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Lessons learned from Israel's startups

BY NANCY DAHLBERG
ndahlberg@MiamiHerald.com

The ecosystem behind Israel's globally recognized tech and innovation sector, dubbed "Startup Nation," helps fuel and sustain rapid economic growth in the country. Are there takeaways for Miami as it tries to build an ecosystem? If so, 2015 is shaping up to be the year to learn.

A delegation of leaders in the Miami tech-startup community spent the past week in Israel with Project Interchange, an educational institute of the American Jewish Committee, to learn from the country's thriving tech and innovation sector while sharing best practices and making connections. The knowledge exchange was supported by the John S. and James L. Knight Foundation.

The group was based in Tel Aviv, the hub of Israel's tech corridor, but the delegation also visited technology and innovation centers throughout Israel, including Haifa, Jerusalem and Beersheba. Delegates visited the world-famous Technion-Israel Institute of Technology, as well as incubators and community programs, and met with entrepreneurs, academics and investors to learn about policies that encourage innovation and practices that can be replicated in Miami.

"Israeli's world-class research and innovation, its unique academia-to-technology transfer programs, and its emphasis on integrating immigrants into the country's society are key areas for collaboration and sharing of best practices that can truly benefit the greater Miami community and beyond," said Robin Levenston, Project Interchange's executive director.

But that's not all: eMerge Americas has been working with the Israeli Consulate to showcase Israeli innovation and bring about 10 Israeli startups to Miami to participate in eMerge Americas. A speaker series of Israeli entrepreneurs is planned, and other projects are in the works.

There is certainly a lot to learn from Israel. Today you will find almost every big-name tech company in Israel — including Google, Apple, Intel (the largest tech employer in



MIAMI DELEGATION IN JERUSALEM: From left: Leandro Finol, Brian Siegal, Benoit Wirz, Felecia Hatcher, Nico Berardi, Laura Maydón, Matt Haggman, Susan Amat, Stonly Baptiste, Jaret Davis.

Israel) and H-P — and a number of world-ranked research institutions, hundreds of promising startups and a fully working ecosystem to support them. More than half of Israel's exports are high-tech.

Although it seems like overnight, Israel's high-tech ecosystem has been building over the past 50 years.

"If you ask anyone where the high-tech sector in Israel started, everyone would say '69 in the Technion," said Peretz Lavie, president of the Technion. "This is where they started to teach microelectronics, this is where semiconductors were produced, this is where it all started. ... In '69, the Technion also decided to open a faculty of medicine. It was again prophetic, because in the future medicine and technology



LAVIE

would work hand-in-hand. This is why Israel now is an empire of medical devices."

So what are the ingredients of success in the Startup Nation? "Everyone wants to know what is the secret," Lavie told the Miami Herald when he was in town for an America Technion Society board meeting.

Lavie said two of the major ingredients are characteristics of Israelis. First, it's their risk-taking behavior — "the Army service teaches you how to take risks." And second, acceptance of failure: "There are many countries where failure is not an option. Here failure is part of the learning curve."

Another key ingredient, Lavie said, is the emphasis on education, a Jewish tradition. "We don't teach the materials, we teach them how to learn; it is lifelong experience. I hear this a lot from our alumni, 'we are taught how to learn ... There is not a

situation where we cannot cope.'"

Lastly, he said, the government in the 1960s had the right policy when it started to support research in companies: "These ingredients are what created the ecosystem."

Lavie recently completed a study of Technion alumni. Over the past 20 years, alumni have founded 2,000 companies; all but 169 of them are in Israel. "The number of jobs was 100,000, merger and acquisitions [activity generated] was \$28 billion, the total money raised was \$6 billion," he said. "And if you ask them why they are doing it, they want to change the world; it's not the money."

Lavie said universities need great students and faculty, but they also need a mission. "We serve the country, we serve mankind," he said of Technion, which is partnering with Cornell to bring a tech-focused campus to New York City. That mission-driven approach was not

AJC'S PROJECT INTERCHANGE

lost on the Project Interchange startup delegation during its visit to Technion. “One participant said that even more amazing than the technological innovation at the Technion is the support for entrepreneurs and the efficiency with which they have partnered with the commercial world to get products to the market,” said Brian Siegal, AJC Miami director, who accompanied the delegation and blogged about the experiences daily.

Members of the startup delegation included Matt Haggman, Miami program director of Knight Foundation; Susan Amat, founder of Venture Hive; Laura Maydón, managing director of Endeavor Miami; Jaret Davis of Greenberg Traurig; Stonly Baptists, co-founder of Urban.Us; Nico Berardi, managing director of the AGP angel network; Benoit

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See Starting Gate at Miami Herald.com/business for an interview with Peretz Lavie, the president of Technion, and for more takeaways from the startup delegation that visited Israel.

Wirz, director of venture investments for Knight Foundation; Leandro Finol, executive director of Miami Dade College’s Idea Center; and Felecia Hatcher, co-founder of Code Fever.

