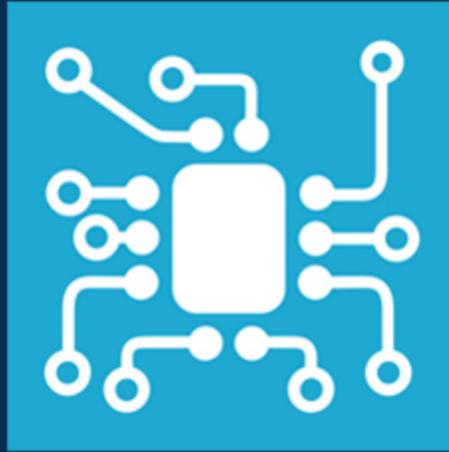


# GROWTH HACKING INNOVATION: Lessons from the Start-Up Nation



*What Canada can learn from Israel on the road  
to becoming an innovation superpower*

## Table of Contents

Introduction.....	2
Chapter One – Background: Israeli Innovation .....	3
Chapter Two – Watering the Seeds: How Israel Fosters Growth.....	4
Chapter Three – Attracting Back: How Israel is Ending the Intellectual Exodus.....	5
Chapter Four – Worts and All: How Israel Rebranded .....	6
Chapter Five – Inclusive Innovation: How Israel is Innovating for All .....	7
Chapter Six – Eco-Systems and Incubators: How Israel Scaffolds Growth.....	9

## Introduction

Israel is an economic miracle. As Dan Senor and Saul Singer put it in their acclaimed international best seller, *Start-Up Nation*:

How is it that Israel – a country of 7.1 million, only sixty years old, surrounded by enemies, in a constant state of war since its founding, with no natural resources – produces more start-up companies than large, peaceful, and stable nations like Japan, China, India, Korea, Canada, and the United Kingdom?

Senor and Singer wrote the book – literally – on how Israel did it. *Start-Up Nation* remains a timely read for any serious entrepreneur, economist, or public policy maker – in Israel, Canada, and beyond.

So what can Canadian governments and innovators learn from Israel? Answering that question – and showing our policy makers the answer – is a key part of the Centre for Israel and Jewish Affairs's (CIJA) work on the innovation file.

That work started earlier this spring when CIJA answered Minister Navdeep Bains' April 14th call for the non-profit sector to contribute to Canada's Innovation Agenda. Our goal is to initiate a discussion on what Canada can learn from Israel, the "start-up" nation.

The perception that Israel's exceptional culture of innovation is entirely due to organic characteristics inherent only to Israel ignores the reality that Israel's rapid rise as a model of innovation is largely a result of early, ongoing and extensive involvement by government. Our briefing to Minister Bains touches on policies, initiatives and legislation that offer best practices for consideration as components for Canada's Innovation Agenda.

In addition to communicating to government, we believe it's vital that people like you – the innovators and entrepreneurs of Canada – also know the lessons we can learn from Israel. Our goal is to encourage you to join the conversation and help Canada growth hack a renewed and intensified focus on innovation.

If you want to learn more, or if you'd like to get involved in our work, please reach out to CIJA's [Matt Godwin](#).

## Chapter One – Background: Israeli Innovation

Israel continues to out-perform most other competitor countries in numerous innovation verticals<sup>1</sup>:

- Ranked 5<sup>th</sup> overall in the world in the 2015 Bloomberg Innovation Index.
- At 4.2% of GDP, Israel spent the second most on R&D in the world.
- Ranked 4<sup>th</sup> in the world on post-secondary education attainment.
- Ranked 4<sup>th</sup> in the world in the number of professionals working in R&D.

Israel has more listed companies on the NASDAQ than any foreign country aside from China and, in 2015, more Israeli companies were listed on the London Stock Exchange than from any other foreign country.

2015 witnessed 1,400 new start-ups, of which 373 raised nearly US\$3.8 billion and 69 companies exited at a total sum of \$5.1 billion. With 80 now in operation, Israel has by far the highest density of accelerators anywhere. Life sciences has seen considerable growth recently with 1,100 companies operating in Israel compared with 200 at the end of the last century. 40 new life sciences companies are launched each year and a third of these companies reach profitability in only a few years. 17.5% of all Israeli exports are in the life sciences.

