriation and business startup in Armenia. There are many Armenians repatriating to the country to start businesses and bring some serious change to the country. Nigel Sharp, 28, half British and half Armenian, moved to Armenia three years ago through Birth Right Armenia. "I was placed at Tumo Center in Yerevan, a nonprofit center for

kids to learn digital animation, web design, game design and digital media." Through a host of events like TEDx that are held at Tumo Center, HyeTech is an organization that brings Silicon Valley entrepreneurs to visit Armenia and hosts Arm-Tech, an international conference for Armenians in the high-tech industry. Noticing the buzz of innovation, Nigel Sharp said, "Everybody was saying one thing - now is the time to start in the technology business and get stuff done."

Sharp, along with a few of his colleagues from Tumo Center, decided to launch their company, Lion Sharp Solutions, in November 2012. The team consists of four people, including Sharp; Lilit Bevarian, a designer with a background in educational coaching; Gevorg Hovsepnyan, a systems engineer; and Alessandro Mambelli, a robotics engineer, an Italian transplant who moved to Armenia after meeting Nigel Sharp at Kings College in London during their graduate studies program. Mambelli helped set up the biggest robotics lab in Armenia at the Tumo Center, according to Sharp. After deciding to start their company, the four colleagues met in Sharp's living room. "While we were sitting there brainstorming ideas, we got so frustrated because somebody had to keep getting up and writing ideas on the white board. I joked with the team, 'Wouldn't it be cool if we just spoke to the white board and it wrote the words down

as we said them and then we could pick this stuff up, move it around and save it after we spoke it?" Though Nigel Sharp was joking with the team about the idea, it became a real option when they were looking at what ideas to present at a startup pitch event in Armenia. "We pitched our idea, called 'VoiceBoard,' and developed it as the world's first interactive brainstorming platform." They won first place and were given the opportunity to pitch their idea to Eleven, a Bulgarian accelerator venture fund, who decided the idea was worth investing in. They selected VoiceBoard over 300 teams from around the world for first-stage acceleration investment equating to \$52,000.

Armenian citizens who left to go other places are returning home to work on their own ideas. Armen Kchachikyan, 24, launched a startup while studying for his masters degree in information technology at Hong Kong University. He started TweetHood, an iPhone application that allows you to get information from people who are tweeting near your area. He started the company with three other friends, each in different locations, unexpectedly receiving requests for 5,000 downloads in eight months with no advertising. "I'm not impressed by those numbers. I'm not focused on

it full time as we are working on another version, localizing it for some countries," stated Kchachikyan in an interview. He was not expecting so many of the people using his app to be from the Middle East, with the current numbers of 60-70 percent of download users coming from Saudi Arabia.

When asked what the benefit of using TweetHood is over using Twitter, which allows you to use hashtags (#) to connect with others, he stated, "Some people don't use hashtags and don't know what they are at some events." By using his app, users will be able to

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see who is in their area, and what they are tweeting about. His company won the Best Media Project at a Microsoft-sponsored event in Armenia called Hackathon [YAN]. The company is working on a version that will localize their content for the new regions that are following them, which should be released sometime this year.

Being away from Armenia for a couple years showed Echachikyan the changes that happened while he was away. "I was surprised when I came back. There are a number of people interested in startups." He is especially proud of an Armenian company called PicsArt that started out in Yerevan but is currently located in Mountain View, which has given Instagram good competition for photo-editing on phones. The company has over 500,000 "likes" on Facebook and according to their website has processed over 35 million downloads in its first year, with a growing 3 million downloads per month. Echachikyan has not yet decided to leave his day job as a programmer for AcTask, a Software as a Service (SaaS) company, to work on his company full time, but hopes that he may gain as much success as PicsArt has in the coming years.

Startups, a growing buzzword in the world today, can be compared to the Internet boom in 2000, and are being taken very seriously in Armenia as well as all over the world.

### Outsourcing as an Economy Boost

In the past, Armenia has not been the most popular business destination. Yet the past few years almost seem like a jolt to the economic system with new startups growing, foreign companies moving in and the demand for Armenia's technological outsourcing services burgeoning. With 45 percent of the population between the ages of 25-54, the country is aggressively attempting to bring foreign companies in. "IT has become the 'it' profession in the last

decade for students in Armenia," says Hasmik Gharibyan, Ph.D., Professor of Computer Science at California Polytechnic State University, San Luis Obispo.

Dr. Gharibyan has taught for 15 years in both the United States and Armenia. Her studies have focused on why there are more women studying computer science in Armenia than in the United States and the differences between the two countries' educational systems. "Though it has been 20 years since the breakup of the Soviet Union, Armenian education has been guided by Soviet standards, so the same system is used today, which is profoundly theoretical and analytical. Armenian students and young people are very capable. Sometimes they are even stronger than the professionals in the US because they have greater knowledge of theory and mathematics. I think they are very bright, innovative and creative," she says, not hiding her bias toward Armenian students. "It can be extremely profitable for a company to outsource work here to people who are eager to be paid for work that they can easily do. It would be beneficial for both sides."

Culture and cost are other strong factors that attract outsourcing companies. Armenia is not alone in pursuing outsourced technical work. India has been at the helm of the software industry since the early 1980s, which has advanced their educational system, brought foreign investors into the country and created more jobs. In a similar way, Armenia is working toward the same goals with cheaper labor, an advanced educational system and a Diaspora that brings increasing amounts of business back to the country.