Amat said learning in the field — quite literally — plays a big role in Israel’s rapid pace of development. The role of the military and military service is at the core, she said. Israeli technologists learn to test and iterate on innovations on the ground for a couple of intense years before going to college, giving them a confidence and “learning by do-

ing” not seen elsewhere.

“It’s now a country full of trained leaders with crisis management skills who know how to problem-solve and work on a team. This experience has made me even more focused on immersive experiences for middle and high school students — everything hands-on and empowering them to lead, work in teams, and focus on excellence,” said Amat, whose nonprofit Venture Hive runs tech-entrepreneurship programs for K-12 students as well as adults.

Haggman shared this: “For me, the biggest takeaway is the belief and sense of possibility that we’ve come across. In conversation after conversation with entrepreneurs, there is such a focus on solving problems and thinking ahead to what’s next. ... ‘We’re a startup nation,’ said Enon Landenberg, an entrepreneur behind an

incubator called Small Factory Big Ideas outside Tel Aviv, when I asked him what drives the startup community here. ‘From the beginning we’ve been focused on solving problems. ... That’s what drives things.’

Haggman said that another takeaway is the huge focus on the entrepreneurial ecosystem. Maydón agrees. “As one speaker said, ‘you need an ecosystem that continuously answers questions for entrepreneurs’ and it’s just not based on bursts,” she said. “I believe that’s what we’re all trying to accomplish in Miami.”

The collaborations will no doubt continue. At eMerge Americas, Israel will have a large booth showcasing Israeli innovation. It aims to include about 10 companies in a variety of areas such as communications, technology and biomed, said Revital Malca,

deputy consul general of Israel. Among the companies: “We are working very hard to bring Mobileye.” Tel Aviv’s deputy mayor will participate in the eGov summit as part of eMerge America. Malca also said the consulate has been working with the office of Enterprise Florida in Tel Aviv to recruit companies.

Meital Stavinsky, an attorney and shareholder with Greenberg Traurig, co-chairs the region’s Tel Aviv University alumni chapter; the firm has a Tel Aviv office. In a recent study, Tel Aviv University ranked ninth in the world for VC-backed entrepreneurship, she said. “What we are looking to launch as part of eMerge Americas week is a series named Entrepreneurship Untapped, an informal networking opportunity that will be social, fun and in a cool venue, where suc-

cessful entrepreneurs from Israel will come to speak and share their journeys.”

It’s a program that has been done in Israel for a number of years very successfully and then spread to other cities; the alumni chapter wants to host at least three a year. “It’s a great way to showcase Israeli innovation and spirit,” said Stavinsky, who, in her practice, advises innovative Israeli technology companies on government law and policy matters.

Other efforts are underway to build connections with Israel’s ecosystem. Before the end of the year, Amat plans to host a group of Israeli entrepreneurs at Venture Hive, an entrepreneurship education company that includes an accelerator and incubator.

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Q&A: Technion's role in Israel's Startup Nation immense

By Nancy Dahlberg / ndahlberg@miamiherald.com

The Technion developed into a world-class research university out of necessity.

As President Peretz Lavie explains it, although the Israeli university's roots date back to 1912 as an engineering school, it wasn't until 1948 that Technion began its transformation into a leading research institution. Simply put, then-Prime Minister David Ben-Gurion believed the new state of Israel needed aeronautical expertise to power its Air force to defend the country; now aeronautics is one of the largest industrial complexes in Israel, he said.



And that was just the beginning, Prof. Lavie said. "We have become a world class university, with 3 ½ Nobel laureates and a global presence, and we are the cornerstone of Startup Nation."

The Technion – Israel Institute of Technology is a public research university in Haifa, Israel that offers degrees in science and engineering, architecture, medicine, industrial management and education. With 18 academic departments and some 50 research centers, it is often grouped with Stanford and MIT, universities that have played outsized roles in building their entrepreneurial ecosystems. Israel's movement, powered by Technion, is dubbed Startup Nation. The USB flash drive, drip irrigation, a Parkinson's drug, the Iron Dome air defense system, the data compression algorithm used in pdfs, and instant messaging are some of the inventions developed at Technion or by alumni.

Prof. Lavie, who grew up in Israel but earned his PhD in physio-psychology (a precursor to neuroscience) at the University of Florida, joined Technion in 1975 to set up a sleep research lab. He worked his way up and became president in 2009. He's also started two medical device companies and two medical service providers.

In 2011, a bid by a consortium of Cornell University and Technion won a competition to establish a new high-tier applied science and engineering institution in New York City. A state-of-the-art tech campus, the Jacobs Technion-Cornell Institute at Cornell Tech, is being built on Roosevelt Island, while the campus is currently housed in Google's mammoth New York offices.

Technion is also establishing a technological institute in Guangdong Province, China. As part of the agreement, the Li Ka Shing Foundation will donate \$130 million to Technion – the largest donation in the university's history.

Lavie talked with the Miami Herald when he was in town earlier this month for an American Technion Society board meeting. Here are excerpts of the conversation.

