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Centre for Digital Entrepreneurship
+ Economic Performance

GLOBAL BEST PRACTICES IN BUSINESS ACCELERATION:

Charting the Evolution and Performance of the World's Leading Accelerators

O C T O B E R 2 0 1 5



About the Business Acceleration Project

The DEEP Centre's investigation of business accelerators and business incubators seeks to answer a series of questions related to the role, effectiveness, and outcomes associated with these publicly and privately funded intermediaries. The project will build a body of evidence around the economic impact of business accelerators and incubators, with an eye towards creating best practice guidelines and actionable recommendations for stakeholders. The key research questions for the project include, but are not limited to, the following:

- Do incubators and accelerators produce viable companies? Increase innovation? Create jobs? Produce windfalls for their founders and investors? Elicit greater private investment in start-ups?
- What objectives are appropriate for the Government of Canada's business incubation and acceleration activities in relation to enterprise growth, technology commercialization, internationalization, and global competitiveness?
- To what extent are business incubators and accelerators advancing these objectives, and what framework should be used to evaluate their activities?
- To what extent do incubators and accelerators effectively leverage other elements of the innovation and entrepreneur support ecosystem—both within Canada and abroad—and how could collaboration within the ecosystem be improved?
- To what degree should the incubation and acceleration system in Canada evolve to better facilitate the growth of high-potential small and medium-sized enterprises (SMEs), and how should incubators and accelerators structure such alumni support systems?

The fourth in a series of five reports on business acceleration and incubation in Canada, this report provides a comparative look at the international business acceleration landscape and includes an in-depth analysis of the evolution and performance of 16 top international accelerators, as well as the policy environments shaping startup ecosystems in six jurisdictions that are broadly comparable to Canada.

This project is supported by Industry Canada, the Business Development Bank of Canada, the Department of Foreign Affairs, Trade and Development, and the Government of Ontario's Ministry of Economic Development, Employment and Infrastructure. Additional project partners include the Canadian Association of Business Incubators and the National Research Council.



The DEEP Centre

The Centre for Digital Entrepreneurship and Economic Performance (DEEP Centre) is a Canadian economic policy think-tank based in Waterloo, Ontario. Founded in 2012 as a non-partisan research firm, the DEEP Centre's work shapes how jurisdictions build fertile environments for launching, nurturing, and scaling companies that will thrive in an increasingly connected world. The DEEP Centre provides objective research and advice on the changing drivers of success in the global economy and the critical interconnections between technology, entrepreneurship, and long-run economic performance. Our goal is to help policy-makers identify and implement powerful new policies, programs, and services to foster innovation, growth, and employment in their jurisdictions.



Table of Contents

Global Best Practices in Business Acceleration: Charting the Evolution and Performance of the World's Leading Accelerators

Introduction	4
Methodology and Approach for the Comparative Analysis	5
Selection Criteria for the Sample of International Accelerators	5
Section I: Insights from Top International Accelerators	8
Structural Characteristics.....	9
Sector and Company Focus	11
Economic Impact	12
Program Delivery.....	15
Internationalization.....	16
Partnerships with Large Multinationals	17
Performance Measurement	19
Leading Accelerator Insights.....	22
Section II: Comparative Review of Start-Up Assistance Policies	23
Australia.....	23
Germany	24
Israel	26
Sweden.....	27
United Kingdom.....	29
United States of America.....	31
Conclusions and Recommendations	32
Works Cited.....	34



Introduction

The ranks of business accelerators and business incubators (BABIs) have swelled globally, in accordance with the perceived role of entrepreneurship in generating economic prosperity and advances in digital technology that have led to significant decreases in the cost of launching a business. Around the world, the number of BABIs has grown exponentially, with over 5,000 offering programming as of June 2015.

Despite the growth in the number of accelerator programs, in particular, a cloud of uncertainty hangs over these organizations in terms of how to assess the economic impact of the support services accelerators provide to early stage companies. Are accelerators significantly increasing the number of viable growth companies and materially impacting the economic performance of the jurisdictions that host them? Are they generating an ever-growing pool of “walking dead” start-ups with little hope of achieving growth and longevity? Or are they merely helping companies that would have succeeded without their assistance?

Naturally, it is impossible to characterize all start-up assistance organizations (SAOs) with broad strokes. One can easily point to success and failure in generating meaningful economic outcomes, depending on where one looks. As reviewed in the DEEP Centre’s report *Accelerating Canada’s Startup Ecosystem: A Review of Canadian Business Accelerators & Business Incubators*, the available quantitative evidence on economic outcomes (including outcomes such as survival rates, follow-on investment, revenue growth, and job creation) across jurisdictions is quite mixed. Accelerator programs themselves are finding that the inherent risks and uncertainty of supporting early stage companies makes financial sustainability difficult for even the best-run organizations. Even Y Combinator, the most lucrative of commercial accelerators in the United States, only started to be profitable after five years of operation. Moreover, there is growing concern that the market is increasingly overcrowded, with some observers suggesting the emergence of an “accelerator bubble.” The increasing competition to attract the best founding teams and most promising companies could make it difficult for new organizations to sustain themselves.

These challenges make identifying best practices in business acceleration vitally important for jurisdictions seeking to optimize their investments in SAOs. Two complementary research objectives are key to this exercise. First, scrutinizing the performance of the world’s most successful accelerators can help identify the practices—from selection criteria to program delivery to performance measurement—that distinguish the leaders. Simultaneously, it is important to consider the broader social, economic, and political environments in which the leading accelerators operate. There is little doubt that the presence or absence of key external factors—including, for example, the availability of venture capital (VC), public support, and corporate engagement—can be quite influential in determining success or failure.



Methodology and Approach for the Comparative Analysis

The fourth in a series of five reports on business acceleration and incubation in Canada, this study of the international business acceleration landscape provides an in-depth analysis of the evolution and performance of 16 top international accelerators, as well as the policy environments shaping start-up ecosystems in six jurisdictions that are broadly comparable to Canada.

The 16 accelerators selected for the investigation represent a mix of the top performing accelerators in the United States and a variety of Asian, European, and Latin American countries. In addition to reviewing the available data on follow-on investment and job creation, the analysis documents how these organizations are evolving, the value they provide to start-ups, and the attributes and practices that set them apart as notable exemplars for domestic organizations in Canada.

The analysis of top international accelerators is supplemented by a comparative review of the policies that shape business acceleration in Australia, Germany, Israel, Sweden, the United Kingdom, and the United States. Conclusions from this stage of research are designed to help program leaders, policy-makers, and investors in Canada learn from best-in-class business acceleration strategies and organizations in other leading economies.

Selection Criteria for the Sample of International Accelerators

The pool of 16 international comparators was selected on the basis of economic impact, operational innovation in program delivery, and geographic and sector diversity. More specifically, these parameters were used to identify accelerators that met at least two of the following criteria:

- Demonstrates a significant impact on the viability and growth of supported firms as measured by follow-on investment and job creation.
- Exhibits innovation in program delivery, performance measurement, partnerships, or other operational aspects.
- Represents the diversity of environments for business acceleration such that the sample as a whole includes an appropriate mix of geographies and sectors.

The resulting sample includes eight business accelerators based in the United States, six headquartered in European countries (including Bulgaria, Denmark, France, the Netherlands, Spain, and the United Kingdom), one Latin American accelerator based in Argentina, and one Asian accelerator located in Singapore. These accelerators operate in sectors ranging from a more conventional concentration on Internet-based companies and digital media to sector-specific plays focused on education, energy, and health care. Tables 1 and 2 provide a brief overview of the 16 entities. Detailed profiles on all 16 accelerators can be found in an attached appendix entitled *International Accelerators' Profiles*.