"Armenian developers will work for five to ten times less the cost of local US developers," says Vahram Gasparyan, founder of Brain Hunters, a software consulting firm providing technical talent to companies inside the United States since 2008. Although Gasparyan is originally from Armenia,

he studied for one year in the United States. He explains, "Armenia is a little country and currently cannot compete against India with its greater outsourcing potential and already-established outsourcing industry." Yet, he doesn't give up the pursuit of making Armenia stand out as a competitor to India, believing that first, second and third generation Armenians may be coming back to the country. Using his consultants as foot soldiers in companies, he makes sure they do their best job and "leave a lasting impression that will make the company owner or manager say, 'we want more people like those Armenian guys.'"

Although companies of all sizes, from giants like Microsoft to small startups are moving their engineering departments to Armenia or opening subsidiaries in the country, one hurdle that faces them is publicity. Many people have not heard of the country's business potential. LeisureLink, a Pasadena startup company servicing the online vacation rental market, moved its user interface design team to Armenia through a company introduced to the firm by one of their venture capitalists.

"I didn't know much about Armenia prior to our initial starting," says David Vitko, chief technology officer of LeisureLink. Vitko states that most people's reaction is curiosity and then enlightenment when he shares his experience. "When I tell someone I am outsourcing work to Armenia, they're like 'Really?' It's not the first place you think of when you think of outsourcing. Number one, it's not a very big country; two, it's in a sometimes tough part of the world; and three, there's just not a lot of exposure to Armenians in general unless you live in Los Angeles."

Armenians in the Diaspora, recognizing the window of opportunity to use the existing talent in the country, are working hard to bring businesses back. Dr. Zarik Boghossian, whose experience includes over 27 years of developing technical solutions with billion-dollar companies, started development offices in Armenia in 2005, while working as the head of technology for Integriem, a company later acquired by VMware. Dr. Boghossian attributes cost as a factor in his decision to move off shore, but says the strong available pool of talent was the main reason to move operations to Armenia.

Though he has been working in Armenia for the past eight years, Dr. Boghossian echoes some of the same comments on the culture as David Vitko, "Armenian developers ask questions about the requirements for developing technologies; they dive deep into the logic and give you options. They are not shy about challenging and questioning." Companies

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have learned that having a cultural understanding is a huge part of successful outsourcing. Dialogue about projects is an important part of the innovation process. Armenians have the reputation of asking questions and delivering solutions. The Indian government has also realized the advancement of Armenian developers and worked with the Armenian government in launching the Armenian-Indian Center for Excellence in Information and Communication Technologies (AICEICT), a training center at Yerevan State University. Still, the manpower is a huge advantage for India. "They have millions of developers versus thousands in Armenia," Dr. Boghossian states.

On one hand, Armenia's culture of intellectual curiosity and strength is a strong reason why companies are setting up research centers there. On the other, Armenian brain power is also a reason why companies are enticing some of the talent away from Armenia. "Software developers often leave to work for Microsoft or Google in Europe or the United States, and because every Armenian has at least someone they know in the US, it is not a problem on the emotional side," Dr. Boghossian explains. Yet, although this might sound negative, it actually could be a positive thing for the developers as it demands they get paid well enough to stay in the companies they're working for. "You have to pay them reasonably high salaries, and when you keep them working for an international company, if they can travel enough, and if they love their environment, they will want to stay," he continues.

"Armenia is not so much an outsourcing destination, although we have outsourcing as well, but we have excellent engineering schools that teach software development, IT research and the development of different international companies," says Karen Vardanyan, Executive Director of the Union of Information Technology Enterprises (UITE), who adopted the name Silicon Armenia in conversation.



Armenia has a strong backbone in engineering and mathematics which is used to fuel the country's R&D. Originally a hydro-engineer, Vardanyan moved to IT in 1999 and used his background in technology to work for the government's Ministry of Technology. From there he moved to his role at UITE. An example of a company using Armenia's intellect for research is National Instruments (NI), the billion dollar software company headquartered in Austin, Texas, which opened an engineering research center in Yerevan. Vardanyan estimates there are 400 high tech companies in Armenia today with a growth rate of over 25 percent per year. He expects the country to not only use outsourcing to grow but also to foster their own startups. He predicts 100 new startups in Armenia beginning in 2013. His organization advocates the creation of more opportunities for technology companies by creating an open environment for growth. They do this by sending their educators to schools to teach programs like robotics and running an annual event in October called Digi-Tech, which brings together the country's technology companies from all industries such as education, finance, mobile and gaming to showcase their projects and accomplishments. Though it is predominantly for Armenians, people come from all over the world to attend.

Gyane Petrosyan, a graduate student at McGill University in Canada shared her background and her experience of being a developer in Armenia.

When asked how she compares the salary she made in Armenia to other countries, she commented, "If I compared average income, it would be a sad picture. Before coming to Canada, I was working in Armenia, and I was earning the most money [in my family] - and I was the youngest one. They all have good jobs." As a programmer, she earned \$1,000 per month, compared to Canada or the United States where a developer earns anywhere from \$5-10,000 per month. She also sees Armenia as being in a good place to support outside companies. "Armenia is a very smart nation. If you compare it with other countries, the Armenian women are much more involved in computer science, math and engineering." Armenia boasts a more than 50 percent graduation rate of women from the computer science industry. However, she does state, "Outsourcing is not giving you products: you will have much more recognition and money if you come up with your own product and your own trademark. There will always be someone else who can do something cheaper, which is why it can't be the future." Petrosyan is not far off in her assessment as companies are always thinking how they can cut costs and save money. "My immediate plan is to work a bit here to understand the working culture and how companies are run here, then go back to Armenia and do my startup." Armenia's greatest resource is her human potential and the country's future includes bringing innovation back to the country. ■