The Israeli government continues to be at the forefront of support for innovation. Boasting an annual budget of US\$450 million, the Innovation Authority (formerly Office of the Chief Scientist) annually supports 200 incubated companies offering up to 85% of seed funding.<sup>2</sup> It funds 45 different support programs in five verticals: start-ups, technological infrastructure, growing companies, international activity and research and development (R&D) programs. The Innovation Authority disburses NIS 1.5 billion each year, offering assistance in fields as diverse as cyber security, biotechnology, life sciences, communications, software, clean tech and others.

An estimated 50 venture capital groups (VCS) are active in Israel, with 20% of project funding coming from Israeli venture capital.<sup>3</sup> Thanks to Israel's exceptionally strong brand in innovation, by 2013 nearly 75% of investments in Israeli companies were from foreign investors. There are 70 active venture capital funds, of which 14 are international VCs with offices in Israel. Comparatively, Israel ranked 9<sup>th</sup> for venture capital availability out of 148 economies in the 2014-15 World Economic Forum Global Competitiveness Yearbook, and the IMD ranked Israel 3<sup>rd</sup> in 2014.

Globally, 40 binational agreements have been signed and, through the Global Enterprise R&D Collaboration Network, 30 multinational corporations (MNCs) have signed up to work with start-ups to seek innovation for their services. Israel has created "Project Centers of Multinational Corporations" to locate and form R&D collaborations between Israeli partners and MNCs.

<sup>1</sup> <http://www.bloomberg.com/graphics/2015-innovative-countries/>

<sup>2</sup> <http://www.ft.com/intl/cms/s/0/f58402d2-c900-11e5-a8ef-ea66e967dd44.html#axzz47cl1pUcl>

<sup>3</sup> [http://www.matimop.org.il/innovation\\_report2015.html#sthash.ZpTNyeNz.dpuf](http://www.matimop.org.il/innovation_report2015.html#sthash.ZpTNyeNz.dpuf)

## Chapter Two – Watering the Seeds: How Israel Fosters Growth

### *Starting Up*

**Tnufa program:** A pre-seed fund for independent inventors and new start-ups with early stage projects. It supports enterprises with evaluation, prototype development, patenting and business plans.<sup>4</sup> The program offers approved seed companies a commitment of 50% of its R&D expenses, up to US\$ 1.25 million. It provides six months for the company to seek outside investors. Additionally, the Innovation Authority offers a 4-year grant scheme covering on average 25% of the employer's cost of salaries for each new employee.<sup>5</sup>

**Investment Law:** Enables foreign companies to benefit from a reduced company tax rate and investment grants. Israel also ensures support programs afforded to Israeli companies also apply to foreign ones.

**The Private Sector:** Bank Leumi and Hapoalim have established tech branches to give the industry targeted solutions, offering deep financial expertise specific to tech, increasing the basket of services they normally offer to accommodate this unique space and offering credit to help companies start and scale.<sup>6</sup>

**Commercialization:** The Kamin program brings academic research to industry by creating a funding bridge between completed research and the applied stage; the “Support for Israeli Research Institutions” fund bolsters institutions with clear links to industry; the MEGNETON promotes cooperation between individual companies and academic research groups, and the NoFar program encourages applied research in academia. The Research & Development Law offers partial financing of 20 to 50 percent to “Approved R&D Programs”.

### *Scaling Up*

While 1,000 new companies may be launched every year in Israel, Israelis have become increasingly concerned with the country's inability to scale beyond early-stage projects and with the rate of acquisition rather than growth. 80% of Israel's venture capital goes to start-ups, as compared to 52% in America. From 2002-12, only 9% of start-ups exited as an IPO. Israel is taking steps to address this gap.

**Business Concentration Act:** The Knesset voted unanimously to support legislation aimed at promoting competition, limit the use of pyramid structures and block cross-holdings between finance and other firms.