Table 1: US-BASED ACCELERATORS SELECTED FOR COMPARISON

US Accelerators	Key Stats
Blueprint Health is a mentorship-driven start-up accelerator program supporting companies at the intersection of health and technology.	• 60 companies supported • \$19,000,000 in total funding • 80% of companies funded
Capital Innovators Accelerator Program , based in St. Louis, Missouri, provides tech start-ups with \$50,000 in seed funding, project-based mentorship from a seasoned pool of knowledgeable experts, networking, and follow-on funding opportunities over the course of 12 weeks.	• 47 companies supported • \$140,000,000 in total funding • over 500 jobs created
Flashpoint is a university-based accelerator program that applies its unique “start-up engineering” methodology to help founders build start-ups with true market/product fit, reduced risks, lower costs, and better chance of success.	• 59 firms supported • \$150,000,000 in total funding
Imagine K12 is led by Silicon Valley entrepreneurs who invest in educational technology (edtech) companies that work to improve K–12 educational outcomes in the United States.	• 71 companies supported • \$150,000,000 in total funding • 70% of companies funded
MassChallenge describes itself as the world’s largest start-up accelerator competition and the first to support high-impact, early stage entrepreneurs with no strings attached.	• 617 companies supported • \$947,300,000 in total funding • 5,105 jobs created
StartX is an educational non-profit that accelerates the development of Stanford University’s top entrepreneurs through experiential education and collective intelligence.	• 220 companies supported • \$4,800,000 in total funding • 70% of companies are funded and still growing
SURGE Ventures invests in disruptive companies targeting traditional energy segments from oil and gas to water, and seeks to reduce the time period for commercialization by over 50%.	• 22 companies supported • \$16,000,000 in total funding • over 200 jobs created
Techstars is a mentorship-driven start-up accelerator that holds 13-week programs for start-ups in Boulder, New York City, Boston, Seattle, San Antonio, Austin, Chicago, and London.	• 544 companies supported • \$1,504,280,000 in total funding • 3,422 jobs created • 75% of companies funded



Table 2: INTERNATIONAL ACCELERATORS SELECTED FOR COMPARISON

International Accelerators	Key Stats
Eleven Accelerator Venture Fund is one of the biggest early stage investors in Central and Eastern Europe and the first accelerator to be founded in Eastern Europe.	• 93 companies supported • €12,000,000 in total funding • €47,500,000 in total portfolio valuation
JFDI.Asia is a Singapore-based seed accelerator that invests in early and later stage technology businesses that can demonstrate a real connection to Asia.	• 50 companies supported • \$13,000,000 in total funding
NUMA (Le Camping) is France's first cross-industry, multi-stage acceleration program. NUMA is supported by enterprises such as Orange and SNCF, as well as the European Commission.	• 77 companies supported • \$33,000,000 in total funding
NXTP Labs seeks investment opportunities in seed-stage and early-stage Internet, mobile, and technology companies in Latin America with regional or international growth potential.	• 165 companies supported • \$139,000,000 in total funding
Rockstart Accelerator launched in Amsterdam in 2012. It offers 150-day programs for start-ups to fine-tune their businesses and prepare for scaling.	• 39 companies supported • \$20,000,000 in total funding • 76% receive follow-on funding • 200 full-time jobs created
Seedcamp is one of Europe's leading pre-seed and seed stage Acceleration Fund. Based in London, its goal is to back ambitious founders from around the world and help them build billion-dollar global companies.	• 156 companies supported • \$280,000,000 in total funding • 1,400 jobs created
Startupbootcamp is a global network of industry focused start-up accelerators. It takes start-ups global by giving them direct access to an international network of the most relevant partners, investors, and mentors in their sector.	• 200 companies supported • \$79,000,000 in total funding • 77% of companies funded • 861 jobs created
Wayra is Telefonica's start-up accelerator. It is a project of Telefonica Open Future, an open innovation platform that integrates all Telefonica Group's investment vehicles and initiatives to foster entrepreneurship and innovation globally.	• 438 companies supported • \$97,000,000 in total funding

Note: All currency throughout in USD, unless otherwise noted.



Section I: Insights from Top International Accelerators

The comparative analysis of international accelerators is structured around the following seven variables and research questions:

1. **Structural Characteristics:** Are there structural differences, such as incorporation status or relationships with the VC community, which distinguish leading accelerators?
2. **Sector and Company Focus:** Are there distinct patterns of business acceleration activity in various sectors or unique approaches to company selection?
3. **Economic Impact:** What factors are driving the economic impact of top accelerators?
4. **Program Delivery:** Have leading accelerators adopted novel or innovative approaches to program delivery that differentiate them from their peers around the world?
5. **Internationalization:** To what extent has top accelerators attempted to internationalize their operations and what strategies have they deployed to do so?
6. **Partnerships with Large Multinationals:** Have leading accelerators brokered partnerships with large multinationals and what benefits do accelerators and start-ups derive from these relationships?
7. **Performance Measurement:** What are the reporting practices of leading international accelerators related to short- and long-term performance?

The analysis below poses key findings for each of these questions and points to leading practices among the 16 accelerators selected for the study.



Table 3: ECONOMIC OUTCOMES REPORTED BY THE SAMPLE OF INTERNATIONAL COMPARATORS

Organization	Companies	Total Funding	% Funded	Exits	Jobs
Blueprint Health	60	\$19,000,000	80%	0	---
Capital Innovators	47	\$140,000,000	---	0	500
Eleven Accelerator Venture Fund	93	€12,000,000	---	1	---
Flashpoint at Georgia Tech	59	\$150,000,000	---	0	---
Imagine K12	71	\$150,000,000	70%	2	---
JFDI.Asia	50	\$13,000,000	60%	0	---
MassChallenge	617	\$947,300,000	---	3	5,105
NUMA (Le Camping)	77	\$33,000,000	---	7	---
NXTP Labs	165	\$139,000,000	---	8	---
Rockstart Accelerator	39	\$20,000,000	71%	0	200
Seedcamp	156	\$280,000,000	91%	13	1,400
Startupbootcamp	200	\$79,000,000	77%	3	861
StartX	220	\$4,800,000	70%	0	---
SURGE Ventures	22	\$16,000,000	---	0	200
Techstars	544	\$1,504,280,000	75%	70	3,422
Wayra	438	\$97,000,000	61%	0	---

Structural Characteristics

Top international accelerators are much more likely to be for-profit, VC-backed entities. Whereas for-profit, VC-backed accelerators are the minority in Canada, they are more the norm in the US and among the most successful European accelerators. One consequence of the direct involvement of significant venture capital funds is that seed investments are typically larger and equity stakes are more common. Y Combinator invests an initial \$120,000 in the companies it selects for its program. Techstars firms get access to \$118,000, while Imagine K12 invests up to \$100,000 in its edtech start-ups. Another consequence, of course, is that success rates in raising large amounts of follow-on capital are significantly higher among the top-performing accelerators.



Table 4: KEY STRUCTURAL CHARACTERISTICS OF THE INTERNATIONAL COMPARATORS

Organization	Status	Seed Funding	Equity Stake	Length of Program	Sector Focus	Stage Focus	Performance Measurement
Blueprint Health	For-profit	\$20,000	6%	3 months	Health	Early	Needs Improvement
Capital Innovators	For-profit	\$50,000	5%–10%	3 months	Agnostic	Mid, Late	Needs Improvement
Eleven Accelerator Venture Fund	For-profit	\$20,000–\$50,000	6%–8%	3–12 months	Agnostic	Early	Advanced
Flashpoint at Georgia Tech	For-profit	\$20,000	8%	4–10 months	Agnostic	Early, Mid, Late	Needs Improvement
Imagine K12	For-profit	\$20,000–\$100,000	8%	3 months	Education	Early, Mid, Late	Needs Improvement
JFDI.Asia	For-profit	\$50,000–\$120,000	8%	3 months	Agnostic	Early, Mid	Needs Improvement
MassChallenge	Non-profit	\$0–\$100,000	0%	4 months	Agnostic	Early	Adequate
NUMA (Le Camping)	For-profit	\$20,000	3%	4 months	Agnostic	Early, Mid, Late	Needs Improvement
NXTP Labs	For-profit	\$25,000	2%–10%	3 months	Agnostic	Early, Mid	Needs Improvement
Rockstart Accelerator	For-profit	€15,000	8%	4 months	Multiple Verticals	Early, Mid	Adequate
Seedcamp	For-profit	€25,000–€75,000	5%–10%	12 months	Agnostic	Early, Mid, Late	Adequate
Startup -bootcamp	For-profit	€15,000	8%	3 months	Multiple Verticals	Early, Mid, Late	Adequate
StartX	Non-profit	\$0	0%	3 months	Agnostic	Early, Mid, Late	Needs Improvement
SURGE Ventures	For-profit	\$30,000	8%	4 months	Energy, Industrial	Early, Mid, Late	Needs Improvement
Techstars	For-profit	\$118,000	7%–10%	3 months	Agnostic	Early, Mid, Late	Advanced
Wayra	For-profit	\$50,000	7%–10%	6–12 months	Agnostic	Early	Advanced



A small number of non-profit organizations are among the high-performing accelerators. MassChallenge, for example, is run as a non-profit and describes itself as the world's largest start-up accelerator competition and the first to support high-impact, early stage entrepreneurs with no strings attached, i.e., no equity taken. The Boston-based accelerator has been remarkably productive, having supported 617 companies that have raised over \$900 million in funding since 2010. The organization's operating budget comes primarily from large corporation sponsorships including Fidelity Investments, Verizon, Oracle, American Airlines, Microsoft, and public sector partners.