Q. How did Technion become a powerhouse for high-tech?

A. In 1969, the Technion established a micro-electronics institute, when no one had heard of it. After the '67 war, we needed night vision devices and infrared sensors, there was no knowledge in Israel but Technion established the institute to produce the first semiconductors. ... If you ask anyone where the high-tech sector in Israel started, everyone would say '69 in the Technion. This is where they started to teach microelectronics, this is where semiconductors were produced, this is where it all started. ...

The same year the faculty split into electrical engineering and computer science, these two are the backbone of the Israeli high tech sector. In 69 The Technion also decided to open a faculty of medicine. It was again prophetic, because in the future, medicine and technology would work hand in hand. This is why Israel now is an empire of medical devices.

Today, a 10 minutes' drive from the Technion you will find Yahoo and Google and Intel and H-P and Philips and GE and now Apple, relying on Technion students and Technion graduates.

I just completed a study on companies established in the last 20 years because of Technion. Of the 2,000 companies [founded and led by Technion alumni or professors], 169 were established outside Israel, mostly in the U.S., the rest, more than 1,800 were in Israel. The number of jobs was 100,000, the mergers and acquisitions [activity] was \$28 billion, the total money raised was \$6 billion. ... And if you ask them why they are doing it, they want to change the world; it's not the money.

Q. Sounds like you don't have a problem with brain drain.

A. Brain drain is not an issue and I'll tell you why. Intel is largest tech employer with 8,000 or 9,000 jobs. Intel in Israel was started by a Technion [graduate who moved back from the U.S.]. Same with Applied Materials, same with Apple, and others.

When we established a branch in New York together with Cornell, everyone said 'oh, you will cause brain drain of Israelis to New York.' I said 'no, what we will do is attract second generation Israelis in the U.S., including as faculty members.

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Q. What has Technion's role been in the tech boom of Israel?

A. MIT did a study on universities that turned their areas into ecosystems of innovation and entrepreneurship. ... MIT and Stanford were No.1 and 2, and Technion was no. 6 -- it changed the ecosystem of its country. When they asked the experts to rerate only the ones in challenging environments, Technion was no. 1.

Great universities need to attract top students, to attract top faculty, and the third is a mission. A university must have a mission. The mission is part of the Technion DNA -- To serve the country, to serve mankind. During the Russian immigration wave of the '90s, a wave of a billion people within a span of five years, Technion stood up to the challenge. We increased the number of students by almost 30 percent in one year. We have a pre-academic center for minorities, every year we have 700 of them, and students are accepted without affirmative action; 67 percent are making it [into Technion].

Arab Israelis 10 years ago were 7 percent of the Technion students. The dropout rate was 40 percent. We started bringing the top kids from all the villages into the program, appointed them a big brother or sister, and held regular discussion groups. Fast forward 10 years, 20 percent of our students are Arab and the dropout rate is 13 percent, about the same as the Israel population. 48 percent of those students are Arab women in all the faculties.'

Q. What about overall?

A. 37 percent women. But electrical engineering is still 15-20 percent. We are trying to move that. We started programs in the high schools, k-12, and to attract girls into science, math, physics.

Q. What other factors led to Startup Nation?

A. Two major characteristics I found are characteristics of Israelis. First, risk-taking behavior. ... The army service teaches you how to take risks. ... The second one is acceptance of failure. There are many countries where failure is not an option. In Israel, failure is part of the learning curve.

Then there is the emphasis on education, a Jewish tradition. But we don't teach the materials, we are taught how to learn; it is a lifelong experience. I hear this from our alumni, 'we are taught how to learn ... There is not a situation where we cannot cope.'

The fourth is the government during the '60s had the right policy when they started to support research, in companies.

Q. How is your global expansion progressing?

A. Mayor Bloomberg, I admire him for his vision. When I met with him, I said why Technion? He said I am envious of Silicon Valley and Route 28 [in Boston] and I want New York to be the capital of technology.

We are now temporarily at Google headquarters in Chelsea, I asked Eric Schmidt why, and he said we want to be close to you. You need the nucleus of academic excellence that will attract faculty, students and customers. This is a unique to have a degree in applied science and engineering. No excuses. Its tailor made for the industries of New York. We started with The Connective Media, including a major publication. Next year we have are going to open The Healthier Life. The third one is The Built Environment, to open in 2017.

We would like to be close to you. This is the key.

.... [In China,] hopefully we will get the greenlight and start in 2017; we have appointed a leader already. Cornell and China were our first expansions, and we won't do anymore. With 14,000 students and 600 faculty, we can't spread ourselves too thin. But I must say we became the most courted boy on the block. We have strategic agreements with the University of Michigan, Toronto, MIT, Cornell and several leading European universities. It's exciting."

Q. What brought you to Miami this month?

A. I was here for a board meeting of the American Technion Society. The backbone of our support has come from the American Technion society established in 1940. Without their support we would just be another college in the Middle East. We don't get research and development funding from the Israeli government ... I travel here and crisscross the country twice a year to meet our supporters. This is amazing, the dedication, the love for our institute -- now we have third and fourth generation families that support Technion.

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