Additional measures include stock market changes that ease listing requirements for high-growth companies, instituting new visa requirements to make it easier for foreigners to live in Israel, and deploying Israel's new sovereign wealth fund to provide capital to high-growth companies.<sup>7</sup>

---

<sup>4</sup>[http://economy.gov.il/Publications/Publications/DocLib/RnD\\_IncentivePrograms\\_English.pdf](http://economy.gov.il/Publications/Publications/DocLib/RnD_IncentivePrograms_English.pdf)

<sup>5</sup>[http://www2.deloitte.com/il/en/pages/strategy/articles/the\\_israeli\\_technological\\_eco-system.html](http://www2.deloitte.com/il/en/pages/strategy/articles/the_israeli_technological_eco-system.html)

<sup>6</sup>[http://www.matimop.org.il/innovation\\_report2015.html#sthash.ZpTNyeNz.dpuf](http://www.matimop.org.il/innovation_report2015.html#sthash.ZpTNyeNz.dpuf)

<sup>7</sup><http://www.economist.com/news/business/21636111-israel-trying-turn-its-davids-goliaths-scale-up-nation>

## Chapter Three – Attracting Back: How Israel is Ending the Intellectual Exodus

Israel's brain drain crisis has been described as the "worst in the Western world." In 2008, for every 100 faculty members at Israeli universities living in Israel, 29 were working at American universities. Taking a longer view of the brain drain, in 1973, Israel boasted 131 senior faculty per 100,000 Israelis, by 2011 that number had fallen to just 62.<sup>8</sup>

Thanks to a number of initiatives led by the government, the increase in the number of academics living abroad has halted and remained steady between 2012 and 2014, following an increase as high as 19% in years passed.<sup>9</sup>

**Israel National Brain Gain Program:** Through a partnership among several ministries, the Israel National Brain Gain Program is a cooperative project that launched in 2013 and is headed by the Innovation Authority. The program has registered 4,400 academics living abroad and is partnered with 180 Israeli employers interested in making offers to researchers living abroad. The program offers researchers airfare assistance, job placement interview training, access to a website that provides guidance on moving back, a question-and-answer forum, information about scholarships and research funding as well as a job board. The program builds and maintains ongoing relationships with researchers living abroad. Since its launch, more than 250 researchers have returned to Israel.<sup>10</sup>

**Zuckerman STEM Leadership Program:** Businessman and publisher Mortimer Zuckerman has committed US\$100 million to attract post-doctoral candidates to Israeli institutions and incentivize the return of Israeli researchers. Announced in January 2016, the program funds fellowships and other activities focused on STEM. In addition to the stream dedicated to attracting early career researchers seeking post-doctoral funding, the initiative also includes the Zuckerman Faculty Scholars Program, which will incentivize the return of academics to Israel.<sup>11</sup>

**Gvahim:** Israeli non-profit Gvahim works with new migrants to Israel by providing professional development and job placement services with a view to ensuring highly-skilled newcomers put their expertise to work in the labour force. Launched in 2006, through a career accelerator, an entrepreneur accelerator called TheHive, professional internships and a number of other programs, Gvahim has advanced the careers of more than 2,400 professionals and now boasts a support network for more than 650 businesses with more than 400 mentors.

---

<sup>8</sup> <http://www.haaretz.com/israel-news/business/.premium-1.551116>

<sup>9</sup> <http://www.ipost.com/Israel-News/Culture/Taking-it-all-off-455046>

<sup>10</sup> <http://www.israel-braingain.org.il>

<sup>11</sup> [http://www.weizmann-usa.org/media/2016/01/27/\\$100-million-to-fight-israeli-brain-drain](http://www.weizmann-usa.org/media/2016/01/27/$100-million-to-fight-israeli-brain-drain)

## Chapter Four – Worts and All: How Israel Rebranded

In a 2006 National Brands Index survey, out of 36 countries, Israel ranked last. By 2014, Israel was listed 26<sup>th</sup> out of 75 country brands by FutureBrand's Country Brand Index and deemed in the top five of the "ones to watch" category based on its momentum in innovation and technology.<sup>12</sup>

Israel's New York Consul General led a rebranding initiative called "Brand Israel" beginning in 2005. In addition to examining national and international media coverage, they conducted surveys in 14 countries to understand what people, both the general populace and national elites, thought of Israel. The process identified the areas for which Israel has a competitive advantage, particularly as a destination for the LGBTQ community; for athletes and outdoors enthusiasts; environmentalists, and for arts and culture.<sup>13</sup> Israel homed in on these strengths by "broadening the conversation" with sector-specific stakeholders and simultaneously, focusing on micro-level, niche interests.