Sector and Company Focus

As in Canada, top international accelerators are migrating “upstream” by providing targeted programming and financing opportunities to a select number of growth firms. London-based Seedcamp, for example, operates both pre-seed and seed stage acceleration programs. The pre-seed program for early stage companies focuses on developing a minimum viable product, product/market validation, and other fundamentals of running a start-up. Its seed stage program offers investments of €500,000 or more, and is less of a “program” than a gateway to financing and Seedcamp's international network of mentors and partners. NXTP Labs in Argentina is similar in that it also makes subsequent investments of up to \$1 million in the top start-ups that emerge from its accelerator program—an estimated 35% of the firms it accepts. These firms receive ongoing support and mentorship, with each of the managing partners in NXTP dedicated to managing a portfolio of 10 companies that reach the growth stage.

Several leading international accelerators are focused on sector-specific plays, notably in health care, consumer goods, education, and energy. Imagine K12, for example, is led by Silicon Valley entrepreneurs who believe that the future of the United States and the American way of life will be determined by how well children are prepared for success in the twenty-first century. The group's exclusive focus on edtech companies that work to improve K–12 educational outcomes has been remarkably successful, having supported 71 companies in 4 years and raised over \$150 million in follow-on funding. Imagine K12's success is, in part, linked to an extensive Educator Network—a network of K–12 teachers who act as beta testers, early adopters, and tech evangelists—which provides start-ups with an invaluable testing bed for their ideas and prototypes.

Other notable sector-specific accelerators include Blueprint Health, with a focus on health IT, and the Cincinnati-based Brandery, which focuses on brand-driven consumer products and leverages its proximity to Proctor & Gamble. SURGE Ventures, based in Houston, is particularly relevant to Canada with its investment focus on energy companies working to tackle big challenges in the oil and gas, power and utilities, water, cleantech, and industrial sectors. Some of the world's leading energy companies—including Shell, ExxonMobil, and Saudi Aramco Energy Ventures—serve as mentors, investors, and potential customers.



Startupbootcamp and Rockstart Accelerator, on the other hand, both run multiple vertical accelerators. Startupbootcamp, for example, runs 10 accelerator programs, each of which focuses on a different sector, including smart transportation and energy, financial technology (fintech), mobile computing, the Internet of Things, smart materials, and e-commerce, among others. In each instance, Startupbootcamp has aligned its sector-based accelerators with a set of complimentary corporate partners and in a regional cluster that has a pre-existing concentration of like-firms.

Economic Impact

Top international accelerators are ahead on economic performance, especially in total funding raised for supported firms. Nine of the top 10, as ranked by total funding, are located in the United States, with the London-based Seedcamp the only exception. Collectively, the top 10 have accelerated nearly 3,000 firms, garnered close to \$10 billion in financing, and enjoyed 179 exits. As seen in Table 5, a small subset of international accelerators generates the vast majority of total funding, with the top three responsible for 85%. Within the top three, Y Combinator is in a stratosphere of its own. As noted in the DEEP Centre's review of domestic accelerators, the presence of outliers and their impact on performance data is an issue across the global accelerator ecosystem. Even the best accelerators depend on a small number of significant successes to earn a return on their investments in start-ups. As Y Combinator notes, "VC firms consider themselves to be doing well if 4 out of 10 companies they fund succeed."¹ Mega-successes like Airbnb, Dropbox, and Reddit, meanwhile, further distinguish groups like Y Combinator and Techstars, and have arguably set overly lofty expectations for what the majority of accelerators can expect to achieve.

¹ See www.ycombinator.com/faq/



Table 5: TOP INTERNATIONAL ACCELERATORS RANKED BY TOTAL FUNDING

Organization	Headquarters	# Co's	Total Funding	Avg Funding	Exits
Y Combinator	Mountain View	842	\$5,632,419,684	\$6,689,335	89
Techstars	Boulder	544	\$1,504,280,000	\$2,765,221	44
MassChallenge	Boston	617	\$947,300,000	\$1,535,332	3
500 StartUps	San Francisco	359	\$301,516,412	\$839,879	12
Seedcamp	London, UK	156	\$280,000,000	\$1,794,872	13
AngelPad	San Francisco	98	\$264,323,736	\$2,697,181	14
DreamIT	Philadelphia	197	\$242,069,976	\$1,228,782	3
MuckerLab	Santa Monica	27	\$159,691,887	\$5,914,514	0
Imagine K12	Silicon Valley	71	\$150,000,000	\$2,112,676	1
Flashpoint	Atlanta	59	\$150,000,000	\$2,453,949	0
		2,970	\$9,626,384,689	\$2,803,174	179

The lopsided nature of the accelerator performance data is linked to the self-perpetuating nature of success and failure in the start-up investment business. When an accelerator scores spectacularly, it generates a lot of good publicity and begets further successes. The highest-potential start-ups will naturally prefer to join the best-performing accelerators because of the quality of the network they are joining and the legitimacy such an association confers. Accelerators that have been doing poorly will only get the firms the bigger fish have rejected, causing them to continue to do poorly. These virtuous and vicious cycles are a key reason for the very steep drop-off rate in total funding from Y Combinator on down the top 10.

Abundant venture capital and a large community of angel investors gives US-based accelerators a built-in advantage in funding start-ups. Angel investors, in particular, play an outsized role in the US entrepreneurship ecosystem. As Y Combinator founder Paul Graham writes: "Startup funding doesn't only come from VC firms. A more important source, because it's more personal and comes earlier in the process, is money from individual angel investors. Google might never have got to the point where they could raise millions from VC funds if they hadn't first raised a hundred thousand from Andy Bechtolsheim. And he could help them because he was one of the founders of Sun [Microsystems]. This pattern is repeated constantly in startup hubs. It's this pattern that



makes them startup hubs” (Graham 2006). The good news, according to Graham, is that “All you have to do to get the process rolling is get those first few startups successfully launched. If they stick around after they get rich, startup founders will almost automatically fund and encourage new startups” (ibid.). The bad news is that the cycle is slow. “It probably takes five years, on average, before a startup founder can make angel investments,” says Graham (ibid.). And while Graham suggests that governments might be able to set up local VC funds by supplying the money themselves and recruiting people to run them, only organic growth can produce angel investors.

More needs to be done to strengthen and demystify the collection and reporting of job creation statistics.

As in Canada, the first problem is that few international accelerators actually track job creation. Those that do—including MassChallenge, Techstars, Seedcamp, and Startupbootcamp—are not clear about their methodology. Do these job figures include the founder teams that started these firms in first place or are they net new jobs? What quality of jobs has been created? Has an effort been made to subtract job losses when supported firms have closed shop or downsized? Clarity on these issues is required to make more informed judgments about the impact of business accelerators on job creation.

From the jobs data that has been reported, accelerated firms are typically not significant job creators.

MassChallenge reports the highest jobs creation figures of the sample international comparators. However, at 5,105 jobs, that’s still only an average of 8.3 jobs per supported firm. Techstars reports having supported the creation 3,422 jobs, or an average of 6.3 jobs per firm. Startupbootcamp reports having supported the creation 861 jobs, or average of 4.3 jobs per firm. It is not possible to draw definitive conclusions about the impact of international accelerators on jobs based on a limited sample of available data. However, a reasonable hypothesis to test going forward is that the focus on accelerating Internet-based companies, which are far less labour intensive than companies in traditional industrial sectors, means that the economic impact of accelerators and incubators is likely to be disappointing for policy-makers whose primary metric for success is job creation.

Sector-specific accelerators in the sample have yet to match the economic impact of accelerators focused on software and Internet-based start-ups.

The one exception is Imagine K12. Its 120 edtech start-ups have raised \$150 million in financing to date. Blueprint Health and SURGE Ventures, on other hand, rank among the lowest performing accelerators in our sample, despite operating in interesting and important opportunity spaces. Healthcare and energy, after all, are among the critical challenges facing both the US and global economy in the years ahead. Yet, the 22 companies in SURGE’s portfolio have raised \$16 million, while 60 companies supported by Blueprint Health have seen only \$19 million in funding. By way of comparison, LA-based MuckerLab has supported 27 software start-ups that have raised nearly \$160 million and Flashpoint’s 59 tech firms have garnered \$150 million. Note that both Blueprint and SURGE are relatively recent incarnations and operate in domains in which the pathway to commercialization is typically much longer than for your average Internet-based start-up. Time will tell whether angel and venture capital investment in these sectors will grow as the companies mature and as health care and energy-related challenges become more acute.