The current Brand Israel marketing campaign takes a multi-focused approach and includes: lifestyle and leisure; technology, science and medicine; culture and the arts; ethnic and religious diversity; the environment and international aid. At the macro-level, Israel has settled on "creative energy" with three principal narratives: Israel is an energetic, colorful nation full of variety; Israel possesses a wealth of entrepreneurship and creativity; and Israel is forward thinking – all depicted in a fresh, vibrant language.

Israel's brand objectives include:

- 1) Introduce / inform and educate the potential consumer that the product / destination exists
- 2) Differentiate the product / destination from the competitors
- 3) Encourage the selection and purchase of the product / destination, and
- 4) Follow-up to cement customer satisfaction.

Sector-specific victories can be seen in recent years by looking at the LGBTQ community and those concerned about the environment. Israel's campaign to present itself as inclusive and gay-friendly has resulted in a massive boost to tourism by this community. During the 2012 Rio+20 UN Conference on Sustainable Development, Israel launched a targeted campaign called "Green Israel" to promote the country as a leader in green energy, attracting investors and environmentalists alike to the country.

---

<sup>12</sup> <http://www.mbl.is/media/84/8384.pdf>

<sup>13</sup> <http://www.eturbonews.com/46500/brand-israel-not-pr-alone>

## Chapter Five – Inclusive Innovation: How Israel is Innovating for All

Israel's much vaunted growth due to innovation has not been universal. Demographic groups such as the Ultra-Orthodox (Haradi) and Israeli Arabs have largely not been engaged in innovative sectors. Israel's periphery regions, the Galilee and the Negev, have also benefited less from innovation.

In 2008 there was one tech company and 30 employees in Nazareth, a predominately Arab city. Thanks to initiatives supported by the Israeli government, Nazareth is now home to 800 tech jobs, including 100 Jewish Israelis working on joint ventures with their Israeli counterparts.

In the Negev, the Innovation Authority is helping 1,000 businesses in this region develop e-commerce platforms. The Authority also provides local small- and medium-sized businesses (SMEs) with courses on marketing and solutions for making their platforms mobile-friendly.

The Innovation Authority provides incentives for large companies to help build R&D centres in periphery regions through a program that began in 2010 called "Large companies R&D Centers in Israel's Periphery." Designed to create jobs and enhance economic activity, grants are offered to companies in amounts up to 75% of approved budgets for 2-3 years. Companies availing themselves of funding must commit to hiring employees from the periphery, up to 50% in the second year.

**Ma'antech:** With the support of Shimon Peres and Cisco, the overarching goal is to increase the number of Arab engineers working in the high-tech sector to reflect at minimum the proportion of the Arab population in Israeli society. Ma'antech is a coalition of 40 companies committed to increasing Arab representation in the tech sector. Since its launch, 1,000 Arab engineers have been hired by these companies, thus doubling the number of engineers working in high technology. Ma'antech also employs Kav- Mashve, an ambassadors program by Appleseeds Academy, to outreach to students. A mentorship program is provided by Tsofen where experienced engineers are paired with candidates to guide them through the career path, from interviews to the early stages at new jobs.

**Nazareth Business Incubator Centre (NBIC) and NazTech:** The Ministry of Education has invested US\$3 million into a number of initiatives including the Nazareth Business Incubator Centre (NBIC) and NazTech. The NBIC was launched in 2012 and is a hybrid model combining an accelerator and incubator, cooperating with both private sector and non-profit groups. The initiative recognizes that Arab entrepreneurs face unique challenges, particularly lack of access to networks and experience in the sector. Since its inception, the NBIC has been organizing classes for Arabs with experts and organizes exchanges to Israel's tech core, Tel Aviv. In 2016, the NBIC launched Hybrid, which is led by ex-IDF soldiers involved in the tech sector who volunteer their time to mentor Arab-Israelis on tech sector subjects, creating business plans and offering introductions to the investor community.