Smaller accelerators in tier-two US cities have enjoyed relative success. True international hubs for high tech innovation such as Boston, New York City, London, and San Francisco are where, not surprisingly, the majority of the world's top accelerators are found. Yet smaller cities such as Atlanta, Boulder, Pittsburg, and St. Louis have seen considerable successes that belie their size and importance on the world stage. At first glance, Techstars, which was founded in Boulder, Colorado in 2006, is the most striking example. Its rise to prominence coincides with Boulder becoming a vibrant hotbed for tech innovation and a top destination for start-ups.² Today, Boulder boasts the highest concentration of software engineers per capita in the United States and is second only to Silicon Valley in percentage of workers employed in tech (Wadhwa 2010).

While Boulder could be deemed an outlier, rounding out the list of successes in smaller cities are accelerators such as Flashpoint in Atlanta and Capital Innovators in St. Louis, which are numbers 10 and 11, respectively, in the list of top global accelerators as ranked by total funding. Like Kitchener-Waterloo in Canada, these successes suggest that vibrant economic clusters can form in smaller urban centres when the right ingredients are present. In St. Louis, Capital Innovators has built its success around pre-existing assets such as: Washington University, with its nationally respected entrepreneurship program; a collection of local VC firms that focus on seed and later stage financing; and a large number of wealthy angels produced by the massive executive buyouts associated with acquisitions of St. Louis-based fortune 500 companies such as Anheuser-Busch, McDonnell Douglas, and Trans World Airlines (Cohn 2013). Flashpoint, on the other hand, started in 2011 as an experiment launched by Georgia Tech in Atlanta in the wake of a major commission examining how to better commercialize university-based research. Although it maintains its linkages to Georgia Tech, Flashpoint is now an independent company, financed by start-up equity and fees paid by Atlanta-based corporations that participate in the ecosystem.

Program Delivery

Top international accelerators still focus on the basics of launching a high-growth start-up. Although each accelerator has its own unique formulation, the formula set out by Startupbootcamp is typical of the programming found in top entities, with its three-pronged focus on the key stages of building a start-up.

- **Shape:** Month one is mentor-driven development of the team, idea, solution, business model, and development plan. This phase concentrates on ensuring the team focuses on the right aspects of building their business.
- **Build:** Month two focuses on forming actionable plans to create a product that solves customer's problems. Prototypes, beta software, and demos are developed during this phase.
- **Sell:** Month three drives initial traction to gain revenue and viral growth. Mentors engage with the team during this stage to improve customer development, sales, and marketing. Teams also receive pitch and media training in order to prepare for "demo day."

² Pre-dating Techstars, Boulder had other prominent assets that fed into the entrepreneurial ecosystem as well, including the University of Colorado, a growing software cluster since the mid-1990s, and prominent research labs such as the National Center for Atmospheric Research and the National Institute of Standards and Technology.



As in Canada, there is an increased tendency for rolling cohorts, flexible timelines, and customized programming, rather than purely structured offerings. For example, a growing number of international accelerators are experimenting with the traditional structure of the 3-4 month accelerator program. Instead of cramming in all programming within a 3-month period when start-ups are still defining what they do, Seedcamp spreads the “academy days” in its pre-seed program throughout the year. At the start, participating companies get help with problems around product/market fit and gaining initial traction, such as talking to customers, getting the MVP-MVS³ on target, pricing, and basics around messaging and positioning. As these milestones are achieved, issues around growth and scaling up become more prevalent, such as hiring new staff, maintaining growth, and rolling out new features. Flashpoint, on the other hand, has developed a two-stage “start-up engineering process,” with a 4-month structured stage focused on product development and a 6-month customized stage focused on getting the product to market. According to Flashpoint, two-thirds of its start-ups develop a commercially viable product with demonstrable demand during the year-long program.

A focus on alumni growth programs enables top accelerators to optimize their investments in high-potential firms. Indeed, most firms graduating from the top international accelerators continue to receive support in the form of access to meetings with mentors, invitations to seminars and dinners, and continued connections to fellow alumni. However, a handful of international accelerators go further in their efforts to support alumni growth. In addition to frequent gatherings, Startupbootcamp’s alumni growth program offers monthly master classes and access to important scaling resources such as later stage investors, PR contacts, and recruiting support for management talent.

Internationalization

Top international accelerators have become magnets for the world’s most promising companies. The track record associated with entities such as Y Combinator enable them to attract and select from the most promising firms from around the world. In this sense, Y Combinator is not just an accelerator for firms already located in Silicon Valley, but a global gateway for attracting the world’s most promising start-ups to the Bay area. Like most top accelerators, Y Combinator insists that the team of founders relocate to Bay area for the 3-month program. And once firms root themselves in the Valley, many international participants choose never to return home. Y Combinator, however, is only one of many international accelerators that are reaching out to attract high-quality firms and founder teams from around the world. With the help of a team of Israeli mentors and judges, for example, MassChallenge identifies the highest-potential start-ups in Israel to relocate to its Boston-based headquarters for the 4-month program. Meanwhile, in partnership with the Israel Institute of Technology (or Technion), Flashpoint not only recruits Israeli firms to come to Georgia Tech, but also sends its participants to Technion to spend a month in Israel.

³ Minimum viable product/minimum viable segment.



“Franchises” in key hubs enable top accelerators to serve a greater number and diversity of firms. In addition to attracting top firms to their headquarter locations, accelerators such as Techstars, DreamIT, Startupbootcamp, and NXTP Labs have all made considerable investments in new physical locations to expand their international footprints. Well known for its expansion across the United States (with locations in Austin, Boston, Boulder, Chicago, New York City, and Seattle), Techstars has also opened locations in the London and Berlin, along with a range of vertical accelerators in association with corporate partners such as Barclays, Disney, Kaplan, Nike, Qualcomm, and Sprint. NXTP Labs has an extensive Latin American footprint with managing partners on the ground in Argentina, Brazil, the US, and Uruguay, and operations managers in Chile and Columbia.

MassChallenge’s partnership strategy provides another effective avenue for expanding international reach. In June 2014, MassChallenge announced a partnership with the Clinton Global Initiative to expand into 10 cities on all populated continents by 2019. Although the next sites for accelerator programs are unknown, MassChallenge has been conducting smaller “boot camp” style programs in Colombia, Mexico, Russia, Switzerland, and South Korea. In February 2015, it also launched MassChallenge UK, which replicates the American program in London. This year, MassChallenge UK plans to incubate 80 start-ups and award £500,000 in cash prizes with no equity taken.

Top international accelerators integrate international “field trips” into their curriculums. European accelerators such as Seedcamp, Startupbootcamp, and Rockstart Accelerator, for example, recognize the importance of tapping the US market as a source of customers and investment. In fact, European start-ups typically prioritize gaining traction in the US before tackling the whole of the European market with its patchwork of national regulations and languages. Start-ups participating in the Amsterdam-based Rockstart are given the opportunity to join 3-week international programs that take place twice a year, in which start-ups visit hubs in New York and San Francisco. Eleven, based in Sofia, Bulgaria, runs its companies through a traditional 3-month program and then, in the year following, organizes trips to London, Berlin, and Silicon Valley during which companies pitch to investors and meet with potential clients and partners. Recognizing the obvious limits to scaling in the domestic Bulgarian market, this phase of the program provides firms with fast exposure to international markets.

Partnerships with Large Multinationals

Large US and European multinationals are much more involved in the accelerator ecosystem than large firms in Canada. Many top international firms are either highly engaged in a variety of third-party accelerators or running their own accelerators as an extension of their corporate innovation program. For large firms, corporate accelerators are designed to power innovation opportunities in conjunction with early stage start-ups and are becoming a staple in well-rounded corporate innovation programs. When done correctly, they are capable of increasing brand awareness, encouraging experimentation, and opening the door to potential partnership or investment opportunities for corporate brands. Wayra, for example, is wholly owned by Telefonica and has expanded from its base in Spain to academies in 12 countries. Wayra’s mission is to enhance and connect entrepreneurial ecosystems between Latin America and Europe in a way that supports Telefonica’s business objectives



by building a pipeline of high-potential companies that can become a source of new offerings to customers and/or potential acquisition targets.

Large firm engagement in the ecosystem enables start-ups and SMEs to tap corporate resources and participate in global value chains. Wayra's start-ups gain opportunities to capture synergies and find business opportunities with one of the world's largest telecom companies. Wayra start-ups also gain access to Open Future, an innovation platform that companies can use to scale their business in more than 22 countries. Techstars, on the other hand, leverages its corporate connections to provide a select group of its companies with an opportunity to spend time on-site with relevant corporate partners. Sitting side-by-side and engaging deeply with larger corporations in a start-up's area of focus opens up access to global value chains and allows them to take advantage of other synergies that accelerate a business, including hands-on mentorship and exposure to the corporate partner's executives, employees, and customers.

Table 6: CORPORATE ACCELERATORS IN EUROPE AND THE UNITED STATES

Corporate Accelerators	Year	Sector	Partners	Locations
Barclays Accelerator	2014	Fintech	Techstars	London
Disney Accelerator	2014	Media and entertainment	Techstars	Los Angeles
HealthBox	2011	Health care	Blue Cross, Blue Shield, Walgreens	Boston, Chicago, Miami, London, Tel Aviv, Salt Lake City
Deutsche Telekom's hub:raum	2012	Digital tech, mobile	Orange, BetaHaus, StartupBootcamp	Berlin, Krakow, Tel Aviv
Kaplan EdTech Accelerator	2013	Edtech	Techstars	New York
Media Camp Academy	2012	Media and entertainment	Turner/ Warner Bros	San Francisco, Los Angeles
Microsoft Ventures Accelerators	2013	Cloud, Internet, mobile	N/A	Bangalore, Beijing, Berlin, London, Paris, Seattle, Tel Aviv
Nike+ Fuel Lab	2014	Consumer health	Runkeeper, Strava, MyFitnessPal	San Francisco

Table Continued on Next Page



Orange Fab	2013	Digital tech, mobile	Visa, Hilton, Airbus, LG, AXA, Peugeot	San Francisco, Abidjan, Paris, Seoul, Taipei, Tel Aviv, Tokyo, Warsaw
Qualcomm Robotics Accelerator	2014	Robotics	Techstars	San Diego
R/GA Connected Devices Accelerator	2013	Internet of Things	Techstars, Stratsys, MakerBot Industries	New York
Samsung Accelerator	2013	Consumer tech	N/A	Palo Alto, New York
Sprint Mobile Health Accelerator	2013	Mobile health	Techstars	Kansas City
Startup Health Academy	2013	Health care	GE, Startup Health	No location
Volkswagen ERL Technology Accelerator	2013	Automotive tech	Plug and Play	Sunnyvale
Wayra	2011	Digital tech, mobile	Telefonica, Amazon, Microsoft, Softlayer	China, Argentina, Brazil, Czech Republic, Venezuela, Chile, Germany, Columbia, Peru, London, Mexico, Ireland

Performance Measurement

A small number of American and European accelerators set the gold standard for transparency and performance measurement. In the sample analyzed, Telefonica's Wayra is the most advanced, offering more data on a broader selection of metrics and points of interest than any other entity. The finding is interesting, given that one might have expected the Spanish telecom giant to adopt a more proprietary and secretive stance. Nevertheless, Wayra provides a public "dashboard" of information on their performance that goes well beyond the level of transparency demonstrated by any of the publicly funded entities in Canada. Specific metrics include:

- Number of applicants;
- Admission rate;
- Number of supported start-ups;
- Total follow-on funding;
- Average amount of funding per company; and
- Total amount of funding that Wayra has invested in start-ups.

Raw data on the start-ups accelerated by Wayra is also available for download. The spreadsheet details start-ups' country of activity, investors, status, product, industry, and online profiles.

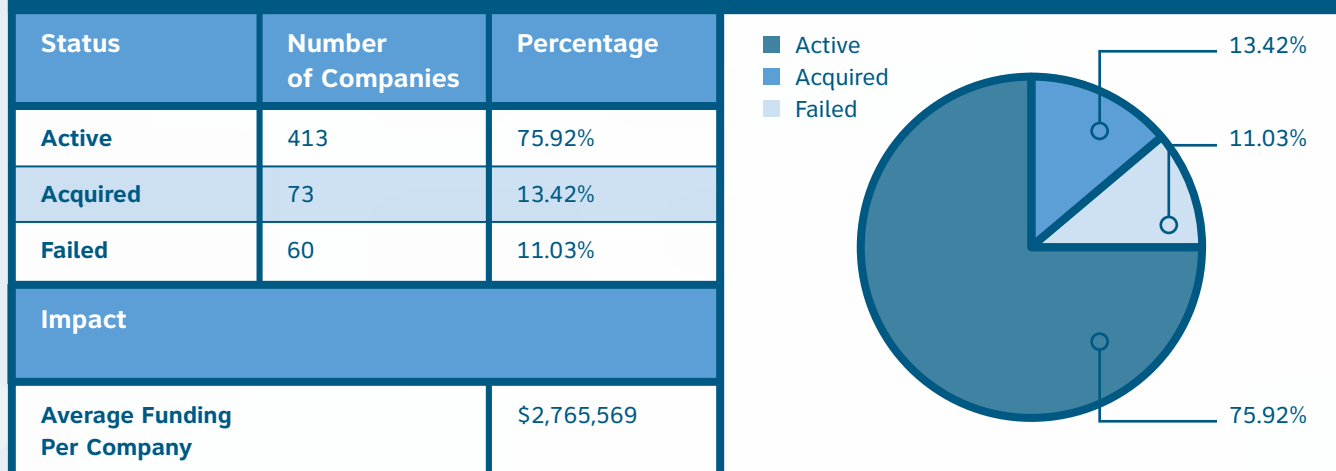


Another notable standout is Techstars, which calls transparency one of its core values. The global accelerator prominently displays its performance data on its website, including detailed statistics on alumni companies. Key performance indicators include: companies still active, companies acquired, companies failed, and the amount of funding each company has secured following the Techstars program. This information is also broken down by cohort and by individual company so that it is possible to track every investment that Techstars has ever made. Finally, while Eleven does not provide detailed firm-level data, it provides the most comprehensive and visually appealing data about the demographics and sector segmentation of its start-ups.

Most accelerators report regularly, but the majority lacks the granular performance data of the most transparent entities. Startupbootcamp, for example, provides performance statistics on its website for each cohort of firms, in each of its 10 accelerator programs. Its high-level indicators focus on survival rates, investment, and jobs, but unlike Wayra and Techstars it does not provide firm-level data. Seedcamp is representative of the next level down in transparency. Its dedicated page, “Seedcamp in Numbers,” provides data on survival rates, jobs, and investment over the lifespan of the accelerator.

As in Canada, a significant proportion of international accelerators provide inadequate reporting on their activities. Organizations such as Techstars and Wayra are the exception rather than the norm when it comes to performance reporting. Among our sample of 16 accelerators, only three could be categorized as advanced, while four were rated as providing an adequate level of reporting to assess performance. The remaining nine were deemed to require improvement and ranged in practice from selective anecdotal reporting and cursory high-level stats to no reporting at all. In most cases, the lack of reporting seems correlated with a relative underperformance vis-à-vis the industry leaders.

Figure 1: TECHSTARS’ PERFORMANCE REPORTING ON ITS AGGREGATE PORTFOLIO





**Figure 2: TECHSTARS' PERFORMANCE REPORTING BROKEN OUT BY COHORT:
A SAMPLE COHORT FROM BOSTON, SPRING 2013**

Company	Funding	Status	Nexus
CheckIO	\$720,000	Active	Dnepropetrovsk
Codeship	\$3,020,000	Active	Boston, MA
Continuum Fashion	\$110,000	Active	Cambridge, MA
coUrbanize	\$960,000	Active	Somerville, MA
Fancred	\$4,280,000	Active	Boston, MA
Five	\$2,460,000	Active	Cambridge, MA
Freight Farms	\$4,920,000	Active	Boston, MA
Jebbit	\$1,860,000	Active	Chestnut Hill, MA
LinkCycle	\$110,000	Active	Cambridge, MA
Neurala	\$860,000	Active	Boston, MA
PillPack	\$66,900,000	Active	Cambridge, MA
Qunb	\$10,000	Acquired	Paris
Rallyware	\$110,000	Active	San Francisco, CA
Synack	\$34,210,000	Active	Rewood City, CA
	\$120,530,000		



Leading Accelerator Insights

Returning to the original list of variables, the following key characteristics are highlighted across the international sample:

- **Structural Characteristics:** The vast majority of international accelerators are for-profit, VC-backed entities.
- **Sector and Company Focus:** A concentration on software and Internet-based start-ups is complemented by targeted offerings for mature firms and the increasing presence of sector-specific services for health, education, and energy.
- **Economic Impact:** A well-resourced venture capital and angel community in the US helps deliver greater overall economic impact, as measured by total funding, with the top three international accelerators responsible for 85% of funding raised by the top 10.
- **Program Delivery:** An evolution towards rolling cohorts, flexible timelines, and customized programming sees diversified start-up assistance services taking root internationally, as well as the formal integration of alumni growth programming.
- **Internationalization:** Franchise, partnership, and field trip models frame aggressive efforts to build exposure and international reach.
- **Partnerships with Large Multinationals:** Large companies are more intensely engaged with international accelerators, as both funders and formal strategic partners.
- **Performance Measurement:** While a handful of international accelerators set the gold standard for transparency and performance measurement, the majority lacks the granular performance data provided by the most advanced entities.