NazTech is the first accelerator dedicated to Arab-Israelis and supported by Cisco, MATI Nazareth and the Arab Economic Development Department of the Prime Minister's Office. The accelerator is aimed at offering skills, mentoring and networks specifically for Nazareth's budding technology economy.

**Haradi Community:** Recognizing that a shortfall in engineers could offer an opportunity for enhancing employment amongst Haradi Jews, at Jerusalem's second annual Haradi tech conference in 2014, the Innovation Authority announced a raft of new incentives to encourage the Haradi to work in tech. Young companies passing a strict application process will qualify for 85% of matching funding up to NIS 2 million. Haradi companies will also have access to a 75% subsidy to access business mentors and guidance. Additionally, Tsofen (Hebrew for 'code') is a government-sponsored program that provides coding education for Arabs and Haradi Jews.

**Kamatech:** Founded in 2013, Kamatech is an incubator based in Tel Aviv that was started with the support of the Israeli government, American philanthropists and large tech companies such as Google, Cisco and Microsoft, and it has raised US\$6.5 million in funding.

**Shecodes:** Founded in 2014 by a female start-up CEO, Shecodes has set a goal of ensuring that, within a decade, 50% of Israeli programmers will be female. 4,000+ women are now part of a network whose flagship event is Shecon, where women learn how to code from more experienced members, offer services to find work through a career centre and organizes inspirational talks with women already established in the industry. Shecodes now operates chapters on every university campus and attracts women from every part of Israeli society.

## Chapter Six – Eco-Systems and Incubators: How Israel Scaffolds Growth

The Israeli government founded the Technology Incubator program in the early 1990s; today there are more than 24 incubators across the country, all of which are now managed privately. Projects approved by the incubators' committee receive 85% funding from the government and 15% from the incubator for two to three years. The incubators are designed to nurture companies from seed to early stage, minimizing the risk to the investor. More than 1,100 projects have graduated from the incubators and 45% have attracted additional investment from investors.

### **Case Study: Beersheba**

Beersheba is the largest city in Israel's Negev desert in the south of the country and is sometimes referred to as the 'capital of the Negev.' Despite its isolation, in recent years Beersheba has emerged as a world-leading cybertech hub with a focus on cyber-security.

The Israeli government has spent billions of dollars relocating its renowned technology units and cyber-security infrastructure to Beersheba, to the benefit of Ben Gurion University, which offers graduate degrees in cyber security and boasts the Cyber Security Research Centre. Major defense companies, such as Deutsche Telekom, EMC, IBM, RSA and Lockheed Martin, have also chosen to locate offices in Beersheba, creating a seamless corridor from army tech units, the practical cyber security programs at Ben Gurion University to the private sector.

The KIDMA program, Advancement of Israeli Cyber Security Industry, was established by the Innovation Authority and the Israeli National Cyber Bureau and has invested US\$20 million in developing advanced cyber defense solutions through three separate funding schemes: R&D Fund Track, Technological Incubator Track, and International Cooperation in R&D Track.

Over the next ten years, estimates suggest as many as 20,000-30,000 jobs will be created. The government has sought to expedite the process of building the eco-system through approved benefits for companies relocating their employees to Beersheba. The co-working space WeWork, which normally functions only in large urban hubs, has opened a space in Beersheba to take advantage of the number of start-ups spinning off from the other more established sectors located in the hub.

The eco-system is crystallizing with the building of the US\$1 billion Gav-Yam Negev Advanced Technologies Park (ATP), a joint project supported by the government, the Beersheba municipality, Ben Gurion University, and by US and Japanese investors. Occupied by top-tier cyber-security companies, the park will eventually be composed of 20 buildings making it one of the largest start-up ecosystems in the country.