Having reviewed this sample of top international comparators, the following section moves on to highlight start-up assistance policies in a series of comparable jurisdictions.



Section II: Comparative Review of Start-Up Assistance Policies

While the world's top business accelerators are largely private, VC-backed organizations, the race for high-value innovation and entrepreneurship is driving a vast array of public policy initiatives aimed at facilitating start-up activity and growth. In some cases, these policies complement or buttress private initiatives, while in other cases they provide necessary alternatives for strengthening particular entrepreneurial ecosystems.

The following jurisdictional case studies provide insight into how leading mature economies are attempting to facilitate start-up growth. While in certain cases the jurisdictions presented possess unique constitutional or political-economic structures, they are broadly comparable in scope, maturity, and economic foundations to the Canadian situation.

As the following sections make clear, many of the challenges present in Canada are also evident in other jurisdictions. Issues related to performance management, funding, and the engagement of expertise are present, to some degree, in the comparable case studies conducted for the study. In several instances, however, unique solutions and institutional structures have been developed to address them. These insights provide a rich basis for inter-jurisdictional learning and adoption.

Australia

Like Canada, Australia is more commonly viewed as a resource economy than a technology-rich one. However, while the country's technology sector remains comparatively small, its growth in recent years has occurred in tandem with the country's business accelerator and incubator (BABI) ecosystem. Sydney and Melbourne, in particular, have emerged as centres for entrepreneurial activity in recent years, now playing host to approximately 1,500 start-ups. These companies are supported by a network of BABIs that has grown from 17 in the late 1980s to over 100, and that currently provides start-ups with programs, space, and services (PWC 2013).

SAOs in Australia are supported by relatively minimal operational funding of up to AU\$200,000 provided through the Australian Small Business Advisory Services Programme. Of the approximately 109 small business centres in operation across Australia (Bhabra 2014), a subset of 34 organizations received program funding offers in March 2015 (Billson 2015). The remaining organizations support their operations through funding from other levels of government, service fees, or industry partnerships.



While the Advisory Services Programme provides support to local SAOs, Australia lacks a centralized national support structure for business incubators focused on entrepreneurship and new technology. Reviewing the country's entrepreneurship ecosystem, a 2015 report from the non-profit StartupAUS recommended the creation of a national network of entrepreneurship centres alongside a national innovation strategy, more robust financial support for start-ups, and a focus on entrepreneurship education (StartupAUS 2015). More broadly, some critics have alleged that the Australian incubator system does not measure up to international best practices established in the US and the UK, a deficiency linked to the uncoordinated nature of the programs and the lack of entrepreneurship expertise available domestically (Twemlow 2014).

This critique aside, Australia's business accelerator population continues to expand, with a number of new programs launched in recent years. Notable examples include Sydney-based Startmate and Adelaide-based Innovyz. While generally comparable to accelerator programs elsewhere, Australian accelerators have devised several strategies to compensate for their relative lack of entrepreneurial experience in the country and the relative immaturity of the start-up ecosystem. A number of accelerator programs, for example, incorporate an international component, either through the active recruitment of mentors from abroad or through trips, linkages, and demo days centred on Silicon Valley. In addition, until 2014, the Government of Australia operated Commercialization Australia, a funding program intended to provide financial and business support to firms. The program paired firms with "case managers," who acted as mentors throughout the commercialization process. As of last year, Commercializing Australia has been replaced by the Accelerating Commercialization component of Australia's new Entrepreneurs Infrastructure Program, with the new program providing substantially less funding than its predecessor (StartupAUS 2015).

Key Insight: A decentralized and uncoordinated incubator and accelerator system faces challenges related to lack of experienced talent and funding.

Germany

The financial crisis of 2007-2008 catalyzed a significant growth in the number of German BABIs. According to a recent report commissioned by Telefonica, the European accelerator and incubator system grew by almost 400% between 2007 and 2013, and Germany was no exception (Salido, Sabas, and Freixas 2013). According to the database compiled by F6S, there are approximately 90 start-up incubators and accelerators operating across Germany.⁴

German support for start-ups has been heavily centred on Berlin. The German capital ranked 15th among global start-up ecosystems in Compass's (formerly Startup Genome's) Startup Ecosystem Report 2012. While Berlin's entrepreneurial ecosystem—which "launched" in earnest in the 2007-2008 period—is less established than London's prominent Tech City UK cluster, the cluster now plays host to between 400 and 700 start-ups, including some high-profile firms like SoundCloud and ResearchGate (The Economist 2013a).

⁴ See www.f6s.com/accelerators/germany



Major players in the city's accelerator system include Berlin Startup Academy and Startupbootcamp Berlin, which both offer 3-month programs and other services in exchange for company equity of 4% and 8%, respectively. Alongside these initiatives, Germany has witnessed a growth in venture capital funding, although Berlin still lags behind major centres like London and Silicon Valley (The Economist 2013b). Germany's incubator population, in contrast, dates back to the establishment of the country's first incubator in Berlin in 1983. Unlike accelerators, business incubators are more geographically dispersed throughout the country (Organisation for Economic Co-operation and Development [OECD] 1999).

More than in other comparable ecosystems in North American and Europe, Germany's start-up environment is distinguished by the presence and prominent role of large incumbent firms. In fact, the majority of the country's start-up accelerators are corporate-backed entities such as Axel Springer Plug and Play, Microsoft Ventures Accelerator Berlin, and the Bayer CoLaborator (The Economist 2013b). Some of these entities, such as Deutsche Telekom's hub:raum, also act as incubators.

In addition to corporate accelerators and incubators, Germany plays host to "company builders," which are a unique type of start-up focused organization. Unlike more traditional incubators and accelerators, company builders like Rocket Internet, Team Europe, and Project A—all based in Berlin—assume control of new ventures. Rocket Internet's model, for example, is focused on identifying, building, and scaling companies internationally. In this context, would-be entrepreneurs are incorporated not as founders in a typical accelerator or incubator environment, but are instead hired to pursue and launch new companies within the company's portfolio. Leveraging this "command and control" model, Rocket Internet has built a network of companies spanning more than 100 countries with 25,000 associated employees since its launch in 2007.

Reviews of these company builders have been mixed. On the one hand, Rocket Internet and comparable firms have drawn praise in some quarters for helping to catalyze an entirely new start-up ecosystem in Berlin in the absence of a strong entrepreneurial culture in Germany. On the flip side, critics have alleged that these firms—and Rocket in particular—do not generate new and innovative products and services, but rather duplicate existing models launched by firms elsewhere (Scott 2014). Critics point to firms in Rocket's portfolio, such as Wimdu, which offers similar services to the US-based firm Airbnb, and Easy Taxi, which mimics Uber, as evidence of the derivative nature of the company builder model. For their part, company builders like Rocket consistently argue that taking established ideas to market—and particularly emerging markets—is both a legitimate and viable business strategy (Lim 2015).

Key Insight: Germany's corporate community is significantly more engaged and invested in the country's accelerators and incubators than what is seen in Canada.



Israel

The speed at which Israel has built up a high-performance innovation economy is one of the most widely admired feats in recent economic history. In the span of three decades, the small Mediterranean country has bootstrapped one of the most competitive high-tech economies in the world. While this performance is often linked with the country's tight military-technological ties, the antecedents are, in fact, far more varied than sometimes assumed. As a 2011 OECD Observer report notes, Israel has the highest gross expenditure on R&D, the largest number of non-North American companies listed on the NASDAQ and the highest level of venture capital as a share of GDP (Moss 2011). And Tel Aviv, a city of less than a half a million, hosts over 1,200 high-tech companies.

A lynchpin in the country's technological and economic progress was the establishment of the Israeli Technology Incubator Program in 1991 by the Office of the Chief Scientist (OCS). Between 1990 and 1993, 28 non-profit incubators were established throughout the country, usually in association with a university, municipality, or large firm. Initially operated as public entities, over a dozen of these incubators have been transitioned into private management through the award of 8-year licensing agreements. Currently, 24 incubators exist, housing approximately 180 companies at any one time.

According to the OCS, "the incubation term of a project in a technological incubator is approximately 2 years and the total budget for the two years term ranges between \$ US 500,000 to \$ US 800,000, depending on the field of activity of the project."⁵ Incubators finance 15% of the total investment in supported companies. The balance is financed by a government grant that is only paid back upon success, in which case companies pay the government 3–5% royalties on revenues generated, until the full amount of grant (plus interest) is paid back. In total, the government provides an estimated \$46 million annually to participant companies.

Despite the presence of significant intellectual and technological capital, the incubators initially failed to attract private capital, so the OCS launched Yozma, a \$100 million pool of funding distributed through 10 venture funds and one direct investment vehicle. The fund was predicated on a 3:1 match, whereby government funding flowed only if private, foreign, and bank funding preceded it. The 10 funds were fully privatized in 1997 and by 2009 managed \$3 billion in capital.

The scheme appears to have worked. Between 1991 and 2013, over 1,900 companies have been launched in the incubator system with an aggregate investment of \$730 million. The sector diversity of incubated companies is approximately 40% medical devices, 30% ICT, 15% cleantech, 10% biotech and pharmaceutical, and 5% in other fields such as machinery and materials. Of this pool of companies, 1,600 have survived the incubation period, and 60% of those graduated have raised private investment. The total cumulative private investment in graduated incubator companies has surpassed \$4 billion. The OCS observes that this indicates upwards of a 6:1 ratio between private and public investment.

⁵ See www.incubators.org.il/article.aspx?id=1703



As the model has evolved, the incubators have been progressively transitioned into private hands. Experienced private equity firms license the incubators and are tasked with providing ongoing investment and mentorship to the firms housed therein. Recent reports indicate that the incubation success rate, as measured by survival rates and the ability to attract follow on capital, have increased since the transition to private ownership (Wylie 2011).

Finally, a focus on attracting highly skilled immigrants appears to have made a significant impact on Israel's start-up ecosystem. In the 1990s, for example, Israel welcomed nearly 1 million ex-Soviet immigrants, including 82,000 engineers (Moss 2011). In fact, one out of every three Soviet immigrants was a scientist, engineer, or technician. A 2002 review of 109 projects underway in the country's system of incubators found that 33% of project founders were from the former USSR, second only to Israeli citizens (49%). Moreover, 84% of the initiators had either a Masters or PhD degree (63% have a PhD degree) (Shefer and Frenkel 2002). A concerted focus on social integration through financially supported language classes also appears to have had an impact on settling highly skilled new immigrants into the country.

Key Insight: Israel has gradually transitioned publicly funded incubators into private hands using 8-year licensing agreements.

Sweden

While Stockholm doesn't appear at the top of global start-up ecosystem rankings, Sweden's capital city is emerging as a competitive tech centre thanks to the growth of globally known brands such as Skype and Spotify. In contrast to countries like the UK, where BABIs are heavily concentrated around major clusters, SAOs in Sweden are more evenly dispersed throughout the country. This may be partially due to the fact that the country's early stage support system is dominated primarily by public bodies, with privately funded business accelerators being relatively rare.

Across the country, the Swedish government has worked to implement a series of programs to support entrepreneurship, with a particular focus on the academic sector. Much of this effort has been driven by relative scarcity of venture capital in the country, which has long been identified by Swedish policy-makers as a major barrier to the commercialization of the country's world-class research.

Successive Swedish governments have established strong national support systems for business incubators. Launched initially in 2003, Sweden's National Incubator Program—which has gone through various iterations—is now the responsibility of VINNOVA, the country's innovation agency (Swedish Incubators & Science Parks 2015). Over this period, the number of incubators financed through the program has continued to grow.



Of particular interest, the program has focused heavily on quantitative and qualitative performance measurement, with the aim of both identifying and supporting the most effective organizations. In this context, the program offers various funding to incubators on the basis of their ability to meet a series of pre-established targets. The basic funding package—termed “Base-camp”—is made widely available to incubators that meet a series of basic requirements related to operations and the number of firms served. Beyond this package, two additional streams, “Explorer” and “Summit,” are available to qualifying organizations (Dahlstrand 2012). The Explorer package intends to facilitate joint projects that enhance the work of a single incubator or group of incubators through collaboration. Summit funding is the most intensive, requiring incubators to successfully achieve a variety of performance metrics (Erawatch, n.d.).

In addition to providing funding to incubators, one of the major goals and successes of Sweden’s national incubator program has been the creation of a broad-based incubator community in Sweden focused on benchmarking and measurement. Ongoing assessment of incubator performance is comprised of both quantitative and qualitative elements, which are given roughly equal prominence in incubator evaluations.

On the quantitative side, key metrics are assessed via the government’s self-reporting and database tool, ALMI Analysis, which is intended to both facilitate continuous monitoring and to ease the burden of reporting on incubator staff (Dee et al. 2012). In addition, ALMI Analysis serves as a useful internal management tool by allowing individual organizations to monitor and benchmark their performance against their peers within the national incubator program. This design of the database and reporting system has served to improve the quality of self-reported data, and has provided funding agencies with a significant set of high-quality data on incubator and firm performance over the past 10 years. Metrics reported include, but are not in any way limited to, private and public early stage financing, client satisfaction, sales, employment, and survival rates (OECD 2013). This broad, high-quality dataset can be used by Swedish officials to evaluate incubator performance and identify strengths and improvement points for individual organizations, as well as highlight trends in the country’s entrepreneurial ecosystem. The value of the database stems both from the breadth of the sample—ALMI Analysis currently tracks data on over 4,000 incubating or previously incubated firms—as well as from the quality and granularity of the data gathered. Moreover, the transparent design of the tool, which allows organizations to monitor their own performance and benchmark it directly against their peers, has also been crucial in facilitating a process of coordination and iterative horizontal learning among organizations within the ecosystem.

At the same time, Swedish officials realized that metrics and qualitative assessments were not providing a full picture of the incubation ecosystem across the country. As such, officials saw a need to supplement the metric-driven quantitative reporting structure with detailed qualitative assessments of organizational performance. However, funding agencies and incubator partners had a desire to minimize reporting burdens on incubators, particularly the need to write detailed reports. As a result, beginning in 2010, the agency responsible at the time—ALMI—began to conduct one-day detailed reviews of incubator performance. To facilitate this process, an ALMI team organizes an on-site visit to incubators and conducts a qualitative assessment on the basis of 185-question rubric.



Combined equally with the data-driven quantitative analysis component, ALMI then worked to identify strengths and weaknesses in particular organizations and helped develop an action plan to improve incubator performance over the next two-year cycle. Evaluating this qualitative assessment framework, one Swedish official interviewed for this project noted, “it is quite a lot of work for us, but is extremely valuable. Incubators give us one day a year where we visit them. So instead of sitting down and filing reports there is one day where we go through the entire incubator, get results and then provide them with feedback. Not only do they use it for their own business development but also for developing their community locally and regionally.”

Key Insight: Sweden’s strengths in performance management and data collection are enabled by a centrally coordinated effort to quantitatively and qualitatively evaluate the country’s SAOs.

United Kingdom

Much of the United Kingdom’s entrepreneurship support ecosystem is centred in London, which, by some accounts, is now home to 36 business accelerators and upwards of 70 incubators. The lure of London’s Tech City and the region’s deep pool of available venture capital have combined to create a world class cluster of start-up firms, ranked seventh in the world according to the Startup Ecosystem Report 2012. According to the Financial Times, the number of digital companies in inner London growing by a full 92% between 2010 and 2013. Venture capital funding for UK technology firms also grew over this period, expanding from \$1.1 billion in 2013 to \$2.1 billion in 2014 (William-Grut 2014).

The region’s success in recent years has been accompanied by exponential growth in the number of business accelerators operating in London, which plays host to more of these organizations than all other regions in the country combined (Wayra 2014). Since playing host to Europe’s first accelerator—Seedcamp—in 2007, the city’s population of accelerators has continued to expand, growing by 110% between 2011 and 2014 alone (ibid.). This rapid expansion has raised concerns in some quarters about the possibility of an “accelerator bubble” (Butcher 2011). Among this ever-expanding population, accelerators such as Seedcamp and Ignite have become particularly prominent, establishing a strong reputation and connections throughout Europe and North America.

London’s growing prominence as a centre for technology entrepreneurship has been supported by a number of high-profile government policy initiatives. In 2010, the government launched Tech City UK, a not-for-profit publicly funded organization mandated to promote London’s growth as a technology cluster and implement supportive programs that provide mentorship, entrepreneurship training, and acceleration services. Included among Tech City’s programs is Future Fifty, an initiative focused on better supporting high growth potential firms with more intense funding and expertise. More broadly, the government has introduced a variety of measures, such as the Enterprise Investment Scheme and the Entrepreneur Visa, intended to encourage the continued growth of the domestic entrepreneurial ecosystem.



Despite London's prominence as a hub for technology entrepreneurship, government and industry leaders in the UK are increasingly recognizing the importance and potential of emerging clusters outside the capital. A 2015 report by Tech City identifies 21 technology clusters across the UK and highlights that 74% of the country's technology firms are based outside of London.⁶ In this context, the government recently announced the creation of the Tech North initiative, which will serve as an extension of Tech City UK. Intended to capitalize on emerging technology hubs in cities like Sheffield, Manchester, and Leeds, the initiative is intended to leverage the Tech City model to "create a world class tech cluster in the North" of the country (Government of the United Kingdom 2014).

The UK's population of incubators, which began to appear through the 1980s, is both older and more geographically dispersed than its population of accelerators. Based on estimates by United Kingdom Business Incubation, the country is now home to a large network of approximately 300 incubators serving 12,000 client firms (cited in Dee et al. 2011). Particular emphasis has been placed on university business incubators (UBIs) in an effort to increase entrepreneurship and technology transfer within the country's post-secondary institutions. In this context, in 2014 UBI Global ranked SETsquared—a four-way incubator partnership between the universities of Bath, Bristol, Exeter, Southampton, and Surrey—number one in Europe and second in its global university incubator rankings (SETsquared 2014). Established in 2003, SETsquared has supported approximately 1,000 technology start-ups from both within and outside the universities.

The partnership is publicly funded through the UK government's Higher Education Innovation Funding (HEIF) program, which was created in 2001 to support knowledge transfer and commercialization among the country's universities. According to a 2013 review of British universities and economic growth, investment through HEIF has generated returns to the broader economy at approximately six times the value of initial investment. The review thus recommended that the program be scaled up, with greater emphasis placed on encouraging universities to work with SMEs and, in particular, with high-potential and high-growth firms. In an effort to further boost collaboration between post-secondary institutions and SMEs, the government recently launched four "University Enterprise Zones" as pilot projects in the cities of Bradford, Bristol, Nottingham, and Liverpool. The zones focused on digital health; robotics, autonomous systems, and biosciences; big data; and data collection and measurement technologies, respectively. Fulfilling the government's priority to "stimulate development of incubator or 'grow-on' space for small businesses in locations that encourage businesses to interact with universities and to innovate," these zones will include a series of physical spaces intended to facilitate business development and industry-academic collaboration (Government of the United Kingdom 2015).

⁶ See www.techcityuk.com/wp-content/uploads/2015/02/Tech_Nation_2015.pdf



Across the broader accelerator and incubator environment, additional trends are emerging within the UK. First, the country is now witnessing an increase in the number of corporate-backed incubators and accelerators operating domestically (Shearman 2014). One high-profile example is BBC Worldwide Labs, which operates with the goal to “strategically and commercially partner with and support the most innovative up-and-coming digital media companies that are hoping to define the emerging digital landscape.”⁷ Second, the incubator and accelerator space in the UK is growing increasingly specialized across subsectors, with the emergence of more focused organizations in areas such as fintech, cyber security, and green technology. Third, some accelerators—notably London-based Seedcamp—are increasingly moving towards a focus on supporting company growth and scaling. In 2014, Seedcamp announced a new \$30 million acceleration fund focused on “the art of scale.” Noting that “European entrepreneurs’ ambitions have outgrown traditional forms of acceleration,” the new fund is intended to allow the group to “back start-ups from start to scale” (Seedcamp, n.d.). The new fund is backed by the European Investment Fund, established private funds, individual companies, and angel investors (Wauters 2014).

Key Insight: The UK is distinguished by an increasing focus on scale and efforts to better channel support to firms that exhibit high growth potential.

United States of America

The United States’—and the world’s—first incubator was established in Batavia, New York in 1956 by Joseph Mancuso. Mancuso purchased a recently closed industrial facility and converted it into an 850,000 square foot complex providing shared office space, business support services, and mentorship for local firms. Since the creation of what became known as the Batavia Industrial Centre, the population of business incubators in the US has swelled to over 1,200 entities spread across all 50 states (Dahl 2011).

This expansion has been driven by a strongly perceived need among policy-makers to fill a “gap” within the broader innovation ecosystem. In the 1980s under the administration of President Ronald Reagan, incubator creation and development was strongly promoted by the Small Business Administration as well as by state-level economic development agencies (Berger 1984).

Along with expansion in numbers, the nature of US incubators has continued to evolve. Whereas early incubators were primarily a source of affordable shared office space for small firms, the 1990s witnessed an expansion of support services offered by such organizations and a greater focus on new technology. More recently still, the country has seen an expansion of virtual incubation services through the creation of initiatives such as the Virtual Incubation Network, which links together a number of US community colleges in the provision of business support services.⁸ The US has also been at the forefront of the growth of incubation services to novel sectors outside ICT, including kitchen incubators, brewery incubators, and social enterprise incubators. The federal government

⁷ See www.bbcwllabs.com/about-us/

⁸ See the American Association of Community Colleges’ Virtual Incubation Network Toolkit, www.aacc.nche.edu/Resources/aaccprograms/cwed/vintoolkit/Pages/default.aspx



remains actively involved in promoting incubator creation, sponsoring new programs that encourage entrepreneurship and business creation among veterans, and encouraging mentorship for cleantech start-up companies.

The US accelerator scene is a much more recent development. Beginning in 2005 with the emergence of Y Combinator, the last decade has seen a substantial growth in the number of accelerators operating in the US. The number of start-ups undertaking programs and generating funding has increased substantially in turn. As the analysis in Section I of this report highlights, 9 of the top 10 global accelerators operate in the United States. The accelerator model has received attention at the highest political level in the US, with the White House itself hosting a demo day in 2015. More concretely, in 2014, the US Small Business Administration launched its Growth Accelerator Fund, which provided awards to 50 accelerators of \$50,000 to a group of competitively selected entities across 31 states (Government of the United States 2014).

As with incubators, the population of US accelerators continues to diversify and grow. Recent analysis suggests that the trend towards the rapid creation of new accelerators is now beginning to ebb (Lennon 2013). While many of the early accelerators were relatively agnostic in sector orientation, growth and diversification of the model has spurred an increase in the number of vertical, specialized accelerators operating and corporate accelerators. In addition, US entities are increasingly expanding the scope of their funding and services, in some cases further blurring the lines between the accelerator and incubator models (Tomkins-Bergh 2015).

Key Insight: The world's leading start-up ecosystem boasts a richer funding environment and provides a far greater depth and breadth of start-up services across sectors and stages of firm development.

Conclusions and Recommendations

The comparative scan of business incubation support programs, as well as the review of leading international accelerators, highlights a variety of common themes. In particular, the following six insights emerge across both sections as key areas of international focus worthy of additional attention:

- **Targeting high-potential firms.** Both leading accelerators and leading jurisdictions are increasingly focused on how to “scale” and how to better channel support to firms that exhibit high growth potential. While this undoubtedly raises questions about what resources will remain for broader entrepreneurial support initiatives, these targeted efforts offer a far more direct path to achieving long-run economic growth.
- **Performance management.** Sweden presents the gold standard for centralized performance management tracking. Its focus on data collection, both quantitative and qualitative, provides an example of how data can be tracked and collected across publicly funded entities. Similarly, Wayra and Techstars both provide a level of granularity in their public data reporting that puts others to shame. These initiatives have set the bar at both the national and organizational level as to what stakeholders should expect from such facilitating organizations.



- **Corporate Engagement.** The role of corporate partners, while nearly non-existent in Canada, is seen as integral to the fulfilment of the accelerator and incubator promise across leading jurisdictions and leading accelerators. The presence of an engaged and invested corporate community provides better supply chain access and mentorship for participant firms, and may lead to better outcomes related to innovation and growth for incumbent firms.
- **Internationalization.** In particular among leading accelerators, the benefits of internationalization are well understood. Building international exposure into accelerator programs is being accomplished through field trip style programming, partnerships, franchises, and participant exchanges. At the national level, overcoming growth challenges related to the lack of experienced talent and lack of international exposure are of particular concern in Australia (as in Canada) where domestic markets alone are clearly insufficient to promote high growth.
- **Reach and Specificity.** While the majority of both international and Canadian BABIs are sector agnostic, leading accelerators are increasingly positioning themselves to support specific sectors. This specificity allows for more focused and more appropriate mentorship, programming, and ultimately supply chain and investor connections. Moreover, this specificity similarly allows jurisdictions to more adeptly build upon domestic comparative advantages, notably those related to energy or education, or targeted towards specific demographic populations.
- **Sustainability.** Leading international comparators are aggressively seeking to build sustainable revenue streams that invariably involve some combination of the following: more intense corporate engagement/sponsorship, more significant reliance on earning a return from seed investments, and the enactment of innovative public-private funding arrangements. These measures, when combined with better performance measurement and increasing focus on directing resources to high-growth firms, could lessen the global business acceleration ecosystem's reliance on public funding.

The relevance of these trends and initiatives to the Canadian context is high. Each address a significant issue as noted in the DEEP Centre's report, *Evaluating Business Acceleration and Incubation in Canada*. In the final stage of this project, a capstone report will build on these insights in the development of a cohesive action plan for the refinement and strengthening of Canada's accelerator and incubator ecosystem.



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